EXCAVATION AND DISPOSAL COMPLETION AND FINAL ENGINEERING REPORT

121 Ridge Road

City of Lackawanna, Erie County, New York

June 1, 2018

Terracon Project No. J5171046

NYSDEC Site Number: E915188

Prepared for:

Lackawanna FDS 715551 LLC

106 Foster Avenue

Charlotte, NC 28203

Prepared by:

Terracon Consultants – NY, Inc.

Rochester, NY

CERTIFICATIONS

I, Michele A. Fiorillo, am currently a registered professional engineer licensed by the State of New York, the Geotechnical Engineer of Record for the new retail store building, and I certify that the foundation, site work excavation and disposal activities, and site cover systems performed at the property known as 121 Ridge Road in the City of Lackawanna, Erie County, New York were completed in substantial conformance with the Soil Fill Management Plan (3/20/2107 revised Appendix G of the 2006 Investigation / Remedial Alternatives Report for this site) and with Terracon's proposed work for Environmental Consulting Services to Lackawanna FDS 715551 LLC dated June 29, 2017 which was based upon the existing Record of Decision and Soil Management Plan for the site.

I certify that the data submitted to the Department with this Final Engineering Report demonstrates that the work performed as set forth in Terracon's proposal and in all applicable statutes and regulations were achieved during the foundation and site work construction of the new retail store building. We note the following variances and/or exceptions:

- Existing Project Plans (i.e. civil and structural) for the new retail store were utilized.
- Existing Health and Safety Plans, Community Air Monitoring Plan, and Citizens Participation Plan were not edited during the scope of Terracon's services.
- Site Management Plan was not edited during the scope of Terracon's services
- Air monitoring was performed through PID screening and observation of visible dust during excavation activities.

I certify that all documents generated in support of this report have been submitted in accordance with the DER's electronic submission protocols and have been accepted by the Department.

I certify that all information and statements in this certification form are true based on my review of Terracon's scope of work. Field work and environmental consulting services were performed by the following Terracon environmental professionals:

Frank R. Minnolera, P.G. (PA), license number PG-002645-G
Charles B. Guzzetta, P.G. (NY), license number 000656

I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. This certification statement, however, does not constitute certification of work completed by others other than noted within this report. I, Michele A. Fiorillo of 15 Marway Circle, Suite 2B, Rochester, New York 14624, am certifying as Owner's Designated Site Representative and I have been authorized and designated by all site owners to sign this certification for the site.

085888	6/1/2018	
NYS Professional Engineer #	Date	

EXCAVATION AND DISPOSAL COMPLETION AND FINAL ENGINEERING REPORT

121 Ridge Road
City of Lackawanna, Erie County, New York
Terracon Project No. J5171046
NYSDEC Site Number: E915188

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LIST OF ACRONYMS

Acronym	Definition
IRM	Interim Remedial Measure
NYSDEC	New York State Department of Environmental Conservation
PID	Photo Ionization Detector
PPE	Personal Protective Equipment
RAO	Remedial Action Objective
ROD	Record of Decision
SBL	Section, Block, Lot number (tax parcel use)
SFMP	Soil Fill Management Plan
SI/RA	Site Investigation/Remedial Alternatives Report
SMP	Site Management Plan
SSAL	Site Specific Action Levels

EXCAVATION AND DISPOSAL COMPLETION AND FINAL ENGINEERING REPORT

121 Ridge Road, City of Lackawanna, Erie County, New York
Terracon Project No. J5171046, NYSDEC Site Number: E915188

1.0 BACKGROUND AND SITE DESCRIPTION

The site is located in the City of Lackawanna, County of Erie, New York and is identified as being comprised of one parcel of land with a total of approximately 0.77 acres and is designated as SBL number 141.43-1-6.1 on the City of Lackawanna Tax Map.

The site is bounded by Ridge Road to the north, a commercial retail store, a church, and residential homes to the south, Wasson Avenue to the east, and the Yemenite Benevolent Association facility to the west. The boundaries of the site are fully described in Appendix A: Survey Map, Metes and Bounds.

The project consisted of the construction of an approximate 8,330 square-foot Family Dollar retail store in Lackawanna, New York, with drive lanes, parking spaces, and landscaped areas. Access is from both Ridge Road and Wasson Avenue. Building construction is a single story, pre-engineered steel framed design supported by shallow foundations and a concrete slab-on-grade floor. The building exterior will have brick veneer. Based on borings conducted as part of Terracon's Geotechnical Engineering Report, the building footprint contains both existing fill and residual soils. New building area fills range about 2 to 8 feet based on the available grading plan, trending from the northwest to southeast corner of the building.

2.0 SUMMARY OF SITE REMEDIAL ACTIONS

2.1 Remedial Action Objectives

Based on the results of the Remedial Investigation, the following Remedial Action Objectives (RAOs) were identified for this site.

2.1.1 Groundwater RAOs

There were no groundwater ROAs identified pertaining to this site, as the site and surrounding properties are serviced with municipal drinking water.

2.1.2 Soil RAOs

RAOs for Public Health Protection:

- Prevent ingestion/direct contact with contaminated soil that poses a risk to public health considering the future intended utilization of the site.

2.2 Description of Remedial Action Selected

The site was remediated during construction in accordance with the remedial action selected by the NYSDEC in the 2007 ROD.

The factors considered during the selection of the remedy are those listed in 6NYCRR 375-1.8. The following are the components of the selected remedy:

- Construction and maintenance of a soil cover system consisting a combination of project suitable asphalt paving, concrete floor slabs and sidewalks, and imported clean cover soils to prevent human exposure to remaining contaminated soil/fill remaining at the site;
- Execution of the existing Environmental Easement to restrict land use and prevent future exposure to any contamination remaining at the site.
- Implementation of the existing Site Management Plan (SMP) for long term management of remaining contamination as required by the Environmental Easement. Appendix G and H, of the 2006 Site Investigation Report, comprise the Site Management Plan (SMP). Appendix G is the Soil Fill Management Plan (SFMP) and Appendix H is the Operation, Monitoring, and Maintenance Plan. Revisions to both appendices were made March 20, 2017 (letter, NYSDEC to the City of Lackawanna).

Copies of the Environmental Easement and SMP are included in Appendix B.

3.0 INTERIM REMEDIAL MEASURES

A SI/RA report was completed for the site in 2006. PAH's and metals were detected in the surface soils and fills present at the site. Two areas of elevated chromium were removed and disposed of off-site as solid waste at a landfill under an IRM in March of 2006.

A ROD requiring a SMP was issued in 2007, however, the site no longer presents a threat to the environment. All potential pathways to exposure have been eliminated through removal of the contaminated soils, placement of a soil cover system, and an environmental easement on the site property. There are no significant threats associated with this site according to documentation presented on the NYSDEC website.

Future development at the site requires adhering to the guidelines presented in the SMP included in Appendix B.

4.0 DESCRIPTION OF REMEDIAL ACTIONS PERFORMED

Remedial activities completed at the Site during foundation excavation and site work were completed in substantial conformance with the site SMP and Terracon's proposal for Environmental Consulting Services dated June 29, 2017 which was based upon the existing ROD and SMP for the site. All deviations from the June 29, 2017 Terracon Proposal are noted below.

- Existing Project Plans (i.e. civil and structural) for the new retail store were utilized.
- Existing Health and Safety Plans, Community Air Monitoring Plan, and Citizens Participation Plan were not edited during the scope of Terracon's services.
- Vapor Intrusion Mitigation System Design was performed by others.
- Site Management Plan was not edited during the scope of Terracon's services.
- Air monitoring was performed through PID screening and observation of visible dust during excavation activities.

4.1 Remedial Program Elements

4.1.1 Contractors and Consultants

- Westlake Development, LLC (General Contractor)
- Johnson Excavation (Site Contractor)
- Bergmann Associates (Architect/Engineer)
- Nature's Way Consultants (Environmental Contractor)
- Pariso Trucking (Trucking/Transport)
- Environmental Products and Services (Environmental Contractor)
- EnSol, Inc. (Waste Management)
- Pace Analytical (Environmental Laboratory)
- Paradigm Environmental (Environmental Laboratory)
- Terracon Consultants-NY, Inc. (Environmental/Geotechnical Consultant)

4.1.2 Site Preparation

A pre-construction meeting was held with the site contractors on August 30, 2017. Items discussed and responsibilities confirmed:

- Johnson Excavation would be responsible for dust control.
- Nature's Way would be responsible for classification and removal of material from the site.
- No special requirements for PPE required beyond Level D for work on site.
- All on site materials considered non-hazardous contaminated material.
- Discussion of construction timeline for site clearing and excavation for drainage along western boundary of site.

Site work by Johnson Excavation commenced on September 6, 2017.

4.1.3 General Site Controls

The following site controls are noted:

- Job site record keeping was performed by Westlake Development, LLC.
- Terracon conducted soil vapor screening and recorded screening results during excavation of foundations.
- Stockpile methods included placing and staging soil at the western and southwestern portions of the site on and covered with poly plastic sheeting until off-site disposal was performed.

4.1.4 Air Monitoring

During excavation activities, Terracon performed:

- PID screening for potential soil vapors and
- Observations at the site and surrounding properties for evidence of visible dust.

No elevated responses were measured by the PID during soil vapor screening. No evidence of visible airborne dust was observed on the site during excavation activities while Terracon was present at the site.

4.1.5 Reporting

Terracon's reporting included:

- Daily reports of site monitoring
- Photograph documentation of site activities

All daily monitoring reports and a digital photo log are included in Appendix C.

4.2 Contaminated Materials Removal

- Spoil materials (soils and fills) resulting from the excavation for the footings and drainage lines at the site were staged on poly plastic on-site by Johnson Excavation on the southwestern portion of the site during excavation.
- Nature's Way Environmental of Alden, New York obtained the analytical samples required for offsite disposal utilizing Pariso Trucking, completed analytical testing through a NYS approved laboratory, and coordinated transport of the materials with manifests to the Town of Tonawanda Landfill Closure Project between September 27 and October 27, 2017.
- Pariso Trucking's NYSDOT permit number is 9A826
- Environmental Product and Services (EPS) coordinated transport of remaining materials to the landfill on November 20 and December 1, 2017. These soils were not re-used on-site.
- EPS has a transport license number of USDOT 88754
- Figures of excavation and materials removed are included in Appendix D.
- Letters from Applicants to disposal facility owners and acceptance letters from disposal facility owners are attached in Appendix F.
- Manifests and bills of lading are included in Appendix F.

In summary, approximately 2,664 tons of material (78 truckloads) were transported off site between September 27 and December 1, 2017. All materials were transported by permitted hauling contractors to the Town of Tonawanda Landfill Closure site on East Park Road in Tonawanda, New York for disposal.

4.3 Documentation Sampling of Remaining Soil

On September 15, 2017, Terracon collected six samples of the soils/fills remaining within the new building footprint on the sidewalls and bottom of the foundation excavation. A total of three "grab" samples and three "composite" samples were obtained of the exposed foundation footing subgrade, interior excavation sidewall face and exterior sidewall face. Refer to the attached site plan for approximate sample locations in Appendix D. The samples were collected by Terracon utilizing standard soil sampling methods, placed in pre-cleaned sample jars provided by the testing laboratory, and transported in a cooler with appropriate chain of custody paperwork via courier to Pace Analytical Services, Inc. (PACE) in Melville, New York. Analysis for the following parameters was completed by Pace:

- TCL Volatile compounds
- TCL Semi-volatile compounds
- Pesticides
- Metals
- PCB's

Pace's analytical report is included in Appendix E of this report.

The analytical results for the soil samples submitted were below the Site Specific Action Levels (SSALs) indicated for this site as presented in the Soil Fill Management Plan

(SFMP) prepared by Malcom Pirnie for this site (included in Appendix B), with the exception of copper at one location where there was significant construction and demolition debris present. It is believed that the exceeded copper concentration may be related to the metal fragments that were present within the fill. We note however, that the SSALs presented within the SFMP are intended for determining if consideration can be given to re-use of on-site soils at the site and if so, within what manner (i.e. subgrade, final cover) or if the soils must be disposed of off-site. During Terracon's monitoring materials within the excavations, soils were not re-used. Excavated soils were disposed of off-site.

4.4 Imported Backfill

Crushed gravel fill imported to the site for use as excavation backfill was supplied by Gernatt Gravel Products out of their Gable Thomas Plant in Chaffee, New York. The plant is a NYSDEC permitted supplier. The topsoil was supplied by Gernatt's NYSDOT approved pile 17-01 at the Collins Plant on Taylor Hollow Road in Collins, NY. Grain-size distribution reports have been provided and included in Appendix G for both the gravel product and topsoil, along with laboratory analytical data for the topsoil.

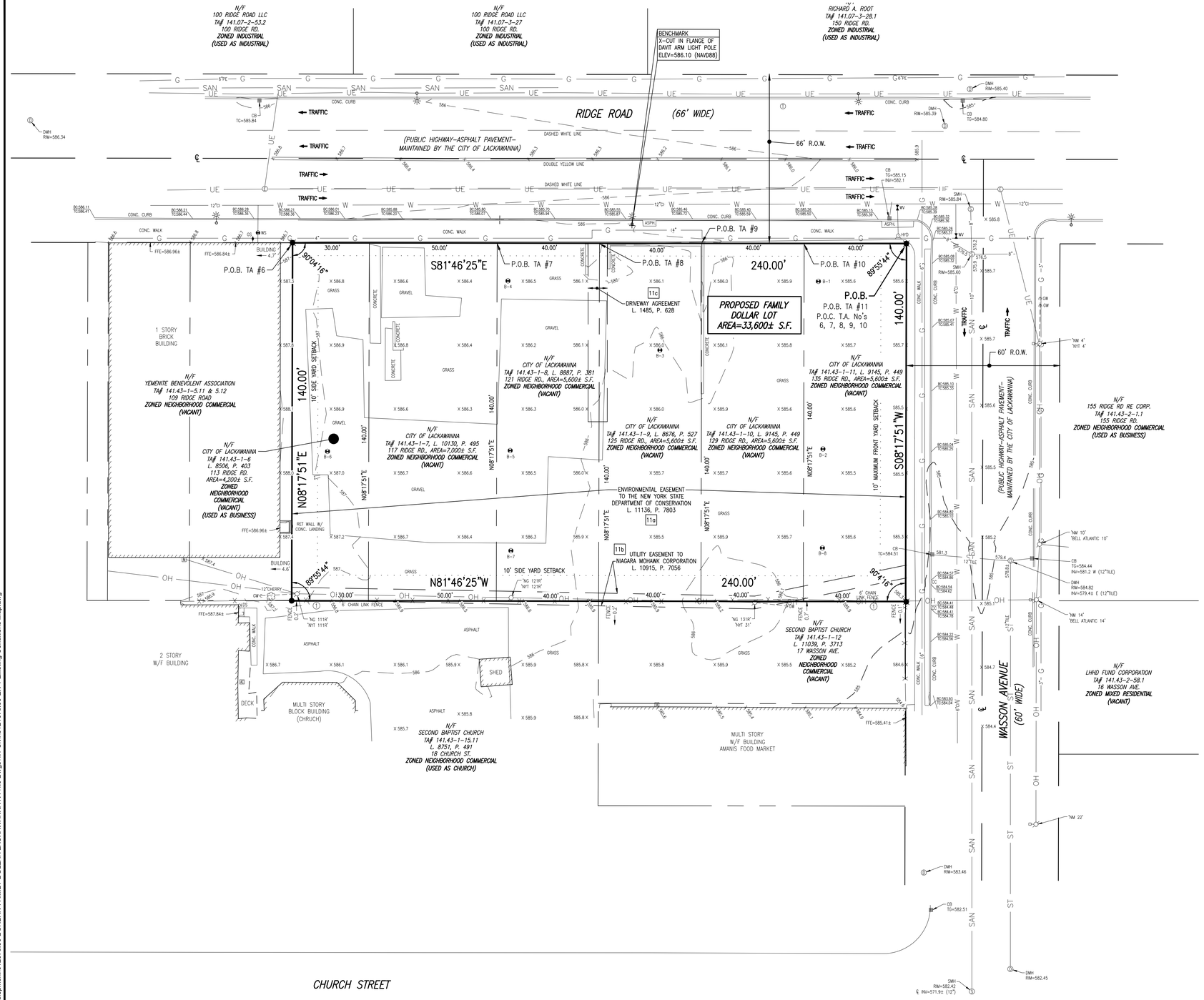
4.5 Cover System

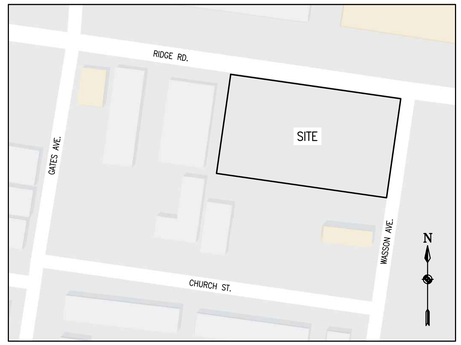
Exposure to remaining contamination in soil/fill at the site is prevented by a soil, concrete, and/or an asphalt pavement cover system placed over the site. The cover system has been incorporated as the part of the site development and is comprised of the following:

- Coverage of approximately 8,300 square feet of the site by a steel framed, concrete slab on grade retail store with associated concrete sidewalks. Concrete thicknesses range from 4 to 6 inches in depth underlain by compacted imported subbase materials.
- Coverage of approximately 12,500 square feet of the site by asphalt pavement. Thicknesses of asphalt range from 3 to 3 ½ inches compacted depth, and overlie approximately 12 inches of imported subbase materials.
- Coverage of any remaining available site areas by a minimum of 12 inches of topsoil (with associated underlying marker layer).
- The earthen berm was comprised of fill from on-site, predominantly construction and demolition debris. Laboratory data on the subsoil portions of the fill utilized/re-graded in the berm and some of the landscape areas are included in Appendix G. Much of the berm was filled with construction and demolition material (i.e. concrete) and was not included in the sampling and analysis.
- Terracon performed measurements of the cover system. Topsoil thicknesses measured on the berm ranged between 6 to 18 inches. Topsoil thicknesses over the landscape areas ranged between 6 and 12 inches along with several inches to 6 inches of mulch.

The as-built cross sections for the cover types (concrete and asphalt) utilized on the site are included in Appendix H.

Appendix A – Site Survey





SITE LOCATION MAP
NOT TO SCALE

LEGEND

- PROPERTY CORNER TO BE SET
- PIN OR REBAR FOUND
- DRILL HOLE FOUND
- DECIDUOUS TREE
- DS — DOWNSPOUT
- AC — AIR CONDITIONER
- BORE
- W — ELECTRIC METER
- E — ELECTRIC MANHOLE
- GS — GAS SERVICE
- LIGHT POLE (DAVIT ARM)
- T — TELEPHONE MANHOLE
- UTILITY POLE
- UTILITY POLE WITH LIGHT
- GW — GUY WIRE
- HYD — FIRE HYDRANT
- WV — WS — WATER VALVE OR SERVICE
- SMH — SANITARY MANHOLE
- CB — CATCH BASIN
- DMH — DRAINAGE MANHOLE
- CHAIN LINK FENCE
- SANITARY SEWER LINE
- STORM SEWER LINE
- UNDERGROUND WATER LINE
- UNDERGROUND GAS LINE
- UNDERGROUND TELEPHONE LINE
- UNDERGROUND ELECTRIC LINE
- OVERHEAD UTILITY WIRE
- 585 — MAJOR CONTOUR (5' INTERVAL)
- 586 — MINOR CONTOUR (1' INTERVAL)
- PROPERTY LINE
- ADJOINING PROPERTY LINE
- EASEMENT LINE
- RIGHT OF WAY LINE
- CENTERLINE OF RIGHT OF WAY
- SETBACK LINE
- CC = CURB CUT
- BC/TC = BOTTOM CURB/TOP CURB
- FFE = FINISHED FLOOR ELEVATION
- CONC. = CONCRETE
- x 586.8' SPOT ELEVATION
- # — SCHEDULE B TITLE EXCEPTION NUMBER

Family Dollar

113-135 RIDGE ROAD
LACKAWANNA, NY 14218

Prepared For:
FAMILY DOLLAR

FDS 715551, LLC
5500 Brooktree Road
Wexford, PA 15090

BERGMANN ASSOCIATES

Bergmann Associates, Architects, Engineers,
Landscape Architects & Surveyors, D.P.C.
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REVISIONS

NO.	DATE	DESCRIPTION	REV.	CK'D
1	02/28/17	ECDSM REVISIONS	PFD	JL
2	03/24/17	GRADING REVISIONS	DGC	JL

PROFESSIONAL CERTIFICATION: I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE OF NEW YORK, LICENSE NO. 095027 EXPIRATION DATE 4/30/18.

Project Manager: K. CHARLAND	Checked By: K. SULLIVAN, PLS
Designed By: C WOOD	Drawn By: C WOOD
Date Issued: 12/16/16	Scale: 1" = 20'
Project Number: 012073.00	

EXISTING CONDITIONS MAP

Drawing Number:

EX-1

2 of 12

Appendix B – SMP

MALCOLM PIRNIE

FINAL

SITE INVESTIGATION/ REMEDIAL ALTERNATIVES REPORT

Six Vacant Lots on Ridge Road Site

Lackawanna, New York

Prepared BY:

MALCOLM PIRNIE, INC.

For:

THE CITY OF LACKAWANNA

MAY 2006

Submitted by:
Malcolm Pirnie, Inc.
40 Centre Drive
Orchard Park, NY 14127

MALCOLM PIRNIE

Introduction

SECTION 1

1.1 Purpose and Scope

On behalf of the City of Lackawanna, New York (City), Malcolm Pirnie has prepared this Remedial Action Report for the properties located at 113 through 135 Ridge Road, known as the Six Vacant Lots on Ridge Road Site (the Site) in Lackawanna, Erie County, New York. The Site was investigated under the New York State Clean Water/Clean Air Bond Act – Environmental Restoration Program and the United States Environmental Protection Agency's (USEPA) Brownfields Assessment Program. The purpose of this investigation and evaluation is to:

- Investigate the physical and chemical composition of fill material, if present, on the Site.
- Investigate the type and magnitude of contaminants at the Site, if present.
- Investigate the hydrogeologic characteristics of the Site (e.g., depth to saturated zone, lithological unit's present, hydraulic gradients, proximity to drinking water aquifers, flood plains and wetlands).
- Evaluate the potential for migration of contaminants from the Site, and whether possible future migration may pose a threat to human health or the environment.
- Identify and evaluate potentially feasible remedial alternatives, which are protective of human health and the environment, based on community needs and end-use planning for the property.
- Plan to support revitalization of the property.

This report summarizes the findings of field activities conducted at the Site from May 2 to May 26, 2005. Field activities were conducted in accordance with the NYSDEC and USEPA-approved Site Investigation Work Plan, submitted by Malcolm Pirnie in September 2004, and a letter amendment to the Work Plan and Quality Assurance Project Plan (QAPP) dated March 22, 2005.

1.2 Site Description and Location

The 0.77 acre Site includes six vacant lots identified with addresses of 113, 117, 121, 125, 129, and 135 Ridge Road in Lackawanna, Erie County, New York. Current tax records identify each of the vacant lots with a sublot number. The sublot numbers start at sublot 6, the western most lot, and continue successively to sublot 11, the eastern most lot. Figure 1-1 identifies the location of the Site and Figure 1-2 is the Site map.

The Site is a rectangular shaped vacant lot covered with grass and gravel, with no aboveground structures. Partial foundations of previous structures and concrete walkways are partially exposed at the ground surface.

1.3 Site Background and History

A review of Sanborn Maps® from the years 1915, 1927, and 1927 – 1950, indicate that the former on-site structures were constructed primarily between 1915 and 1927. The Sanborn Maps® indicate the buildings were mainly two story brick framed structures that fronted Ridge Road and Wasson Avenue, and several single story wood-framed and stone structures at the rear of the main structures or along the southern property boundary. These buildings were used for a variety of commercial activities including a bakery, jeweler, men's clothing store, restaurants and a tin shop. Based on the review of City directories and the Sanborn Maps®, it is believed that many of the buildings existed until the late 1960's, at which time they were demolished, however this could not be verified. The City of Lackawanna acquired the properties in the late 1970's. No known environmental studies have been performed at the Site.

1.4 Physical Setting

1.4.1 Land Use and Demography

The Site is located in an urban area, within the city limits of Lackawanna, New York, and is currently vacant.

Properties surrounding the Site consist of mixed commercial, light industrial and residential properties. Two light industrial facilities are located north of the Site. A vacant lot and small corner store are located to the east of the Site. South of the Site are several residential properties and a church. A religious temple is located to the west of the Site.

1.4.2 Topography and Drainage

The Site is virtually flat, with elevations ranging from approximately 585 feet above mean sea level (AMSL) at the east end to 587 feet AMSL at the west end of the Site. Surface water drainage is likely towards the east; however, standing water may occur in small areas throughout the Site.

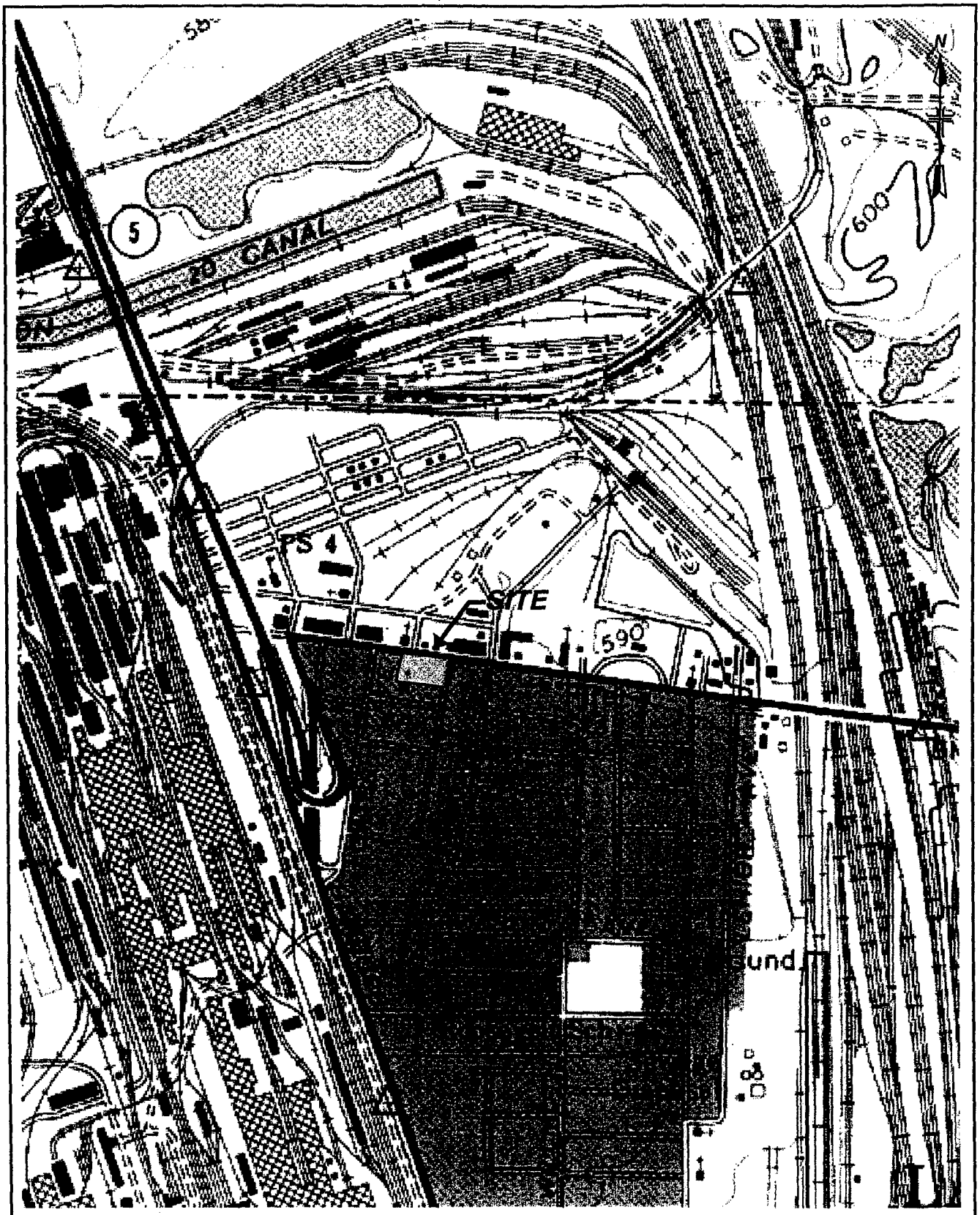
1.4.3 Soils

The Soil Survey of Erie County, New York, produced and distributed by the United States Department of Agriculture, Soil Conservation Service, identified soils at the Site as Urban lands (UrA) forming in loamy glacial till deposits, and containing Udorthents complexes (USDA-SCS, 1986). Urban lands are identified by being greater than 85 percent covered by roads, parking lots, buildings and other generally impervious surfaces. Additionally, urban lands are drained by man made improvements; therefore natural soil structure is likely disturbed by human activity. Soil identified as Udorthents are also included in soil classification at the Site. Udorthents are generally brown silt loam from surface to approximately five inches below ground surface and silty loam or silty clay with greater than 40 percent rock fragments to as deep as 60 inches. Since this Site is classified as urban lands, variations and deviations in Site characteristics resulting from human activity are likely.

The Niagara Sheet of the Surficial Geologic Map of New York was used to identify characteristics of the surface geology at the Site (Caldwell et al., 1986). Lacustrine silt and clay deposits associated with proglacial lakes were identified in the area underlying the Site. These soil types are listed as having thicknesses of up to 100 meters.

1.4.4 Regional Geology and Hydrogeology

The Niagara Sheet of the Geologic Map of New York was reviewed to determine the underlying bedrock at the Site (Fisher et al., 1970). Levanna Shale or Stafford Limestone members underlie the overburden at the Site and a majority of the surrounding area. Bedrock was not encountered during the subsurface investigation at the Site.



Latitude: +42.827366°N Longitude: -078.847126°W		**Six Vacant Lots, Ridge Road Lackawanna, New York**	**FIGURE 1-1 SITE LOCATION MAP**
4852-002	*August 2004*		

MALCOLM PIRNIE

Investigation Methods and Results

SECTION 2

2.1 General

Field activities of the site investigation were completed between May 2 and 26, 2005. Tasks were conducted in accordance with the NYSDEC and EPA-approved Investigation Work Plan (Malcolm Pirnie, September 2004).

The site investigation included the following field tasks:

- Excavation of 20 shallow test pits spatially distributed across the Site.
- Advancement of three soil borings and the installation, development, and sampling of three shallow groundwater monitoring wells.
- Collection and analysis of six subsurface soil/fill samples from the test pits, one from each sublot.
- Collection and analysis of six surface soil samples, one from each of the vacant sublots.
- Collection and analysis of five off-site/background surface soil samples from properties adjacent to and surrounding the Site.
- Water level measurement in all newly-installed monitoring wells.
- Collection and analysis of three groundwater samples from the monitoring wells.
- Site survey for creation of a site base map with Site features as well as monitoring well and sample locations.

Detailed discussions of the purpose, methodologies, and results of each of the investigative activities completed are presented in the following subsections. Analytical results are presented and discussed in Section 5.0.

2.2 Site Survey and Base Map Preparation

TVGA Consultants of Elma, New York, performed a survey of the Site that included relevant Site features, topography, sample locations, and elevations. This information was used to generate a Site base map. Ground control was established on-site that includes USGS vertical control and NY State Plane Coordinates for horizontal control. The Site base map developed for the Site, Figure 1-2, has a horizontal scale of 1-inch equal to 40 feet.

2.3 Surface Soil Sampling Program

Soil samples were collected from the uppermost 2-inch surface at the Site. Six surface soil samples were collected, one from each sublot. At each sublot, sample locations were selected in areas that represent the surface soils covering the majority of that vacant lot. Based on the analytical results of these samples, confirmation sampling was performed on sublots 7 and 8. This confirmation sampling included four additional surface soil samples at each of these two sublots for total chromium analysis (see Figure 2-1). Surface soil sampling was also performed at five off-site locations adjacent to the Site to establish background soil concentrations. Surface soil sampling locations are shown on Figures 2-1 and 2-2 and analytical results are discussed in section 5.2.

2.4 Test Pit Program

Multiple test pits were excavated at each of the sublots to characterize and establish thickness of fill materials and to verify the locations of buried foundations, basement floors and walls where present at the Site.

A subcontracted drilling firm (B&S Technical Services) performed the test trench excavations at the direction of the on-site Malcolm Pirnie geologist. All excavations were performed using a rubber tire backhoe. At each test trench location, the topsoil and cover materials were first stripped from the surface and stockpiled separately from the

deeper excavated soils and fill. Each trench was then excavated until the contact between the fill materials and native soils or refusal was encountered. Total depths ranged from approximately 3.5 feet to 9.5 feet bgs. The physical characteristics of the soils and fill material were recorded on test pit logs using the Unified Soil Classification System (USCS) method. Photoionization detector (PID) measurements were also taken of the excavated materials and, where safely accessible, along the excavation walls. The PID was used to obtain qualitative estimates of total VOCs in the soil and/or fill. The PID was calibrated prior to use at the site using the appropriate calibration gas (100 PPM isobutylene) and verified accurate using the same calibration gas regularly throughout the field program. PID readings for each test pit are included on the test pit logs. Depth to water, dimensions of the test pits, the vertical and horizontal contact between the fill materials and native material, and other pertinent observations were also recorded on the test trench logs. Representative samples of the fill materials were collected from each test pit. Each test pit was then photographed prior to backfilling. The test trench was then backfilled with excavated soils and covered with the segregated topsoil and/or cover materials. Each test pit was staked for subsequent location by the surveyors.

The bucket of the backhoe was decontaminated following the excavation of all the test trenches within each sublot, and prior to excavating the test pits at the next sublot. Decontamination was performed over one of the previously excavated test pit locations using a high pressure steam cleaner.

Three or four test pits were excavated on each sublot, for a total of 20 test pits at the Site. Locations of the test pits are illustrated on the Sample Location Map, Figure 2-1. Test pit locations were given an alphanumeric designation starting with the project identification VL for the Six Vacant Lots Site, followed by the sublot number in which the test pits were excavated, followed by the location number within that sublot. For example, the first test pit excavated in sublot 6 was identified as VL6-TP1, while the fourth test pit excavated at sublot 11 was identified as VL11-TP4. Field logs with visual descriptions of the subsurface conditions encountered were prepared for each test pit, and are included in Appendix A.

The majority of the test trenches excavated contained a granular fill material to some degree. Only one test pit location, VL7-TP2, identified a basement area containing the remnants of the former structure. This test pit was excavated to 7 ½ feet bgs where

refusal was encountered, the presumed basement floor of the former structure. The fill materials present within this basement consisted primarily of bricks. The basement was also filled with water to a depth of 2 ½ feet bgs. A basement floor was encountered in one other test pit location, VL9-TP1. This test pit contained a mixed granular fill.

No elevated PID readings were detected at any of the test pit locations. A summary of the total depths of each test pit, as well as the fill thickness and intervals selected for analytical sampling are presented in Table 2-1. A description of the geologic conditions encountered during the test pit program is provided in Section 3, and test pit logs with detailed overburden descriptions and other observations are provided in Appendix A. Photographs of the test pits are provided in Appendix B.

2.5 Soil Boring Program

A soil boring program was conducted to establish the thickness and composition of the fill material, evaluate the native subsurface soils at the Site, and for installation of temporary groundwater monitoring wells.

Three test borings were advanced through unconsolidated overburden soils using 4-¼-inch inside diameter (ID) hollow stem augers. The drilling rig used to complete the test borings was provided and operated by a subcontractor to Malcolm Pirnie. At each test boring location, continuous two-inch outer diameter (OD) split-spoon samplers were used to collect soil cores which were screened with a PID to obtain a qualitative estimate of total volatile organic compounds (VOCs) emitted from the subsurface soils. The on-site Malcolm Pirnie geologist recorded the PID measurements, physical characteristics of the fill and soil using the Unified Soil Classification System (USCS), depth to groundwater, and other notable conditions on Field Boring Log forms at each test boring location. The split spoon samplers were decontaminated prior to each use using a solution of Alconox and water followed by nitric acid and de-ionized (DI) water rinse.

Locations of the test borings are shown on Figure 2-1 as MW's. Borehole depths ranged from 18 feet to 34 feet below ground surface (bgs). A description of the geologic conditions encountered during the drilling program is provided in Section 3, and borehole logs with detailed overburden descriptions and other observations are provided in Appendix C. Three test borings VL-SB1, VL-SB2, and VL-SB3 were advanced through the fill materials and into the native soils. Fill depths at these three borings ranged from

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TABLE 2-1
TEST PIT / SOIL BORING SUMMARY
SIX VACANT LOTS ON RIDGE ROAD SITE
LACKAWANNA, NEW YORK

Location ID	Date Excavated/ Drilled	Total Depth (feet bgs)	Depth to Water (feet bgs)	Fill Depth Range (feet bgs)	Maximum PID Reading/Depth Interval (ppm/feet bgs)	Sampled Interval (VOCs) (feet bgs)	Sampled Interval (non-VOCs) (feet bgs)	Analyses	Comments
TEST PITS									
VL6-TP1	05/02/05	9.5	--	0 - 2.5	0.0 ppm throughout	--	0 - 2.5	SVOCs, TAL Metals, CN, Pesticides, PCBs	Sampled as part of composite sample VL6-TPC for Sublot 6
VL6-TP2	05/02/05	4.0.	--	0 - 3.0	0.0 ppm throughout	--	0 - 1.2		
VL6-TP3	05/02/05	3.6	--	0 - 1.5	0.0 ppm throughout	2 - 2.5	0 - 3.0		
VL6-TP4	05/02/05	4.0	--	0 - 1.2	0.0 ppm throughout	--	0 - 1.2		
VL7-TP1	05/02/05	3.6	--	0 - 1.5	0.0 ppm throughout	--	0 - 1.5	SVOCs, TAL Metals, CN, Pesticides, PCBs	Sampled as part of composite sample VL7-TPC for Sublot 7
VL7-TP2	05/02/05	7.5	2.5	0 - > 7.5	0.0 ppm throughout	--	0 -7.5		
VL7-TP3	05/02/05	5.5	--	0 - 2.5	0.0 ppm throughout	2 - 2.5	0 - 2.5		
VL8-TP1	05/03/05	5.7	--	0 - 1.4	0.0 ppm throughout	--	0 - 1.4	SVOCs, TAL Metals, CN, Pesticides, PCBs	Sampled as part of composite sample VL8-TPC for Sublot 8
VL8-TP2	05/03/05	6.0	--	0 - 2.3	0.0 ppm throughout	0.5 - 1.0	0 - 2.3		
VL8-TP3	05/03/05	4.3	--	0 - 3.0	0.0 ppm throughout	--	0 - 3.0		
VL9-TP1	05/03/05	6.7	--	0 - >6.7	0.0 ppm throughout	2.5 - 3.5	0 - 6.7	SVOCs, TAL Metals, CN, Pesticides, PCBs	Sampled as part of composite sample VL9-TPC for Sublot 9
VL9-TP2	05/03/05	5.4	--	0 - 2.4	0.0 ppm throughout	--	0 - 2.4		
VL9-TP3	05/03/05	4.2	--	0 - 1.4	0.0 ppm throughout	--	0.6-1.4		
VL10-TP1	05/03/05	7.5	--	0 - 2.0	0.0 ppm throughout	--	0 - 2.0	SVOCs, TAL Metals, CN, Pesticides, PCBs	Sampled as part of composite sample VL10-TPC for Sublot 10
VL10-TP2	05/03/05	6.6	--	0 - 1.5	0.0 ppm throughout	--	0 - 1.5		
VL10-TP3	05/03/05	4.7	--	0 - 1.7	0.0 ppm throughout	1.0	0 - 1.7		
VL11-TP1	05/03/05	7.0	--	0 - 1.5	0.0 ppm throughout	--	0 - 1.5	SVOCs, TAL Metals, CN, Pesticides, PCBs	Sampled as part of composite sample VL11-TPC for Sublot 11
VL11-TP2	05/03/05	5.0	--	None Present	0.0 ppm throughout	--	--	No sample collected	
VL11-TP3	05/03/05	5.3	--	None Present	0.0 ppm throughout	--	--	No sample collected	
VL11-TP4	05/03/05	5.0	--	0 - 1.2	0.0 ppm throughout	0.6 - 1.2	0.6 - 1.2	SVOCs, TAL Metals, CN, Pesticides, PCBs	Sampled as part of composite sample VL11-TPC for Sublot 11
SOIL BORINGS / MONITORING WELLS									
VL-SB1 / MW-1	05/05/05	34.0	3.0	0 - 3.0	0.0 ppm throughout	--	--	No sample collected	
VL-SB2 / MW-2	05/06/05	18.0	4.0	0 - 2.0	1.3 ppm @ 4-6'	--	--	No sample collected	
VL-SB3 / MW-3	05/06/05	18.0	6.0	0 - 3.0	0.0 ppm throughout	--	--	No sample collected	

Notes:

bgs - below ground surface
ppm - parts per million
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
TAL = Target Analyte List
CN = Cyanide
PCBs = Poly-Chlorinated Biphenyl's

Created by: BW Date: 8/9/2005
Checked by: JJR Date: 9/12/05

approximately two to three feet bgs. A summary of the total depths of each soil boring, as well as the fill thickness and intervals selected for analytical sampling are presented in Table 2-1.

2.6 Monitoring Well Installation and Development

Groundwater monitoring wells were installed in each of the three soil borings during the Site Investigation to provide hydrogeologic and water quality data from the Site. Groundwater elevation data were also collected from these new wells.

Well installation activities were completed using standard well installation techniques. All monitoring wells were constructed of 2-inch ID, flush joint, Schedule 40 PVC, with 0.010-inch slotted screen 10 feet in length. A silica sand filter pack was placed from borehole total depth up to approximately two feet above the top of the screened interval. A minimum two-foot thick layer of bentonite chips was placed above the sand pack as a seal to prevent the downward infiltration of surface water. The remainder of the boring annulus was filled with cement/bentonite grout. Monitoring wells were completed at the surface with flush-mount "road boxes" set in concrete for protection and a concrete drainage pad.

All monitoring wells were installed to depths of 14 to 16 feet bgs. A summary of well construction details is presented in Table 2-2. Detailed well construction diagrams and borehole logs with geologic descriptions for the wells are presented in Appendix A.

The newly installed wells were developed to clean the well and sand pack of fine sediments, create wells that will yield water samples that are representative of the groundwater quality at that location, and to provide accurate measurement points for groundwater elevations. All wells were developed using either, pre-cleaned dedicated bailers, a centrifugal pump attached to dedicated polyethylene tubing, or a peristaltic pump attached to dedicated polyethylene tubing. Groundwater evacuated from each well during development was monitored for the field parameters of; pH, specific conductivity, temperature, dissolved oxygen, and turbidity. Due to the slow recharge of the wells, the well development task was completed over the course of two days. The wells were purged dry and allowed to partially recharge before resuming development procedures. Development continued until a minimum of ten well volumes had been removed and/or field parameter measurements exhibited stabilization. Development water was

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TABLE 2-2
SUMMARY OF MONITORING WELL CONSTRUCTION DETAILS
REMEDIAL ACTION REPORT
SIX VACANT LOTS ON RIDGE ROAD SITE
LACKAWANNA, NEW YORK

Well No.	Stick-Up (ft)	Screen Diam. (in)	Slot Size (in)	Well Material	Borehole Diameter (in)	Borehole Depth (ft bgs)	Screened Interval (ft bgs)	Date Installed
MW-I	-0.37	2	0.010	PVC	8.0	34.0	4.0 - 14.0	5/6/2005
MW-2	-0.53	2	0.010	PVC	8.0	18.0	5.5 - 15.5	5/6/2005
MW-3	-0.47	2	0.010	PVC	8.0	18.0	6.0 - 16.0	5/6/2005

Notes:
All wells completed in overburden soils.

bgs - below ground surface.

Stick-up measurement shown as a negative value to reflect distance below ground surface. All wells installed with protective flush-mount casings.

discharged at the ground surface. Well Development/Purge Logs are included in Appendix C.

2.7 Groundwater Elevation Measurement and Mapping

Groundwater levels were measured during two separate events at the Site on May 25 and August 17, 2005. Synoptic water levels were collected to provide data for the determination of the groundwater flow direction at the Site.

Depth-to-water measurements were determined to the nearest 0.01 foot from the top of the inner PVC casing using an electronic water level indicator. Following the completion of the Site survey, all water levels were converted to elevation measurements in units of feet above mean sea level.

An equipotential map for the shallow overburden water table was prepared using the data from the August 17, 2005 measurement event. A discussion of groundwater flow directions and water level is presented in Section 3. A tabulated summary of the water level data is provided in Table 2-3.

2.8 Environmental Sampling Program

The environmental sampling program included the collection of surface soils both on-site and off-site, subsurface soil/fill, and groundwater samples in accordance with the NYSDEC and EPA approved Site Investigation Work Plan. Two sampling events were completed. The first on May 2 – 4, 2005, included sampling of surface soils and subsurface soil/fill and the second on May 26, 2005 was for the collection of groundwater samples. All samples were submitted under chain-of-custody to Severn Trent Laboratories, Inc. in Amherst, New York. A third-party data validation specialist validated all of the data. Data validation and usability is discussed in section 4.0 and the validation results are presented in Appendix D. Post-validation analytical results for both sampling events are presented and discussed in Section 5.

2.8.1 Surface Soil Samples

The purpose of the surface soil sampling program was to characterize the physical and chemical conditions of the surface soils at and around the Site. This characterization was

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TABLE 2-3
GROUNDWATER ELEVATIONS
REMEDIAL ACTION REPORT
SIX VACANT LOTS ON RIDGE ROAD SITE
LACKAWANNA, NEW YORK

Well No.	Ground Surface Elevation (ft AMSL)	Reference Point Elevation(1) (ft AMSL)	Water Depth (ft BTOR)	Groundwater Elevation (ft AMSL)
Measurement Date: May 25, 2005				
MW-1	586.88	586.51	5.76	580.75
MW-2	585.69	585.16	7.62	577.54
MW-3	586.34	585.87	4.10	581.77
Measurement Date: August 17, 2005				
MW-1	586.88	586.51	5.83	580.68
MW-2	585.69	585.16	7.79	577.37
MW-3	586.34	585.87	5.26	580.61

Notes:

(1) Reference point elevation for wells = top of inner PVC casing.

AMSL - Above Mean Sea Level

BTOR - Below Top of Riser

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Checked by: JJR Date: 9/12/05

also used to evaluate potential human health risks to nearby residents, Site trespassers, workers and contractors that may come into contact with these soils.

Surface soil samples were collected directly from the surface or immediately beneath the grass and root zone. Sampling depths extended to two inches below ground surface or the root zone. Samples were placed directly into the appropriate sampling containers using pre-cleaned stainless steel spoons. All on-site soil samples were submitted for TCL SVOCs, PCBs, Pesticides TAL metals, and total cyanide analyses. One sample (VL6-SS) was analyzed for VOCs due to the presence of staining observed at the surface. Site background surface soil samples were analyzed for polycyclic aromatic hydrocarbons (PAHs), TAL Metals plus cyanide. A total of five surface soil samples were collected from adjacent properties surrounding the Site, see Figure 2-2. All surface soil samples were submitted under chain-of-custody to the subcontracted analytical laboratory for analysis. Analytical results for the surface soil samples are discussed in detail in Section 5, Site Contaminant Characterization.

2.8.2 Subsurface Soil/Fill Samples

A representative soil sample was collected from the fill materials at each test pit. All of the samples collected from each sublot were then composited into one sample to create a sample representing the subsurface soil/fill materials at each of the individual sublots. To minimize volatilization caused by the compositing process, VOC samples were collected at a discrete depth within the fill of one test pit per sublot. All soil samples were submitted for TCL VOCs, SVOCs, PCBs, Pesticides, TAL metals, and total cyanide analyses. No PID readings were detected in any of the test pits. A total of six subsurface soil samples were collected from test pits and submitted to the subcontracted analytical laboratory for analysis. Sampling locations are shown on Figure 2-1. Analytical results for the subsurface soil/fill samples are discussed in detail in Section 5, Site Contaminant Characterization.

2.8.3 Groundwater Samples

The three newly installed groundwater monitoring wells were sampled to characterize the groundwater quality at the Site. Groundwater samples were collected from the monitoring wells two weeks following development. A water level indicator was used to measure the water table elevation at each monitoring well. Each well was then purged

using a peristaltic pump and dedicated polyethylene tubing. The evacuated groundwater was periodically measured for the pH, conductivity, temperature, turbidity, dissolved oxygen, and redox potential. Upon stabilization of these parameters, groundwater samples were collected directly from the polyethylene tubing. Samples were collected for TCL VOCs, SVOCs, PCBs, pesticides, TAL metals and total cyanide analyses. Groundwater from one monitoring well, VL-MW1, had a turbidity greater than 50 NTU's at the time of sampling. This warranted filtering the sample in the field using a 0.45 micron filter. Both filtered and unfiltered samples were submitted for dissolved and total metals analysis due to this condition.

A total of three groundwater samples plus a field duplicate and a matrix spike (MS), and matrix spike duplicate (MSD) were collected. Well Purging and Sampling Logs are included in Appendix C. Analytical results for the groundwater samples are discussed in detail in Section 5, Site Contaminant Characterization.

Hydrogeologic Evaluation

SECTION 3

3.1 Introduction

The geology and hydrogeology of the Site described herein was characterized using data and information collected from test pits, soil borings and monitoring wells installed at the Site during the site investigation. The investigation consisted of 20 test pits, and three soil borings which were converted into monitoring wells. Locations of the test pits and monitoring wells are illustrated on Figure 2-1. Detailed test pit and boring logs are provided in Appendix A. A summary of test pit, soil boring and well construction details is presented in Tables 2-1 and 2-2.

3.2 Site Geology

In general, subsurface conditions at the Site consist of fill materials underlain by glaciolacustrine deposits of silt and fine sand. Foundations from the former on-site structures are visible at the surface and were also encountered during the excavation of several of the test trenches. The locations and extent of the buried foundations could not be verified during the test pit program. Figure 3-1 illustrates the presumed locations of buried foundations and basements as interpreted from the Sanborn Fire Insurance maps and the test pits in which foundations were encountered.

A description of each subsurface unit encountered during the site investigation follows:

Fill Materials – Fill materials were encountered throughout the Site, and are likely a result of the previous development and razing of the former structures at the Site. Fill thicknesses were primarily from one to three feet. Two former basements were encountered near the northern property boundary during the test pit excavations. Their depths extended to 6.7 and 7.5 feet bgs. The floor slabs could not be penetrated, and therefore conditions beneath these locations could not be verified.

The fill materials encountered varied from location to location as well as vertically. Fill units consisted primarily of sandy silt, slag and gravel, foundry sands, and at one location (VL7-TP2), a former basement filled with bricks and timbers.

Fine-Grained Soils – Lacustrine deposits exist beneath the fill materials at the Site. These deposits consisted primarily of a sandy silt with trace amounts of gravel and clay.

Two glacial till units exist beneath the lacustrine silts. The upper unit consists of a sandy silt till that extends to depths between 13 and 15 feet bgs. The lower unit is a silty sandy clay till that extended the full depth drilled at each boring location.

Bedrock – Bedrock was not encountered in any of the soil borings drilled during the site investigation. Bedrock beneath the Site is reportedly the Levanna Shale member of the Skaneatles Formation.

3.3 Site Hydrogeology

Depths to groundwater were measured on May 26, 2005 and August 17, 2005 in the newly installed monitoring wells. Groundwater depths were similar during both measurement events and were used to determine groundwater elevations and local groundwater flow direction. The depths measured and their calculated elevations are presented in Table 2-5. These groundwater elevations were then used to produce a groundwater equipotential map for the shallow groundwater bearing zone, Figure 3-2.

Groundwater Flow - The water table, as measured in the groundwater monitoring wells, was generally observed at depths of approximately four to seven feet below grade. Figure 3-2 shows that shallow groundwater has a general northeasterly flow across the Site.

Data Validation/Usability

SECTION 4

Samples were collected for the site investigation during two sampling events. Soil samples were collected from the surface as well as the subsurface on May 2 – 5, 2005 and analyzed for TCL VOCs, SVOCs, Pesticides, PCBs, TAL Metals, Cyanide, and pH. Groundwater samples were collected from temporary monitoring wells on May 26, 2005 and analyzed for TCL VOCs, SVOCs, Pesticides, PCBs TAL Metals, and cyanide. Severn Trent Laboratories of Buffalo, New York analyzed both the soil and groundwater samples collected.

Nancy Potak, a qualified data validator, performed third-party validation of the analytical results from the laboratory. The data validation was conducted according to the guidelines established by NYSDEC's Data Usability Summary Review (DUSR) process. The DUSR process was performed to provide a determination of whether the data meets the project specific criteria for data quality and data use.

Data Review Reports were prepared for each sample analysis group per matrix and are attached to this report as Appendix D. The Data Review Reports provide copies of the laboratory analytical results and descriptions of the criteria used to review the laboratory results and supporting quality control documentation. While a few data points were rejected, overall, the majority of the data were deemed usable by the data validator. Exceptions to this were the pesticide results for the surface and subsurface soils. The pesticide results are considered highly estimated and are qualified accordingly. The usability of the data, as assessed by the data validator is presented in detail by media in the following sections. All data summary tables in Section 5 and related discussions and conclusions present and use analytical results that have been validated.

4.1 Surface Soil and Subsurface Soil/Fill Samples

The surface and subsurface soil samples consisted of three Sample Delivery Groups (SDGs), identified as A05-4389, A05-4466, and A05-4526. The soil samples were analyzed for full TCL VOCs, SVOCs, pesticides, PCBs, TAL metals, cyanide, and pH. All soil samples collected and received by the laboratory were received within the allowable temperature range for cooler packed samples (between two and six degrees centigrade) established by the NYSDEC-ASP. NYSDEC holding times for extraction and analysis were met for all samples except the TCL VOC analysis for samples VL11-TP4, VL6-TP3, VL7-TP3, VL8-TP2, and VL9-TP1. These samples were analyzed one day beyond the 10 day holding time. Sample VL-SS-Dup was reanalyzed at a five times dilution factor, 10 days past the required holding time. No additional issues were identified regarding sample receiving or holding times for the soil samples.

Volatile Organics

Data validation resulted in assigning "J" qualifiers to all the VOC results either detected or not for the samples listed above that exceeded holding times. This indicates that the result is a quantitatively estimated value.

The compounds acetone, bromomethane, chloromethane, hexane, and methylene chloride, were detected in one or more of the 11 method blanks associated with the three SDGs for the soils analysis. Bromomethane, chloromethane, and methylene chloride were also detected in the trip blanks that accompanied the samples on May 2 and 3, 2005. The detections of these compounds in the method blanks and/or trip blanks resulted in the following:

- Qualifying positive results for acetone, methylene chloride or toluene less than 10x the blank value as a non-detect value "U".
- Qualifying positive results for bromomethane, chloromethane, and hexane less than 5x the blank value as a non-detect value "U".

The data validator noted that chloromethane and bromomethane are unusual blank contaminants. The presence of these compounds in the method blanks, makes low level concentrations of other volatile compounds suspect as well.

Semi-Volatile Organics

Calibration parameters in excess of relative response factor percent difference (RRF %D) limits on May 18, 2005 resulted in "J" qualifications for caprolactam in the associated samples.

The compound bis(2-ethylhexyl)phthalate was present in one of the method blanks. If this compound was found to be present in associated samples less than 10x the blank value, the results were qualified "U" as not detected.

Eighteen SVOCs were qualified with a "J" qualifier (estimated result) due to the low pyrene recovery in the matrix spike and matrix spike duplicate samples. This qualifier was applied to any compound emerging after pentachlorophenol with a result less than four times the concentration of the matrix spike result. This occurred in all of the composite samples collected from the test pits, VL6 through VL11-TPC as well as VL-TP-Dup.

Several samples were reanalyzed at greater dilutions to high concentrations of various compounds. A GPC cleanup was performed when necessary to better refine the results. In some cases, the reported results reflect a combination of the diluted and undiluted analyses.

"J" qualifiers were assigned to several PAHs (benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene, benzo(a)pyrene, dibenzo(ah)anthracene, and ideno(123-cd)pyrene) detected in the background surface soil samples. These compounds are considered estimated high due to high internal standard recoveries.

Pesticides

According to the data validator, all pesticide results for the surface and subsurface soils should be considered highly estimated, and therefore all results were qualified "J" as estimated values. According to USEPA data validation procedures, results are considered estimated when percent differences (%D) in precision values between two analytical columns are greater than 25%. This occurred in all of the samples. When the %D is greater than 100%, the data is rejected, and assigned and "R" qualifier. This occurred in almost all of the samples for one or more of the following compounds: 4,4-DDT; 4,4-DDE; aldrin; alpha-BHC; beta-BHC; alpha-chlordane; endosulfan I;

endosulfan II; and gamma-chlordane. Although the pesticide results are considered highly estimated, the non-rejected concentrations are considerably low, well below NYSDEC Recommended Soil Cleanup Objectives, and therefore resampling and analysis was not recommended.

PCBs

The data validator qualified all pesticide results for the surface and subsurface soils with a "J", and states in the validation report that all results should be considered highly estimated. The PCB results have been qualified as estimated due to one or more of the following reasons: surrogate recoveries outside the required limits; and matrix spike and matrix spike duplicate recoveries outside the required limits. The laboratories analytical procedures also contained several deviations from the USEPA SW-846 Method 8082A. These deviations included: not performing reanalysis when percent differences are greater than 15% in the continuing calibrations; not using the absolute retention time window during analysis; and reporting only the results from the primary column, (instead of the higher of the two values between the primary and secondary columns). Much like the pesticide results, the PCB results are considered highly estimated, and the concentrations are considerably low, well below NYSDEC Recommended Soil Cleanup Objectives. Therefore, resampling and analysis was not recommended.

TAL Metals and Cyanide

Inorganic analysis of the surface and subsurface soil samples resulted in one or more analytes with reported positive results greater than the instrument detection limit (IDL) but below the quantitation limit. These results were qualified with a "B" qualifier by the laboratory. These analytes included beryllium, antimony, cobalt, potassium, silver, sodium, and selenium.

The analytes cadmium, calcium, copper, iron, lead, manganese, nickel, and zinc were qualified with an "E" qualifier by the laboratory in one or more samples. This qualifier was applied to indicate estimated values due to the presence of interferences.

The third party validator qualified the majority of the inorganic analysis results of the test pit samples (VL6-TPC through VL11-TPC) with a "J" qualifier indicating estimated results due to spike recoveries outside quality control limits.

Poor spike recoveries resulted in the rejection of results, "R" qualifier, for chromium in samples VL8-TPC, VL9-TPC, VL10-TPC, and VL11-TPC. Cyanide results were also rejected in each of the test pit samples (VL6-TPC through VL11-TPC) due to poor spike recoveries for that analyte. Zinc was rejected for poor spike recoveries in samples VL6-TPC, and VL7-TPC, while selenium was rejected in samples VL6-SS, and VL8-SS.

4.2 Groundwater Samples

The groundwater samples included in the delivery group (A05-5447) were analyzed for TCL VOCs, SVOCs, pesticides, PCBs, TAL metals, and cyanide. The validation report indicates that all samples in the SDG were received in good condition and were analyzed within all applicable holding times.

A summary of the data validation findings that affected data results or data qualification is provided below. Additional notes, which did not affect results or data qualification, are located in the appended data validation report (Appendix D).

Volatile Organics

The relative response factor (RRF) of acetone was below the 0.05 limit in all of the calibrations, resulting in the qualification as an estimated value, "J" qualifier, for any detected result, and "R" qualifier, rejected result , for any no-detect result.

"J" qualifiers were also applied to any detected result for carbon disulfide, cyclohexane, and methylcyclohexane. This estimated qualification is due to the percent difference (%D) in the continuing calibrations outside the quality control limits of 25% - 50%.

Semi-Volatile Organics

Since no positive results were reported for SVOCs in any of the samples submitted for analysis, no changes to the data or data qualifiers were required by the third party data validator. Only Tentatively Identified Compounds (TICs) were assigned qualifiers by the laboratory. These qualifiers were "N" and "J" indicating presumptive evidence of a compound, and estimated value, respectively.

Pesticides

All of the groundwater pesticide results were qualified with a "J" to indicate estimated values. The pesticide results are considered estimated due to poor matrix and blank spike recoveries. The laboratory performed a reanalysis of all samples, however outside the required holding time. The original analysis results were reported and qualified as estimated by the data validator.

PCBs

Since no positive results were reported for PCBs in any of the samples submitted for analysis, no changes to the data or data qualifiers were required.

TAL Metals and Cyanide

Inorganic analysis of the groundwater samples resulted in one or more analytes with reported positive results greater than the instrument detection limit (IDL) but below the quantitation limit. These results were qualified with a "B" qualifier by the laboratory. These analytes included aluminum, antimony, barium, beryllium, chromium, cobalt, copper, nickel, vanadium, and zinc.

The third party data validator qualified the beryllium results detected in the total metals analysis with a "J" qualifier indicating estimated results due to CRDL standard recoveries outside the 80% - 120% quality assurance limits. This qualification indicates that these low concentrations may be biased high.

Poor spike recoveries (< 30%) resulted in the rejection of results, "R" qualifier, for mercury.

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Site Contaminant Characterization

SECTION 5

5.1 Introduction

The Six Vacant Lots Site was characterized through collection and analysis of samples of surface soils, subsurface soil/fill, and groundwater. Sample locations are shown on Figure 2-1. Sampling methodologies were performed in accordance with the NYSDEC and USEPA-approved Site Investigation Work Plan (Malcolm Pirnie, Inc., September 2004). Sampling protocols and methodologies are described in Section 2.0 of this report for each sampled media. Surface and subsurface soil/fill, and groundwater samples were submitted for analyses under chain-of-custody to Severn Trent Laboratories of Amherst, New York. Analytical services were performed in accordance with the most current SW-846 and ASP2000 analytical methods and protocols. Appendix E contains raw analytical data (Form 1's) for each sample analyzed. Analytical summary tables (Tables 5-1 through 5-8) are provided in this section and include only those parameters for which a value greater than the laboratory detection limit was detected at a minimum of one sample location.

Surface soil samples were collected on-site from each of the six vacant lots as well as from five off-site, background locations. Subsurface soil/fill samples were collected from the test trenches excavated at the Site on May 2 and 3, 2005. The three monitoring wells installed during the test boring program were purged and sampled on May 26, 2005.

Analytical results were compared to the following standards and criteria:

- Surface and subsurface soil/fill sample data were compared to NYSDEC Technical Administrative Guidance Memorandum (TAGM) 4046, Recommended Soil Cleanup Objectives, December 2000. Metals were compared to TAGM 4046 and eastern U.S. background concentrations. Poly Aromatic Hydrocarbons

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TABLE 5-1
SUMMARY OF ANALYTICAL RESULTS - SURFACE SOIL SAMPLES - ORGANIC ANALYSIS
SIX VACANT LOTS ON RIDGE ROAD SITE
LACKAWANNA, NEW YORK

Sample Number Sampling Depth (ft. bgs) Collection Date	NYSDEC TAGM 4046	Urban Background Concentrations[2]	VL6-SS (0-0.1') 05/04/2005	VL-SS-DUP (VL6-SS) 05/04/2005	VL7-SS (0-0.1') 05/04/2005	VL8-SS (0-0.1') 05/04/2005	VL9-SS (0-0.1') 05/04/2005	VL10-SS (0-0.1') 05/04/2005	VL11-SS (0-0.1') 05/04/2005
VOCs - Method 8260 (ug/kg)									
2-Hexanone	NA	NA	160	740 DJ	--	--	--	--	--
Acetone	200	NA	120 B	140	--	--	--	--	--
Dichlorodifluoromethane	NA	NA	3 J	16	--	--	--	--	--
Methyl Ethyl Ketone	300	NA	64	91	--	--	--	--	--
Trichlorofluoromethane	NA	NA	1 J		--	--	--	--	--
TICs	NA	NA	1594	2784	--	--	--	--	--
Total VOCs	10,000	NA	1942	3771	--	--	--	--	--
SVOCs - Method 8270 (ug/kg)									
2-Methylnaphthalene	36400	NA		130 J	42 J	16 J	18 J	14 J	20 J
2-Methylphenol	100 or MDL	NA		15 J					
Acenaphthene	50,000***	NA	25 J	270 J	15 J		13 J	17 J	25 J
Acenaphthylene	41000	NA	12 J	23 J	40 J	11 J	22 J	18 J	20 J
Anthracene	50,000***	NA	44 J	460	59 J	12 J	39 J	95 J	69 J
Benzo(a)anthracene	224 or MDL	169 - 59,000	180 J	1100	350	67 J	270 J	310 J	220 J
Benzo(a)pyrene	61 or MDL	165 - 220	85 J	460	380	75 J	250 J	320 J	170 J
Benzo(b)fluoranthene	1100	15,000 - 62,000	500	1500	640	120 J	340 J	390 J	270 J
Benzo(g,h,I)perylene	50,000***	900 - 47,000	29 J	64 J	44 J	15 J	140 J	140 J	12 J
Benzo(k)fluoranthene	1100	300 - 26,000	110 J	570	220 J	43 J	170 J	160 J	77 J
Biphenyl	NA	NA		28 J					
Bis(2-Ethylhexyl)Phthalate	50,000***	NA			200 BJ				
Butylbenzylphthalate	NA	NA	70 J	45 J	26 J	25 J	120 J	120 J	100 J
Carbazole	NA	NA	42 J	450	45 J	11 J	28 J	29 J	41 J
Chrysene	400	251- 640	330 J	1200	440	94 J	250 J	300 J	220 J
Dibenzo(a,h)Anthracene	14 or MDL	NA	150 J	190 J	86 J	19 J	31 J	32 J	31 J
Dibenzofuran	6200	NA	30 J	270 J	22 J		12 J		17 J
Di-N-Butylphthalate	8100	NA	35 J	41 J	29 J	18 J	13 J		
Fluoranthene	50,000***	200 - 166,000	730	6,000 D	800	140 J	410	670 J	500
Fluorene	50,000***	NA	33 J	370	18 J		16 J		27 J
Hexachlorobenzene	410	NA					15 J		
Indeno(1,2,3-cd)pyrene	3200	8,000 - 61,000	140 J	460	240 J	56 J	110 J	130 J	90 J
Naphthalene	13000	NA	22 J	260 J	38 J	14 J	20 J	12 J	23 J
Octyl Phthalate, Di-N-	50,000***						15 J		
Pentachlorophenol	1000 or MDL	NA	36 J						
Phenanthrene	50,000***	NA	420	5,600 D	300 J	58 J	260 J	380 J	320 J
Phenol	30 or MDL	NA	32 J	66 J	20 J		31 J		
Pyrene	50,000***	145 - 147,000	350 J	2,000	480	86 J	350 J	440 J	300 J
TICs	NA	NA	97,080	28,920	1,534	4,191	3,263	5,810	3,240
Total SVOCs	500,000***	NA	100,401	50,474	6,078	5,071	6,236	9,387	5,792
Total BaP Equivalent[3]	NA	NA	237	984	597	120	387	440	262

MALCOLM PIRNIE

TABLE 5-1
SUMMARY OF ANALYTICAL RESULTS - SURFACE SOIL SAMPLES - ORGANIC ANALYSIS
SIX VACANT LOTS ON RIDGE ROAD SITE
LACKAWANNA, NEW YORK

Sample Number Sampling Depth (ft. bgs) Collection Date	NYSDEC TAGM 4046	Urban Background Concentrations[2]	VL6-SS (0-0.1') 05/04/2005	VL-SS-DUP (VL6-SS) 05/04/2005	VL7-SS (0-0.1') 05/04/2005	VL8-SS (0-0.1') 05/04/2005	VL9-SS (0-0.1') 05/04/2005	VL10-SS (0-0.1') 05/04/2005	VL11-SS (0-0.1') 05/04/2005
PESTICIDES - Method 8081 (ug/kg)									
4,4'-DDE	2,100	NA			8.5 J			5.3 J	4.5 J
4,4'-DDT	2,100	NA	21 J	13 J	27	5.9 J		8.8 J	R
Aldrin	0.041	NA	R						
Alpha-BHC	10	NA	R	R			R		
Alpha-Chlordane	540	NA		5.2 J					
Endosulfan I	0.9	NA			R				
Endosulfan II	900	NA			R	2.2 J			
Gamma-Chlordane	540	NA	8.6 J	5.2 J					
Total Pesticides	10,000	NA	29.6	23.4	35.5	8.1	0	14.1	4.5
PCBs - Method 8082 (ug/kg)									
Aroclor-1254	NA	NA	52 J	31 J	120 J	26 J	570 J		
Aroclor-1260	NA	NA	15 J	6.1 J	45 J	6.8 J	200 J	10 J	13 J
Total PCBs	10,000	NA	67	37.1	165	32.8	770	10	13

Notes:

Only those analytes detected at a minimum of one location and greater than the reporting limit are shown.
Blank space indicates analyte was not detected.
-- Indicates sample was not analyzed for this parameter.
Shaded and framed concentrations exceed TAGM values.
Bold/Italic values exceed upper limits of urban background concentrations.
(1) New York State Dept. of Environmental Conservation TAGM 4046, Recommended Soil Cleanup Objectives, Dec. 2000.
(2) SVOCs background from Background Soil Concentrations of Poly Aromatic Hydrocarbons (PAHs), Urban Soils (U.S. and other), Toxicological Profile for PAHs, US Dept.
(3) Total BaP equivalent - Benzo (a) pyrene equivalent is calculated by multiplying the following individual PAH concentrations by their multiplier (#) and summing the results. Benzo (a) pyrene (1.00); Dibenzo (a,h) anthracene (1.00); Benzo (a) anthracene (0.10); Benzo (b) fluoranthene (0.10); Ideno (1,2,3-cd) pyrene (0.10); Benzo (k) fluoranthene (0.01); Chrysene (0.01).
*** New York State background concentration.*
**** As per NYSDEC TAGM 4046 Individual SVOCs should be < 50,000 ug/kg and total SVOCs < 500,000 ug/kg.*
MDL - Method Detection Limit
NA - Not Applicable or Not Available.
TICs - Tentatively Identified Compounds

DATA QUALIFIERS

J - indicates an estimated value. Result is < sample quantitation limit but > 0.
D - Indicates results from a secondary dilution.
R - Indicates result was rejected by third party validator due to %D > 100% between primary and confirmation colums.

MALCOLM PIRNIE

TABLE 5-2
SUMMARY OF ANALYTICAL RESULTS - SURFACE SOIL SAMPLES - INORGANIC ANALYSIS
SIX VACANT LOTS ON RIDGE ROAD SITE
LACKAWANNA, NEW YORK

Sample Number Sampling Depth (ft. bgs) Collection Date	NYSDEC TAGM 4046 [1]	EASTERN US BACKGROUND[2]	VL6-SS (0-0.1') 05/04/2005	VL-SS-DUP (VL6-SS) 05/04/2005	VL7-SS (0-0.1') 05/04/2005	VL8-SS (0-0.1') 05/04/2005	VL9-SS (0-0.1') 05/04/2005	VL10-SS (0-0.1') 05/04/2005	VL11-SS (0-0.1') 05/04/2005
TAL Metals (mg/kg)									
Aluminum	9721 *	33,000	6,220	4,980	7,000	4,450	5,490	11,800	10,900
Antimony	SB	N/A					0.75 BN		
Arsenic	7.5 or SB	3-12 **	5.5 N*	3.7 N*	9.3 N*	3.3 N*	6.4 N*	6.7 N*	6.4 N*
Barium	300 or SB	15-600	95 N*	52.6 N*	105 N*	58.6 N*	56.2 N*	72 N*	61.4 N*
Beryllium	0.99 N*	0-1.75	0.39 BN	0.32 BN	1 N	0.6 BN	0.5 BN	0.63 BN	0.58 BN
Cadmium	1.4 N*	0.1-1	1.7 N*	0.78 N*			6.6 N*	0.35 BN*	
Calcium	130000 *	130 - 35,000 **	52,700 E*	58,200 E*	203,000 E*	339,000 E*	24,400 E*	5,190 E*	4,050 E*
Chromium	44.2 N*	1.5 - 40 **	79.6 *	52.4 N*	1160 N*	1360 N*	189 N*	20.2 N*	15.4 N*
Cobalt	30 or SB	2.5 - 60 **	4.9 BN	4.6 BN	6.1 N	3.5 BN	2.8 BN	8.2 N	7.1 N
Copper	27.2 N*	1 - 50	27.3 EN*	20.2 EN*	34.3 EN*	65 EN*	60.4 EN*	20.6 EN*	17.5 EN*
Cyanide, Total	N/A	N/A							
Iron	19500 *	2,000 - 550,000	18,900 E*	13,900 E*	120,000 E*	97,600 E*	26,700 E*	22,500 E*	19,700 E*
Lead	400 [4]	200 - 500	158 *	76.6 *	128 *	66.9 *	427 *	120 *	71.9 *
Magnesium	6810 *	100 - 5,000	10,700	9,400	7,020	8,030	1,960	2,930	2,410
Manganese	1668 *	50 - 5,000	2,680 E*	958 E*	18,300 E*	25,200 E*	3,140 E*	561 E*	485 E*
Mercury	0.1	0.001 - 0.2	0.11	0.025	0.045	0.019 B	0.203	0.093	0.107
Nickel	13 or SB	0.5 -25	12.7 N	10.2 N	30.4 N	7.6 N	17.7 N	19.7 N	16.2 N
Potassium	900 *	8,500 - 43,000 **	1340	1170	459 B	416 B	525 B	1210	941
Selenium	2 or SB	0.1 - 3.9	R			R		0.74 BN	0.85 BN
Silver	0.83 *	N/A	0.44 BN	0.18 BN	1.7 N	1.7 N	2 N	0.2 BN	0.16 BN
Sodium	192 *	6,000 - 8,000	168 B	137 B	177 B	145 B	192 B	79.5 B	78.2 B
Thallium	SB	N/A							
Vanadium	150 or SB	1-300	41.2 *	14.8 N*	238 N*	135 N*	29.9 N*	22.3 N*	20.2 N*
Zinc	2379 *	9-50	326 EN*	205 EN*	174 EN*	99 EN*	1420 EN*	181 EN*	109 EN*
General Chemistry									
Leachable pH	NA	NA	7.67	7.6	8.09	7.16	7.46	7.43	7.35

Only those analytes detected at a minimum of one location and greater than the reporting limit are shown.
Blank space indicates analyte was not detected.
-- Indicates sample was not analyzed for this parameter.
Shaded and framed concentrations exceed TAGM values.
Bold/Italic values exceed upper limits of Eastern US background concentrations.
(1) New York State Dept. of Environmental Conservation TAGM 4046, Recommended Soil Cleanup Objectives, Dec. 2000. Values listed in TAGM 4046 as SB (Site Background) have been replaced with the average background concentration from the offsite background samples, when the average was greater than the listed TAGM value. These values are shaded and italicized.
(2) TAL Inorganic Analytes from Eastern USA Background as shown in New York State Dept. of Environmental Conservation TAGM 4046, Dec. 2000.
(3) USEPA Region 3 Soil Screening Level.
*** New York State background concentration.*
N/A - Not Applicable or Not Available.

DATA QUALIFIERS
B - indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
N - Spike sample recovery ouside quality control limits.
** - indicates analysis is not within quality control limits.*
E - indicates a result estimated or not reported due to the presence of interferences.

Created by: B. Walker 08/08/05
Checked by: B.Walker/J.Richert Date: 09/01/2005

MALCOLM PIRNIE

TABLE 5-3
SUMMARY OF ANALYTICAL RESULTS - BACKGROUND SURFACE SOIL SAMPLES - ORGANIC ANALYSIS
SIX VACANT LOTS ON RIDGE ROAD SITE
LACKAWANNA, NEW YORK

Sample Number Sampling Depth (ft. bgs) Collection Date	NYSDEC TAGM 4046 [1]	Urban Background Concentrations[2]	VL-SS-BG1 (0-0.1') 05/04/2005	VL-SS-BG2 (0-0.1') 05/04/2005	VL-SS-BG3 (0-0.1') 05/04/2005	VL-SS-BG4 (0-0.1') 05/04/2005	VL-SS-BG5 (0-0.1') 05/04/2005
SVOCs - Method 8270 (ug/kg)							
2-Methylnaphthalene	36,400	NA	16 J	34 J	35 J	55 J	47 J
Acenaphthene	50,000***	NA	61 J	15 J	100 J		17 J
Acenaphthylene	41000	NA	60 J	36 J	110 J	41 J	38 J
Anthracene	50,000***	NA	180 J	60 J	280 J	33 J	58 J
Benzo(a)anthracene	224 or MDL	169 - 59,000	700 J	440 J	690	260 J	220 J
Benzo(a)pyrene	61 or MDL	165 - 220	630 J	540 J	560	300 J	210 J
Benzo(b)fluoranthene	1100	15,000 - 62,000	470	640	880	430 J	340 J
Benzo(g,h,I)perylene	50,000***	900 - 47,000	280 J	290 J	360 J	160 J	15 J
Benzo(k)fluoranthene	1100	300 - 26,000	300 J	220 J	360	160 J	120 J
Bis(2-Ethylhexyl)Phthalate	50,000***	NA	73 BJ	--	--	--	--
Butylbenzylphthalate	NA	NA	1,400 J	--	--	--	--
Carbazole	NA	NA	110 J	--	--	--	--
Chrysene	400	251- 640	440	440	690	320 J	260 J
Dibenzo(a,h)Anthracene	14 or MDL	NA	76 J	55 J	110 J	50 J	26 J
Fluoranthene	50,000***	200 - 166,000	860	800	1700	560 J	570
Fluorene	50,000***	NA	61 J	22 J	100 J		23 J
Indeno(1,2,3-cd)pyrene	3200	8,000 - 61,000	250 J	230 J	350 J	130 J	80 J
Naphthalene	13000	NA	12 J	25 J	32 J	30 J	54 J
Phenanthrene	50,000***	NA	500	420 J	870	250 J	260 J
Pyrene	50,000***	145 - 147,000	500	410	870	380 J	300 J
TICs	NA	NA	4373	2858	3142	885	3822
Total SVOCs	500,000***	NA	11,352	7,535	11,239	4,024	6,460
Total BaP Equivalent[5]	NA	NA	855	733	873	417	304

Notes:

Only those analytes detected at a minimum of one location and greater than the reporting limit are shown.

Blank space indicates analyte was not detected.

-- Indicates sample was not analyzed for this parameter.

Shaded and framed concentrations exceed TAGM values.

Bold/Italic values exceed upper limits of urban background concentrations.

(1) New York State Dept. of Environmental Conservation TAGM 4046, Recommended Soil Cleanup Objectives, Dec. 2000.

(2) SVOCs background from Background Soil Concentrations of Poly Aromatic Hydrocarbons (PAHs), Urban Soils (U.S. and other), Toxicological Profile for PAHs, US Dept. of Health and Human Services, August 1995.

**** As per NYSDEC TAGM 4046 Individual SVOCs should be < 50,000 ug/kg and total SVOCs < 500,000 ug/kg.*

MDL - Method Detection Limit

N/A - Not Applicable or Not Available.

TICs - Tentatively Identified Compounds

DATA QUALIFIERS

J - indicates an estimated value. Result is < sample quantitation limit but > 0.

B - analyte found in associated blank as well as sample.

Created by : B.Walker Date: 08/05/2005
Checked by: B.Walker/J.Richert Date: 09/01/2005

MALCOLM PIRNIE

TABLE 5-4
SUMMARY OF ANALYTICAL RESULTS - BACKGROUND SURFACE SOIL SAMPLES - INORGANIC ANALYSIS
SIX VACANT LOTS ON RIDGE ROAD SITE
LACKAWANNA, NEW YORK

Sample Number Sampling Depth (ft. bgs) Collection Date	NYSDEC TAGM 4046 [1]	EASTERN US BACKGROUND[2]	VL-SS-BG1 (0-0.1') 05/04/2005	VL-SS-BG2 (0-0.1') 05/04/2005	VL-SS-BG3 (0-0.1') 05/04/2005	VL-SS-BG4 (0-0.1') 05/04/2005	VL-SS-BG5 (0-0.1') 05/04/2005
TAL Metals (mg/kg)							
Aluminum	SB	33,000	7,850	9,480	6,190	14,800	10,300
Arsenic	7.5 or SB	3-12 **	5.7 N*	4.7 N*	3.8 N*	9.4 N*	5.9 N*
Barium	300 or SB	15-600	52.2 N*	78.8 N*	74.6 N*	119 N*	74.7 N*
Beryllium	0.16 or SB	0-1.75	0.65 N	1.1 N	0.81 N	*1.9 N*	0.51 BN
Cadmium	1 or SB	0.1-1	0.21 BN*	0.54 BN*		*6.2 N*	
Calcium	SB	130 - 35,000 **	22,500 E*	25,500 E*	***63,800 E****	***46,300 E****	15,400 E*
Chromium	10 or SB	1.5 - 40 **	10.5 N*	12.3 N*	6.8 N*	29.6 N*	12.3 N*
Cobalt	30 or SB	2.5 - 60 **	5.7 BN	4 BN	3.3 BN	4.1 BN	6.1 N
Copper	25 or SB	1 - 50	26.1 EN*	16.5 EN*	23.9 EN*	*68.7 EN**	18.1 EN*
Iron	2,000 or SB	2,000 - 550,000	14,300 E*	13,000 E*	8,340 E*	28,500 E*	18,600 E*
Lead	400 [3]	200 - 500	59.4 *	81.3 *	148 *	372 *	57.9 *
Magnesium	SB	100 - 5,000	***5,010***	4,350	***26,700***	***5,160***	2,830
Manganese	SB	50 - 5,000	504 E*	777 E*	389 E*	1,080 E*	372 E*
Mercury	0.1	0.001 - 0.2	0.09	*0.217*	*0.476*	0.168	0.109
Nickel	13 or SB	0.5 -25	10.3 N	10.4 N	8.1 N	16.2 N	11.5 N
Potassium	SB	8,500 - 43,000 **	914	949	965	909	764
Selenium	2 or SB	0.1 - 3.9					0.7 BN
Silver	SB	N/A	0.1 BN	0.17 BN	0.14 BN	0.91 BN	
Sodium	SB	6,000 - 8,000	99.1 B	135 B	189 B	434 B	101 B
Vanadium	150 or SB	1-300	12.4 N*	12.7 N*	8.9 N*	17.1 N*	21.3 N*
Zinc	20 or SB	9-50	*114 EN**	*145 EN**	*73.6 EN**	*1170 EN**	*89 EN**
General Chemistry							
Leachable pH	NA	NA	7.59	7.65	7.99	7.96	7.79

Notes:
Only those analytes detected at a minimum of one location and greater than the reporting limit are shown.
Blank space indicates analyte was not detected.
-- Indicates sample was not analyzed for this parameter.
Shaded and framed concentrations exceed TAGM values.
Bold/Italic values exceed upper limits of urban background concentrations.
(1) New York State Dept. of Environmental Conservation TAGM 4046, Recommended Soil Cleanup Objectives, Dec. 2000.
(2) TAL Inorganic Analytes from Eastern USA Background as shown in New York State Dept. of Environmental Conservation TAGM 4046, Dec. 2000.
(3) USEPA Region 3 Soil Screening Level.
*** New York State background concentration.*
N/A - Not Applicable or Not Available.

DATA QUALIFIERS
B - indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
N - Spike sample recovery ouside quality control limits.
** - indicates analysis is not within quality control limits.*
E - indicates a result estimated or not reported due to the presence of interferences.

Created by: B. Walker L 08/08/05
Checked by: B.Walker/J.Richert Date: 09/01/2005

MALCOLM PIRNIE

TABLE 5-5
SUMMARY OF ANALYTICAL RESULTS - SUBSURFACE SOIL SAMPLES - ORGANIC ANALYSIS
SIX VACANT LOTS ON RIDGE ROAD SITE
LACKAWANNA, NEW YORK

Sample Number Sampling Depth (ft. bgs) Collection Date	NYSDEC TAGM 4046 [1]	Urban Background Concentrations[2]	VL6-TP3 (2.0') 05/02/2005	VL6-TPC (0-3.0') 05/02/2005	VL7-TP3 (2.0') 05/02/2005	VL7-TPC (0-2.5') 05/02/2005	VL8-TP2 (1.0') 05/03/2005	VL8-TPC (0-3.0') 05/03/2005	VL9-TP1 (2.5') 05/03/2005	VL9-TPC (0-3.5') 05/03/2005
VOCs - Method 8260 (ug/Kg)										
Acetone	200	NA	64 BJ					--	66 BJ	--
Bromomethane	NA	NA						--		--
Carbon Disulfide	2700	NA						--	2 J	--
Chloromethane	NA	NA						--		--
Dichlorodifluoromethane	NA	NA						--		--
Methyl Ethyl Ketone	300	NA	17 J					--	14 J	--
Methylene Chloride	100	NA						--		--
TICs	NA	NA	53		48		6	--	65	--
Total VOCs	10,000	NA	134		48		6	--	147	--
SVOCs - Method 8270 (ug/Kg)										
2-Methylnaphthalene	36400	NA	--		--	150 J	--		--	170 J
Acenaphthene	50,000***	NA	--	390 J	--	550 J	--	120 J	--	730 J
Acenaphthylene	41000	NA	--	280 J	--	290 J	--	230 J	--	200 J
Anthracene	50,000***	NA	--	1,200 J	--	1,300 J	--	500 J	--	1,600 J
Benzo(a)anthracene	224 or MDL	169 - 59,000	--	3,900 J	--	4,400 J	--	1,900 J	--	4,100 J
Benzo(a)pyrene	61 or MDL	165 - 220	--	3,400 J	--	4,000 J	--	1,600 J	--	3,500 J
Benzo(b)fluoranthene	1100	15,000 - 62,000	--	4,000 J	--	4,800 J	--	1,800 J	--	4,900 J
Benzo(g,h,I)perylene	50,000***	900 - 47,000	--	1,600 J	--	2,200 J	--	790 J	--	1,600 J
Benzo(k)fluoranthene	1100	300 - 26,000	--	1,200 J	--	1,800 J	--	760 J	--	1,600 J
Biphenyl	NA	NA	--		--		--		--	
Bis(2-Ethylhexyl)Phthalate	50,000***	NA	--		--		--		--	
Butylbenzylphthalate	NA	NA	--		--		--		--	
Carbazole	NA	NA	--	710 J	--	910 J	--	170 J	--	8,800 J
Chrysene	400	251- 640	--	3,900 J	--	4,000 J	--	1,700 J	--	9,600 J
Dibenzo(a,h)Anthracene	14 or MDL	NA	--	590 J	--	640 J	--	240 J	--	1,530 J
Dibenzofuran	6200	NA	--	260 J	--	340 J	--	70 J	--	420 J
Fluoranthene	50,000***	200 - 166,000	--	8,500 J	--	10,000 J	--	4,200 J	--	10,000 J
Fluorene	50,000***	NA	--	420 J	--	590 J	--	120 J	--	930 J
Indeno(1,2,3-cd)pyrene	3200	8,000 - 61,000	--	1,500 J	--	1,900 J	--	740 J	--	1,600 J
Naphthalene	13000	NA	--		--	350 J	--		--	330 J
Phenanthrene	50,000***	NA	--	5,400 J	--	6,100 J	--	1,800 J	--	7,600
Pyrene	50,000***	145 - 147,000	--	5,600 J	--	6,600 J	--	3,000 J	--	6,400 J
TICs	NA	NA	--	2,200	--	5,870	--	1,650	--	5,400
Total SVOCs	500,000***	NA	--	42,550	--	50,920	--	19,740	--	59,110
Total BaP Equivalent[3]	NA	NA	--	4,681	--	5,808	--	2,309	--	5,084

See Notes on Page 5

MALCOLM PIRNIE

TABLE 5-5
SUMMARY OF ANALYTICAL RESULTS - SUBSURFACE SOIL SAMPLES - ORGANIC ANALYSIS
SIX VACANT LOTS ON RIDGE ROAD SITE
LACKAWANNA, NEW YORK

Sample Number Sampling Depth (ft. bgs) Collection Date	NYSDEC TAGM 4046 [1]	Urban Background Concentrations[2]	VL6-TP3 (2.0') 05/02/2005	VL6-TPC (0-3.0') 05/02/2005	VL7-TP3 (2.0') 05/02/2005	VL7-TPC (0-2.5') 05/02/2005	VL8-TP2 (1.0') 05/03/2005	VL8-TPC (0-3.0') 05/03/2005	VL9-TP1 (2.5') 05/03/2005	VL9-TPC (0-3.5') 05/03/2005
PESTICIDES - Method 8081 (ug/Kg)										
4,4'-DDD	2,900	NA	--		--		--	R	--	49
4,4'-DDE	2,100	NA	--		--	9.4 J	--	16 J	--	21
4,4'-DDT	2,100	NA	--	65 J	--	32 J	--	13 J	--	31
Alpha-BHC	10	NA	--		--		--		--	R
Alpha-Chlordane	540	NA	--		--	20 J	--	11 J	--	9.9 J
Beta-BHC	200	NA	--		--		--	23 J	--	R
Dieldrin	44	NA	--		--	5.1 J	--	3.2 J	--	7.8 J
Endosulfan II	900	NA	--		--		--		--	R
Endrin Aldehyde	NA	NA	--		--	R	--		--	
Gamma-Chlordane	540	NA	--		--	R	--	R	--	13 J
Heptachlor Epoxide	20	NA	--		--	R	--	4.7 J	--	
Total Pesticides	10,000	NA	--	65	--	67	--	71	--	132
PCBs - Method 8082 (ug/Kg)										
Aroclor-1248	NA	NA	--		--		--	88 J	--	
Aroclor-1254	NA	NA	--		--		--	100 J	--	190 J
Aroclor-1260	NA	NA	--	31 J	--	36 J	--		--	
Total PCBs	10,000	NA	--	31	--	36	--	188	--	190

See Notes on Page 5

Created by : B.Walker Da... 05/2005
Checked by: B.Walker/J.Richert Date ...9/01/2005

MALCOLM PIRNIE

TABLE 5-5
SUMMARY OF ANALYTICAL RESULTS - SUBSURFACE SOIL SAMPLES - ORGANIC ANALYSIS
SIX VACANT LOTS ON RIDGE ROAD SITE
LACKAWANNA, NEW YORK

Sample Number Sampling Depth (ft. bgs) Collection Date	NYSDEC TAGM 4046 [1]	Urban Background Concentrations[2]	VL10-TP3 (1.0') 05/03/2005	VL10-TPC (0-2.0') 05/03/2005	VL11-TP4 (0.6') 05/03/2005	VL11-TPC (0-1.5') 05/03/2005	VL-TP-DUP (VL11-TPC) 05/03/2005	TRIP BLANK 050205 05/02/2005	TRIP BLANK 050305 05/03/2005	TRIP BLANK 050305 RI 05/03/2005
VOCs - Method 8260 (ug/kg)										
Acetone	200	NA		--		--				
Bromomethane	NA	NA		--		--		2 BJ	2 BJ	
Carbon Disulfide	2700	NA		--		--				
Chloromethane	NA	NA		--		--		2 J		
Dichlorodifluoromethane	NA	NA		--		--				
Methyl Ethyl Ketone	300	NA		--		--				
Methylene Chloride	100	NA		--		--		4 BJ	2 BJ	2 J
TICs	NA	NA	78	--	10	--	250			
Total VOCs	10,000	NA	78	--	10	--	250	8	4	2
SVOCs - Method 8270 (ug/kg)										
2-Methylnaphthalene	36400	NA	--	350 J	--	110 J		--	--	--
Acenaphthene	50,000***	NA	--	2,400 J	--	210 J	270 J	--	--	--
Acenaphthylene	41000	NA	--	270 J	--	420 J	110 J	--	--	--
Anthracene	50,000***	NA	--	5,000	--	1,200 J	650 J	--	--	--
Benzo(a)anthracene	224 or MDL	169 - 59,000	--	9,300 J	--	3,100 J	1,600 J	--	--	--
Benzo(a)pyrene	61 or MDL	165 - 220	--	7,600 J	--	2,300 J	1,300 J	--	--	--
Benzo(b)fluoranthene	1100	15,000 - 62,000	--	9,300 J	--	2,900 J	1,600 J	--	--	--
Benzo(g,h,I)perylene	50,000***	900 - 47,000	--	3,200 J	--	1,000 J	620 J	--	--	--
Benzo(k)fluoranthene	1100	300 - 26,000	--	3,100 J	--	960 J	470 J	--	--	--
Biphenyl	NA	NA	--	120 J	--			--	--	--
Bis(2-Ethylhexyl)Phthalate	50,000***	NA	--		--	1,500 J		--	--	--
Butylbenzylphthalate	NA	NA	--		--			--	--	--
Carbazole	NA	NA	--	2,300 J	--	710 J	360 J	--	--	--
Chrysene	400	251- 640	--	8,800 J	--	2,600 J	1,400 J	--	--	--
Dibenzo(a,h)Anthracene	14 or MDL	NA	--	1,000 J	--	320 J	190 J	--	--	--
Dibenzofuran	6200	NA	--	1,100 J	--	320 J	170 J	--	--	--
Fluoranthene	50,000***	200 - 166,000	--	26,000 J	--	8,100 J	4,200 J	--	--	--
Fluorene	50,000***	NA	--	2,400 J	--	480 J	280 J	--	--	--
Indeno(1,2,3-cd)pyrene	3200	8,000 - 61,000	--	3,000 J	--	990 J	540 J	--	--	--
Naphthalene	13000	NA	--	580 J	--	170 J	110 J	--	--	--
Phenanthrene	50,000***	NA	--	22,000	--	6,100	3,000 J	--	--	--
Pyrene	50,000***	145 - 147,000	--	16,000 J	--	4,300 J	2,300 J	--	--	--
TICs	NA	NA	--	30,810	--	3,320	910	--	--	--
Total SVOCs	500,000***	NA	--	123,820	--	37,790	19,370	--	--	--
Total BaP Equivalent[3]	NA	NA	--	10,879	--	3,355	1,903	--	--	--

See Notes on Page 5

MALCOLM PIRNIE

TABLE 5-5
SUMMARY OF ANALYTICAL RESULTS - SUBSURFACE SOIL SAMPLES - ORGANIC ANALYSIS
SIX VACANT LOTS ON RIDGE ROAD SITE
LACKAWANNA, NEW YORK

Sample Number Sampling Depth (ft. bgs) Collection Date	NYSDEC TAGM 4046 [1]	Urban Background Concentrations[2]	VL10-TP3 (1.0') 05/03/2005	VL10-TPC (0-2.0') 05/03/2005	VL11-TP4 (0.6') 05/03/2005	VL11-TPC (0-1.5') 05/03/2005	VL-TP-DUP (VL11-TPC) 05/03/2005	TRIP BLANK 050205 05/02/2005	TRIP BLANK 050305 05/03/2005	TRIP BLANK 050305 RI 05/03/2005
PESTICIDES - Method 8081 (ug/Kg)										
4,4'-DDD	2,900	NA	--		--			--	--	--
4,4'-DDE	2,100	NA	--	4.2 J	--	R	9.2 J	--	--	--
4,4'-DDT	2,100	NA	--	14 J	--	14 J	18 J	--	--	--
Alpha-BHC	10	NA	--		--			--	--	--
Alpha-Chlordane	540	NA	--		--			--	--	--
Beta-BHC	200	NA	--		--	R		--	--	--
Dieldrin	44	NA	--		--			--	--	--
Endosulfan II	900	NA	--		--	R		--	--	--
Endrin Aldehyde	NA	NA	--	7.5 J	--			--	--	--
Gamma-Chlordane	540	NA	--	R	--	0.98 J	1.1 J	--	--	--
Heptachlor Epoxide	20	NA	--		--			--	--	--
Total Pesticides	10,000	NA	--	26	--	15	28	--	--	--
PCBs - Method 8082 (ug/Kg)										
Aroclor-1248	NA	NA	--		--			--	--	--
Aroclor-1254	NA	NA	--	19 J	--			--	--	--
Aroclor-1260	NA	NA	--		--	16 J	29 J	--	--	--
Total PCBs	10,000	NA	--	19	--	16	29	--	--	--

See Notes on Page 5

MALCOLM PIRNIE

TABLE 5-6
SUMMARY OF ANALYTICAL RESULTS - SUBSURFACE SOIL SAMPLES - INORGANIC ANALYSIS
SIX VACANT LOTS ON RIDGE ROAD SITE
LACKAWANNA, NEW YORK

Sample Number Sampling Depth (ft. bgs) Collection Date	NYSDEC TAGM 4046 [1]	EASTERN US BACKGROUND[2]	VL6-TPC (0-3.0') 05/02/2005	VL7-TPC (0-2.5') 05/02/2005	VL8-TPC (0-3.0') 05/03/2005	VL9-TPC (0-3.5') 05/03/2005	VL10-TPC (0-2.0') 05/03/2005	VL11-TPC (0-1.5') 05/03/2005	VL-TP-DUP (VL11-TPC) 05/03/2005
TAL Metals (mg/kg)									
Aluminum	SB	33,000	10400 *	6,530 *J	7,770	10,300	8,710	7,190	7,060
Antimony	SB	N/A	0.8 BNJ	1.5 N J					
Arsenic	7.5 or SB	3-12 **	9.9 N*J	4.7 N*J	8.3 *J	9.4 N*J	6.9 N*J	7.8 N*J	8.7 N*J
Barium	300 or SB	15-600	199 N*J	175 N*J	88.4 *J	248 N*J	119 N*J	104 N*J	181 N*J
Beryllium	0.16 or SB	0-1.75	0.9 *J	0.68 *J	0.59 J	1.7 NJ	0.53 BNJ	0.53 NJ	0.54 BNJ
Cadmium	1 or SB	0.1-1	*2.5 E*J*	0.51 E*J		*3.3 N*J*	0.2 N*J	0.49 N*J	0.51 BN*J
Calcium	SB	130 - 35,000 **	***66,700 *J***	***106,000 *J***	***208,000 E*J***	***103,000 E*J***	14,600 E*J	27,500 E*J	***55,300 E*J***
Chromium	10 or SB	1.5 - 40 **	*65.8 N*J*	*518 N*J*	R	R	R	R	R
Cobalt	30 or SB	2.5 - 60 **	5.2 E*J	3 E*J	4.8 BJ	4 BJ	6.4 J	4.7 J	4 J
Copper	25 or SB	1 - 50	49.9 N*J	26.3 N*J	38.2 EJ	41.2 *EJ	23.5 *EJ	31.2 *EJ	42.3 *EJ
Cyanide, Total	N/A	N/A	NR	NR	NR	NR	NR	NR	NR
Iron	2,000 or SB	2,000 - 550,000	25,300 *J	33,900 *J	82,800 J	22,500 E*J	18,000 E*J	16,200 E*J	15,100 E*J
Lead	400 [3]	200 - 500	321 EJ	190 EJ	164 J	299 *J	121 *J	198 *J	223 *J
Magnesium	SB	100 - 5,000	***5,730 *J***	***15,100 *J***	***8,310***	***7,650***	2,570	***7,500***	4,860
Manganese	SB	50 - 5,000	1,760 E*J	4,140 E*J	***18,800 E*J***	1,270 E*J	813 E*J	488 E*J	481 E*J
Mercury	0.1	0.001 - 0.2	0.158 NJ	0.113 NJ	*0.323*	0.18	*0.282*	*0.223*	*0.264*
Nickel	13 or SB	0.5 -25	15.4 E*J	8.6 E*J	12 J	14.8 NJ	16.1 NJ	10.8 NJ	9.6 NJ
Potassium	SB	8,500 - 43,000 **	1,070 *J	887 *J	1,160	982	801	613	681
Selenium	2 or SB	0.1 - 3.9		0.9 B					
Silver	SB	N/A	0.29 BJ		2 NJ	0.79 BNJ	0.14 BNJ	0.22 BNJ	0.21 BNJ
Sodium	SB	6,000 - 8,000	229 *J	216 *J	191 B	264 B	85.7 B	119 B	134 B
Thallium	SB	N/A							
Vanadium	150 or SB	1-300	41 *J	62.1 *J	275 N*J	32.8 N*J	17.1 N*J	14.1 N*J	13.4 N*J
Zinc	20 or SB	9-50	R	R	*220 EJ*	*754 E*J*	*425 N*J*	*216 E*J*	*238 E*J*
General Chemistry									
Leachable pH			9.33	8.15	10.9	8.25	8.23	8.15	8.02

See Notes next page.

MALCOLM PIRNIE

TABLE 5-6
SUMMARY OF ANALYTICAL RESULTS - SUBSURFACE SOIL SAMPLES - INORGANIC ANALYSIS
SIX VACANT LOTS ON RIDGE ROAD SITE
LACKAWANNA, NEW YORK

Notes

Only those analytes detected at a minimum of one location and greater than the reporting limit are shown.

Blank space indicates analyte was not detected.

-- Indicates sample was not analyzed for this parameter.

Shaded and framed concentrations exceed TAGM values.

Bold/Italic values exceed upper limits of Eastern US Background Concentrations.

(1) New York State Dept. of Environmental Conservation TAGM 4046, Recommended Soil Cleanup Objectives, Dec. 2000.

(2) TAL Inorganic Analytes from Eastern USA Background as shown in New York State Dept. of Environmental Conservation TAGM 4046, Dec. 2000.

(3) USEPA Region 3 Soil Screening Level.

*** New York State background concentration.*

N/A - Not Applicable or Not Available.

DATA QUALIFIERS

B - indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.

E - indicates a result estimated or not reported due to the presence of interferences.

J - sample result estimated, qualifier assigned by third party data validator.

N - Spike sample recovery ouside quality control limits.

R - result rejected by third party validator, due to poor spike recoveries for that analyte.

** - indicates analysis is not within quality control limits.*

Created by: B. Walker Da 05/2005
Checked by: B.Walker/J.Richert Da. /01/2005

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TABLE 5-7
SUMMARY OF ANALYTICAL RESULTS - GROUNDWATER SAMPLES
SIX VACANT LOTS ON RIDGE ROAD SITE
LACKAWANNA, NEW YORK

Sample Number Collection Date	FirstOf RESULT_ UNITS	CLASS GA STANDARD[1]	GA STD FOR MACRO	FirstOfMETHOD_TYPE	VL-MW-1 05/26/2005	VL-MW-DUP (VL-MW-1) 05/26/2005	VL-MW-1 Diss. Metals[2] 05/26/2005	VL-MW-2 05/26/2005	VL-MW-3 05/26/2005	VL-FB (Field Blank) 05/26/2005	TRIP BLANK 05/26/2005
VOCs - Method 8260 (ug/L)											
Acetone	UG/L	50	50	VOC	4 J	R	--	R	R	R	R
Carbon Disulfide	UG/L	60	60	VOC	0.6 J		--	0.4 J	0.7 J		
Cyclohexane	UG/L	NA		VOC	0.3 J	0.2 J	--				
Methylcyclohexane	UG/L	NA		VOC	0.4 J	0.3 J	--				
TICs		NA			4 JN	2 J				1 JN	10 JN
SVOCs - Method 8270 (ug/L)											
All Target SVOCs		NA					--				--
TICs		NA			11 J	15 JN		39 JN	35 JN		
PESTICIDES - Method 8081 (ug/L)											
Endrin	UG/L	ND (<0.01)		PEST			--	0.048 J			--
PCBs - Method 8082/3010/3510/7040 (ug/L)											
All PCBs		NA					--				--
Inorganics/TAL Metals - Method 6010/3010/7040 (ug/L)[2]											
Aluminum	UG/L	NA		METALS	3510	4730		42.1 B	88.8 B		--
Antimony	UG/L	3	3	METALS	4.7 B						--
Arsenic	UG/L	25	25	METALS							--
Barium	UG/L	1000	1000	METALS	110 B	115 B	68.9 B	52.1 B	57.7 B	0.37 B	--
Beryllium	UG/L	(3)	3	METALS	0.21 BJ	0.38 BJ		0.34 BJ	0.33 BJ		--
Cadmium	UG/L	5	5	METALS							--
Calcium	UG/L	NA		METALS	144000	147000	92900	177000	87500	77.3 B	--
Chromium	UG/L	50	51	METALS	5.3 B	6.6 B	0.97 B	0.71 B	0.83 B		--
Cobalt	UG/L	NA		METALS	2.4 B	2.2 B					--
Copper	UG/L	200	200	METALS	6.3 B	6.8 B	1.4 B	1 B	1.7 B		--
Cyanide, Total	UG/L	200	200	METALS-Cn							--
Iron	UG/L	300	300	METALS	4760	6300		116	139		--
Lead	UG/L	25	25	METALS	3.2	3.8					--
Magnesium	UG/L	(35,000)	(35,000)	METALS	29700	30700	22700	84500	23400		--
Manganese	UG/L	300	301	METALS	180	193	74.4	132	45.7		--
Mercury	UG/L	0.7	0.7	METALS-Hg	R	R	R	R	R		--
Nickel	UG/L	100	100	METALS	6.1 B	7.5 B	1.6 B	3.7 B	1.4 B		--
Potassium	UG/L	NA	NA	METALS	9610	10200	8120	8830	7840		--
Selenium	UG/L	10	10	METALS							--
Silver	UG/L	50	50	METALS							--
Sodium	UG/L	20,000	20000	METALS	20200	20500	18000	227000	14400	245 B	--
Thallium	UG/L	(0.5)	(0.5)	METALS							--
Vanadium	UG/L	NA		METALS	7.4 B	9.4 B		1.1 B	1.3 B	1.1 B	--
Zinc	UG/L	(2,000)	2000	METALS	18.5 B	23.8	1.3 B		2.1 B	2.1 B	--

Notes:

(1) Class GA Ambient Water Quality Standards and Guidance Values from TOGS series 1.1.1, June 1998, and April 2000 Addendum. Values in ( ) represent Guidance Values.

(2) Inorganics/TAL Metals reported as total concentrations except for VL-MW1 Diss. Metals, where field turbidity measurements > 50 NTUs warranted the analysis of both total and dissolved metals for this sample. Sample filtered in the field using a 0.45 micron filter.

Only those analytes detected at a minimum of one location and greater than the reporting limit are shown.

Blank space indicates analyte was not detected.

-- Indicates sample was not analyzed for this parameter.

Shaded and framed concentrations exceed Class GA groundwater standards or guidance values.

NA - Not Applicable or Not Available.

TICs - Tentatively Identified Compounds

Data Qualifiers

B - Indicates a value > IDL but < quantitation limit.

J - Indicates and estimated value. Qualifier assigned by third party data validator.

N - Organic analysis = Indicates presumptive evidence of a compound, this qualifier is applied to all

R - Indicates a rejected value by the third party validator.

Created by: BW Date: 08/08/2005
Checked by: B.Walker/J.Richert Date: 09/01/2005

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TABLE 5-8
SUMMARY OF ANALYTICAL RESULTS - SURFACE SOIL SAMPLES - CHROMIUM
SIX VACANT LOTS ON RIDGE ROAD SITE
LACKAWANNA, NEW YORK

Sample Number Sampling Depth (ft. bgs) Collection Date	NYSDEC TAGM 4046 [1]	EASTERN US BACKGROUND[2]	VL7-SSRE (0-0.1') 09/30/2005	VL7-SSRE-N (0-0.1') 09/30/2005	VL7-SSRE-SE (0-0.1') 09/30/2005	VL7-SSRE-SW (0-0.1') 09/30/2005	VL8-RE (0-0.1') 09/30/2005	VL8RE-N (0-0.1') 09/30/2005	VL8RE-SE (0-0.1') 09/30/2005	VL8RE-SW (0-0.1') 09/30/2005
TAL Metals (mg/kg)										
Chromium	*14*	1.5 - 40 **	*1290 E*	*1430 E*	*1280 E*	*1690 E*	*1750 E*	*866 E*	*1400 E*	*839 E*

Shaded and framed concentrations exceed TAGM values and upper limits of Eastern US background concentrations.

(1) New York State Dept. of Environmental Conservation TAGM 4046, Recommended Soil Cleanup Objectives, Dec. 2000. Values listed in TAGM 4046 as SB (Site Background) have been replaced with the average background concentration from the offsite background samples, when the average was greater than the listed TAGM value. These values are shaded and italicized.
(2) TAL Inorganic Analytes from Eastern USA Background as shown in New York State Dept. of Environmental Conservation TAGM 4046, Dec. 2000.
*** New York State background concentration.*

DATA QUALIFIERS
E - indicates result is estimated.

Created by: J. Richert L 11/07/05
Checked by: J. Hilton Date: 11/07/2005

(PAHs) were also compared to background soil concentrations for urban soils as referenced from the U.S. Department of Health and Human Services Toxicological Profile for PAHs

- Groundwater sample data were compared to NYSDEC Class GA groundwater standards and guidance values, (6NYCRR Part 360).

5.2 Surface Soil Samples

Six on-site surface soil samples were collected from each of the vacant lots and analyzed for TCL SVOCs, pesticides, PCBs, TAL Metals, cyanide, and pH. One sample (VL6-SS) was analyzed for VOCs due to the presence of staining observed at the surface. Surface soil sampling was also performed at five off-site locations adjacent to the Site to establish background soil concentrations at the Site. The background surface soil samples were analyzed for PAHs and metals. Sampling locations are shown on Figure 2-1. Each one of the surface soil samples contained one or more analytes at a concentration greater then the NYSDEC TAGM 4046 Recommended Soil Cleanup Objectives (TAGM RSCOs) or urban background concentrations. Most of these concentrations are likely characteristic of the fill materials used in the area rather than from some former or current on-site point source. Analytical results for surface soil samples are provided in Tables 5-1 through 5-4, and are described by analyte group below.

VOCS

No VOCs were detected in the surface soil sample collected from sublot 6 (VL6-SS) above the TAGM 4046 Recommended Soil Cleanup Objectives (TAGM RSCOs).

SVOCs

Six SVOCs, (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, chrysene, and phenol) were present in the surface soils at the Site at concentrations in excess of TAGM RSCOs. Five of these six SVOCs are identified as carcinogenic polycyclic aromatic hydrocarbons (PAHs) and therefore have reduced cleanup objectives as compared to other SVOCs. Phenol is not categorized as a carcinogenic PAH. Of the compounds detected at concentrations greater than the TAGM RSCOs, only two (benzo(a)pyrene and chrysene) were present above the typical range

found in urban soils at one or more sample locations. Benzo(a)anthracene, benzo(a)pyrene, dibenzo(a,h)anthracene, and chrysene were also detected in the off-site background samples at concentrations greater than the TAGM RSCOs. Benzo(a)pyrene and chrysene were also present above the typical range found in urban soils at one or more of the background sample locations. This indicates that the concentrations of these PAHs are indicative of the soil/fill materials present at the surface throughout this area, and are likely the result of past industrial and commercial development uses of the Site and neighboring properties. PAHs are a byproduct of anthropogenic combustion processes and are ubiquitous in urban soils. PAHs are particularly present near roads, factories, power plants, railroads and parking lots where petroleum fuels are burned and asphalt paving is present. The phenol detections occurred at only two on-site sample locations, and are only slightly above the TAGM RSCO.

Pesticides

No pesticides were detected above the TAGM RSCO at the surface soil sample locations.

PCBs

No PCB's were detected above the TAGM RSCO for total PCBs in surface soil samples collected at the Site.

Metals

In general, with the exception of chromium, most surface soil samples contained metals at concentrations within expected background concentrations for the eastern United States. The surface soil samples results indicate between one and seven metals exceeded the eastern US background concentration ranges, and between four and nine metals exceed TAGM RSCOs. Zinc and chromium were detected in all of the on-site surface soil samples at concentrations greater than the TAGM RSCOs and greater than the expected background range in all samples, with the exception of two locations for chromium. Zinc concentrations ranged between 99 mg/kg to 1420 mg/kg, while chromium concentrations ranged from 15.4 mg/kg to 1360 mg/kg. The recommended Soil Cleanup Objective for zinc is 20 mg/kg or the site-specific background concentration which ranged from 74 to 1170 mg/kg. The recommended soil cleanup objective for chromium is 10 mg/kg or the site-specific background concentration which ranged from 7

to 78 mg/kg. Both zinc and chromium were detected in the off-site background samples at concentrations that exceed the TAGM RSCO. These off-site detections occurred at similar concentrations for zinc, indicating that the on-site concentrations may actually represent background concentrations for this area. The chromium concentrations in the on-site samples collected in sublots 7 and 8 were as much as two orders of magnitude higher than those detected in the background samples. These elevated concentrations were confirmed with confirmation sampling, see Table 5-8. Although chromium was detected above TAGM RSCOs in the off-site background samples, the elevated levels on-site indicate on-site impact.

In addition to the above exceedance's several metals were present in several samples at concentrations greater than the TAGM RSCOs, the eastern US background range, or both. However, the off-site samples also detected these metals at concentrations greater than the expected background range and at similar or greater concentrations than the on-site samples, thus indicating that these detections found on-site may represent typical background concentrations of these metals for this area.

5.3 Subsurface Soil/Fill Samples

All of the subsurface soil/fill samples contained one or more analyte at a concentration greater then the NYSDEC TAGM 4046 recommended soil cleanup objectives or urban background concentrations. These concentrations are likely characteristic of the fill material placed at the Site rather than from some former or current on-site point source. Analytical results for subsurface soil/fill samples are provided in Tables 5-5 and 5-6, and are described by analyte group below.

VOCS

No VOCs were detected above the TAGM RSCOs in the subsurface soil/fill samples.

SVOCs

Six SVOCs, (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, and dibenzo(a,h)anthracene) were present in the subsurface soil/fill at the Site at concentrations in excess of TAGM RSCOs. Each of the six SVOCs is identified as carcinogenic polycyclic aromatic hydrocarbons (PAHs) and

therefore has reduced cleanup objectives as compared to other SVOCs. Two of these PAHs (benzo(a)pyrene and chrysene) were consistently present at one order of magnitude higher than the typical range found in urban soils. PAHs are a byproduct of anthropogenic combustion processes and are ubiquitous in urban soils. PAHs are particularly present near roads, factories, power plants, railroads and parking lots where petroleum fuels are burned and asphalt paving is present.

Pesticides

No pesticides were detected in the subsurface soil/fill samples at concentrations above TAGM RSCOs.

PCBs

No PCBs were detected in the subsurface soil/fill samples at concentrations above TAGM RSCOs.

Metals

Metals concentrations in subsurface soil samples are summarized in Table 5-6, and were generally consistent with those observed in surface soil at the Site. These data indicate that the metals may be characteristic of fill material present underlying a majority of the Site. In general, all of the subsurface soil samples contained at least six metals at concentrations greater than the TAGM RSCOs with most samples having between seven and nine metals greater than TAGM RSCOs. Beryllium, chromium, iron, mercury, and zinc were detected at concentrations greater than the TAGM RSCOs in every sample. Arsenic, and copper were detected above TAGM RSCOs at five of the six sample locations. Zinc was also present in excess of Eastern U.S. background concentrations in all samples, while calcium, chromium, magnesium, and mercury exceeded the eastern US background range in at least three samples for mercury and chromium and as many as five samples for calcium and magnesium. The consistency of concentrations of these metals across the Site and the detection of these metals in the off-site/background samples at concentrations greater than the expected background range and at similar or greater concentrations than the on-site samples, indicates that these detections found on-site may represent typical background concentrations of these metals for this area.

5.4 Groundwater Samples

The following characterization of the groundwater at the Site was based on the samples collected from the on-site groundwater monitoring wells MW-1, MW-2, and MW-3 on May 26, 2005. The groundwater samples were analyzed for full TCL/TAL parameters. The analytical results are summarized in Table 5-7 and compared to the Class GA Groundwater Standard from the NYSDEC Technical and Operational Guidance Series (TOGS).

VOCs, SVOCs, and PCBs

As shown in Table 5-7, no compounds were detected in the organic analysis performed for VOCs, SVOCs, and PCBs above the laboratory reporting limits for any of the groundwater samples.

Pesticides

Only one pesticide, endrin, was detected above the Class GA groundwater standard of ND or < 0.01ug/l, meaning non-detectable. Endrin was detected at 0.048 ug/L in monitoring well MW-2 at the northeast corner of the Site. The laboratory qualified this result as an estimated value since the result is less than the sample reporting limit of 0.096 ug/L, but greater than zero. Re-analysis of this sample was performed outside the prescribed holding time, and Endrin was not detected. This resulted in the data validator qualifying the results as estimated. The data validator further described this result as an artifact in the analysis, and that endrin is not likely present in the sample since there are many different compounds eluting at the same time such that these peaks can be difficult to interpret on the gas chromatogram by the laboratory.

Metals

Several metals were present in the groundwater samples collected at the Site, however, all but one were at concentrations below the NYSDEC Class GA Groundwater Standard. Sodium exceeded the NYSDEC Class GA Groundwater Standard of 20,000 ug/L at monitoring wells MW-1 and MW-2. Since the only wells exhibiting the elevated sodium concentrations are located adjacent to Ridge Road, it is possible that these elevated concentrations are the result of road salt application.

5.5 Analytical Summary

The analytical results of the site investigation indicate elevated concentrations of several metals and PAHs in the surface and subsurface soil/fill throughout the Site. Most significant are chromium and zinc which are present in all samples at concentrations up to two orders of magnitude above the NYSDEC TAGM values. Zinc, however, was also detected in the off-site background samples at similar if not greater concentrations and therefore does not appear to be Site related. Chromium however was significantly elevated in surface soil/fill at two areas of the Site and appears to be Site related. An Interim Remedial Measure (IRM) was subsequently performed to remove the chromium impacted soil/fill at these two areas, see Appendix I.

Groundwater does not appear to be impacted by site contaminants. Although groundwater does contain several metals, all but one were detected at concentrations below groundwater standards, and most of these metals are commonly found locally at such concentrations and are believed to be naturally occurring at these concentrations or are common nutrients that do not pose a significant risk at elevated concentrations. These metals include iron, magnesium, potassium, and sodium.

In general, VOCs, pesticides, and PCBs where present at very low concentrations in all media sampled at the Site. In most cases concentrations of these compounds were below TAGM values.

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Human Health Evaluation

SECTION 6

This section presents a qualitative evaluation of the potential for human exposure to and resultant adverse human health effects associated with chemicals detected in soil and groundwater at the Site.

The human health evaluation is facilitated through the development of a conceptual Site model, as presented in Figure 6-1. The conceptual Site model is a graphic illustration that outlines chemical source areas, chemical release mechanisms, environmental media that currently show or may show the presence of chemicals in the future, possible exposure pathways, potentially-exposed human receptor populations, and exposure routes to those receptors. It considers current Site conditions and surrounding land use, as well as the most likely future Site conditions and surrounding land use based on the likely redevelopment of the Site. The conceptual Site model presents the hypotheses regarding the potential for human exposure to chemicals in impacted media at the Site, which are analyzed and discussed in this evaluation.

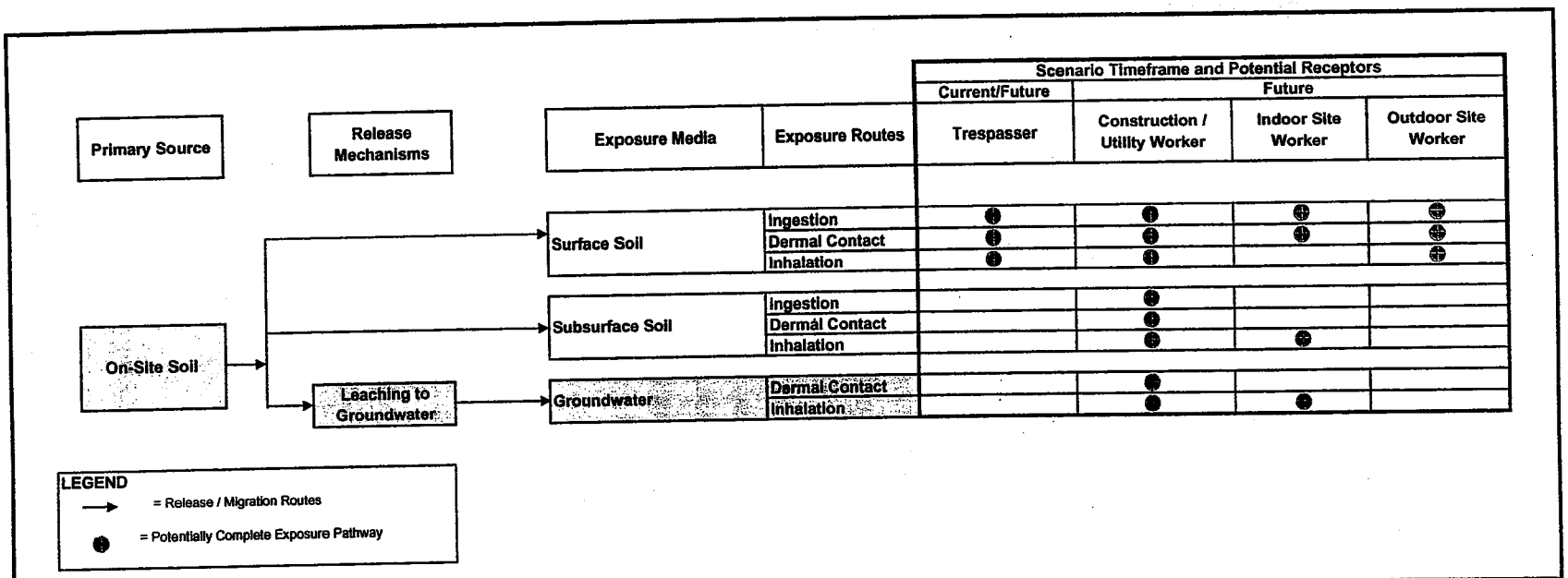
6.1 Overview

Although qualitative, the human health evaluation includes the following four steps that are typically used to assess potential human health risks:

Data evaluation: relevant Site data are compiled and analyzed to determine the usability of the data and to select chemicals of potential concern (COPC) that are considered representative of conditions at the Site.

Exposure Assessment: involves the identification of potential chemical release mechanisms, potentially exposed human populations, exposure pathways between COPCs in source media and human receptors, and probable exposure routes.

Toxicity Assessment: qualitative toxicity information is presented for each COPC.



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CONCEPTUAL SITE MODEL

Six Vacant Lots on Ridge Road Site
Lackawanna, New York

September 2005

FIGURE 6-1

Risk Characterization: the potential for adverse human health effects, in terms of both non-carcinogenic hazard and carcinogenic risk, is evaluated, currently and under the future land use scenario, in the absence of remedial action. The uncertainties in the human health evaluation are also briefly discussed.

6.2 Data Evaluation

The data evaluation focuses on the compilation of usable analytical data. Only validated analytical data were used in this evaluation. Where sample duplicates were present, the maximum detected concentration of a chemical, from either the original or duplicate sample, was used as the sample result. While the entire data sets from soil and groundwater samples were discussed previously, summary tables are presented in Tables 6-1 and 6-2 to facilitate the human health evaluation. The screening criteria used to select COPC that may pose risks to human health are also presented and discussed below for each medium.

Environmental Media of Concern

Soil and groundwater were identified as environmental media of concern because they are or may become, in the future, readily available for human contact. Typically, surface soil samples are considered to be those collected from depths up to 2 feet below ground surface (ft bgs). As described in earlier sections of this report, subsurface composite samples were collected from ranges that incorporated depths above 2 ft bgs (e.g., 0-1.5 and 0-3.5 ft bgs). To err on the side of conservatism, surface and subsurface soil sample results were combined to form one dataset for this human health evaluation.

Selection of COPC

The following sub-sections describe the analytical data from soil and groundwater samples and the identification of COPC in these media. COPC were selected by comparing the maximum detected concentration of each chemical in soil and groundwater to appropriate screening criteria (e.g., NYSDEC TAGM 4046 Recommended Soil Cleanup Objectives). Chemicals with maximum detected concentrations above the corresponding screening criteria were selected as COPC. Chemicals without a corresponding screening criterion were also selected as COPC.

TABLE 6-1
SUMMARY OF SURFACE SOIL DATA AND COMPARISON TO SCREENING CRITERIA
SIX VACANT LOTS ON RIDGE ROAD SITE
LACKAWANNA, NEW YORK

Chemical	Frequency of Detection	Range of Detected Site Concentrations [1]	NYSDEC Soil Cleanup Objectives [2]	Range of Background Sample Concentrations [3]	Urban Background Concentrations [4][5]
Volatile Organic Compounds (µg/kg)					
Acetone	3 / 7	64 - 140	200	Not Analyzed	NA
Carbon disulfide	1 / 7	2	2,700	Not Analyzed	NA
Dichlorodifluoromethane	1 / 7	16	NA	Not Analyzed	NA
2-Hexanone	1 / 7	740	NA	Not Analyzed	NA
Methyl ethyl ketone	3 / 7	14 - 91	300	Not Analyzed	NA
Semivolatile Organic Compounds (µg/kg)					
Acenaphthene	11 / 12	13 - 2,400	50,000 [6]	15 - 100	NA
Acenaphthylene	12 / 12	11 - 420	41,000	38 - 110	NA
Anthracene	12 / 12	12 - 5,000	50,000 [6]	33 - 280	NA
Benzo(a)anthracene	12 / 12	67 - 9,300	224 or MDL	220 - 700	169 - 59,000
Benzo(a)pyrene	12 / 12	75 - 7,600	61 or MDL	210 - 630	165 - 220
Benzo(b)fluoranthene	12 / 12	120 - 9,300	1,100	340 - 880	15,000 - 62,000
Benzo(g,h,i)perylene	12 / 12	12 - 3,200	50,000 [6]	15 - 360	900 - 47,000
Benzo(k)fluoranthene	12 / 12	43 - 3,100	1,100	120 - 360	300 - 26,000
Biphenyl	2 / 12	28 - 120	NA	ND	NA
bis(2-Ethylhexyl)phthalate	2 / 12	200 - 1,500	50,000 [6]	73	NA
Butylbenzylphthalate	7 / 12	25 - 8,800	50,000 [6]	1,400	NA
Carbazole	12 / 12	11 - 2,300	NA	110	NA
Chrysene	12 / 12	94 - 8,800	400	260 - 690	251 - 640
Dibenzo(a,h)anthracene	12 / 12	19 - 1,000	14 or MDL	26 - 110	NA
Dibenzofuran	10 / 12	12 - 1,100	6,200	ND	NA
Di-n-butylphthalate	4 / 12	13 - 41	8,100	ND	NA
Fluoranthene	12 / 12	140 - 26,000	50,000 [6]	560 - 1,700	200 - 166,000
Fluorene	10 / 12	16 - 2,400	50,000 [6]	22 - 100	NA
Hexachlorobenzene	1 / 12	15	410	ND	NA
Indeno(1,2,3-cd)pyrene	12 / 12	56 - 3,000	3,200	80 - 350	8,000 - 61,000
2-Methylnaphthalene	10 / 12	14 - 350	36,400	16 - 55	NA
2-Methylphenol	1 / 12	15	100 or MDL	ND	NA
Naphthalene	10 / 12	12 - 580	13,000	12 - 54	NA
Di-n-octylphthalate	1 / 12	15	50,000 [6]	ND	NA
Phenanthrene	12 / 12	58 - 22,000	50,000 [6]	250 - 870	NA
Phenol	3 / 12	20 - 38	30 or MDL	300 - 870	NA
Pyrene	12 / 12	86 - 16,000	50,000 [6]	ND	145 - 147,000
Pesticides/PCBs (µg/kg)					
BHC-alpha	1 / 12	4	10	Not Analyzed	NA
BHC-beta	2 / 12	18 - 23	200	Not Analyzed	NA
Chlordane-alpha	4 / 12	5.2 - 20	540	Not Analyzed	NA
Chlordane-gamma	6 / 12	1 - 14	540	Not Analyzed	NA
4,4'-DDD	2 / 12	4 - 49	2,900	Not Analyzed	NA
4,4'-DDE	8 / 12	4 - 21	2,100	Not Analyzed	NA
4,4'-DDT	10 / 12	6 - 65	2,100	Not Analyzed	NA
Dieldrin	3 / 12	3 - 8	44	Not Analyzed	NA
Endosulfan II	2 / 12	2.2	900	Not Analyzed	NA
Endrin aldehyde	2 / 12	2 - 8	NA	Not Analyzed	NA
Hepatchlor epoxide	2 / 12	2 - 5	20	Not Analyzed	NA
PCBs, total	12 / 12	10 - 770	1,000	Not Analyzed	NA

TABLE 6-1
SUMMARY OF SURFACE SOIL DATA AND COMPARISON TO SCREENING CRITERIA
SIX VACANT LOTS ON RIDGE ROAD SITE
LACKAWANNA, NEW YORK

Chemical	Frequency of Detection	Range of Detected Site Concentrations [1]	NYSDEC Soil Cleanup Objectives [2]	Range of Background Sample Concentrations [3]	Urban Background Concentrations [4][5]
Inorganics (mg/kg)					
Aluminum	12 / 12	4,450 - 11,800	SB	6,190 - 14,800	33,000
Antimony	3 / 12	0.75 - 1.5	SB	3.8 - 9.4	< 1 - 1.0
Arsenic	12 / 12	3.3 - 10	7.5 or SB	52 - 119	3 - 12 [6]
Barium	12 / 12	56 - 248	300 or SB	0.51 - 1.9	15 - 600
Beryllium	12 / 12	0.39 - 1.7	0.16 or SB	0.21 - 6.2	0 - 1.75
Cadmium	8 / 12	0.2 - 6.6	1 or SB	15,400 - 63,800	0.1 - 1.0
Calcium*	12 / 12	4,050 - 339,000 [9]	SB	6.8 - 30	130 - 35,000
Chromium	12 / 12	12 - 1,360	10 or SB	3.3 - 6.1	1.5 - 40 [6]
Cobalt	12 / 12	2.8 - 8.2	30 or SB	17 - 69	2.5 - 60 [6]
Copper	12 / 12	18 - 65	25 or SB	8,340 - 23,500	1 - 50
Iron*	12 / 12	16,200 - 120,000	2,000 or SB	58 - 372	2,000 - 550,000
Lead	12 / 12	67 - 427	400 [7]	2,830 - 26,700	200 - 500
Magnesium*	12 / 12	1,960 - 19,400 [9]	SB	372 - 1,080	100 - 5,000
Manganese	12 / 12	485 - 25,200	SB	0.09 - 0.48	50 - 5,000
Mercury	11 / 12	0.019 - 0.32	0.1	8.1 - 18	0.001 - 0.2
Nickel	12 / 12	7.6 - 30	13 or SB	764 - 965	0.5 -25
Potassium*	12 / 12	416 - 1,340 [9]	SB	0.7	8,500 - 43,000 [8]
Selenium	3 / 12	0.74 - 0.9	2 or SB	0.1 - 0.91	0.1 - 3.9
Silver	10 / 12	0.14 - 2	SB	99 - 434	ND - 5.0 [10]
Sodium*	12 / 12	78 - 264 [9]	SB	ND	6,000 - 8,000
Vanadium	12 / 12	14 - 335	150 or SB	8.9 - 21	1 - 300
Zinc	12 / 12	99 - 1,420	20 or SB	74 - 1,170	9 - 50

Notes:

(1) The maximum concentration was used to account for duplicate samples
(2) Recommended Soil Cleanup Objectives, New York State Dept. of Environmental Conservation TAGM 4046, Dec. 2000
(3) Range of detected concentrations from 5 background surface soil samples collected
(4) Eastern USA Background, NYSDEC TAGM 4046, Dec. 2000
(5) PAH background concentrations are from the Agency for Toxic Substances and Disease Registry, 1995
(6) NYSDEC TAGM, Recommended Soil Cleanup Objectives, Dec. 2000, Total SVOCs < 500 ppm, Individual SVOCs < 50 ppm
(7) USEPA action level for residential soils (USEPA, 1996)
(8) New York State background, NYSDEC TAGM 4046, Dec. 2000
(9) This maximum concentration is below the human health essential nutrient screening criterion
(10) Value from *Elements in North American Soils*, soils of the conterminous USA, Dragun and Chiasson, 1991
*Essential nutrient screen (mg/kg) is > 1E+06 for Ca, K, and Na; 5E+04 for Fe; and 4E+05 for Mn
ND - Not Detected SB - Site Background
NA - Not Available MDL - Method Detection Limit

TABLE 6-2
SUMMARY OF GROUNDWATER DATA AND COMPARISON TO SCREENING CRITERIA
SIX VACANT LOTS ON RIDGE ROAD SITE
LACKAWANNA, NEW YORK

Chemical	Frequency of Detection	Range of Detected Concentrations [1]	NYSDEC Class "GA" Standards [2]
Volatile Organic Compounds (µg/L)			
Acetone	1 / 3	4	50
Carbon disulfide	3 / 3	0.4 - 0.7	60
Cyclohexane	1 / 3	0.3	NA
Methylcyclohexane	1 / 3	0.4	NA
Pesticides (µg/L)			
Endrin	1 / 3	0.048	ND
Metals (µg/L)			
Aluminum	3 / 3	42 - 4,730	NA
Antimony	1 / 3	5	3
Barium	3 / 3	52 - 115	25
Beryllium	3 / 3	0.33 - 0.38	3 [3]
Calcium*	3 / 3	87,500 - 177,000 [4]	NA
Chromium	3 / 3	0.71 - 6.6	50
Cobalt	1 / 3	2.4	NA
Copper	3 / 3	1 - 6.8	200
Iron*	3 / 3	116 - 6,300 [4]	NA
Lead	1 / 3	3.8	25
Magnesium*	3 / 3	23,400 - 84,500	35,000 [3]
Manganese	3 / 3	46 - 193	NA
Nickel	3 / 3	1.4 - 7.5	100
Potassium*	3 / 3	7,840 - 10,200 [4]	NA
Sodium*	3 / 3	14,400 - 227,000 [4]	20,000
Vanadium	3 / 3	1.1 - 9.4	NA
Zinc	2 / 3	2.1 - 24	2,000 [3]

Notes:

(1) The maximum concentration was used to account for duplicate samples

(2) Class GA Ambient Water Quality Standards and Guidance Values from NYSDEC TOGS 1.1.1, June 1998, and April 2000 Addendum

(3) Values represent Guidance Values

(4) This maximum concentration is below the human health essential nutrient screening criterion

* Essential nutrient screen (µg/L) is 8E+05 for Ca; 1E+04 for Fe; 8E+04 for Mg; 1E+06 for K; and 9.75E+05 for Na

NA - Not Available

ND - Not Detected

For all inorganic chemicals in soil, with the exception of mercury and lead, if a chemical concentration exceeded the screening criterion but was within the ranges of Site background concentrations, then it was eliminated as a COPC. In addition, the inorganic chemicals regarded as essential nutrients (i.e., calcium, iron, magnesium, potassium, and sodium) were only selected as COPC if they exceeded the nutrient screening concentration. The nutrient screening concentrations were derived for a child, as shown in Appendix F. The COPC selected in soil and groundwater are summarized in Table 6-3.

6.2.1 Surface and Subsurface Soil

The collection of Site surface and subsurface soil samples from the May 2005 sampling event is documented in Section 2.7.1. Five background surface soil samples were also collected and included in this evaluation. Sample locations are shown in Figure 2.1. Site soil samples were analyzed for VOCs, SVOCs, pesticides, PCBs, and inorganics (metals and cyanide). Background soil samples were analyzed for SVOCs and inorganics.

Combined subsurface and surface soil data are summarized in Table 6-1, with frequency of detection, range of concentrations, and screening criteria for each of the detected chemicals. The screening criteria are: 1) the NYSDEC's recommended soil cleanup objectives; 2) detected Site background concentrations 3) essential nutrient screening concentrations. The derivation of screening concentrations for essential nutrients are shown in Table F-1 of Appendix F. No NYSDEC soil cleanup objective is available for lead; therefore, the screening criterion is the USEPA soil screening level for residential soils (USEPA, 1998).

Background concentrations of PAHs in urban soils (ATSDR, 1995) were included in Table 6-1 for comparison purposes only and were not used as screening criteria. For inorganics, the urban background concentrations presented are Eastern USA background concentrations, as provided in TAGM 4046 [or, in their absence, as provided in *Elements in North American Soils* (Dragun and Chiasson, 1991)]. These ranges also were presented for comparison purposes only and were not used to select COPCs.

The following chemicals were selected as COPC in soil:

- VOCs: dichlorodifluoromethane and 2-hexanone

TABLE 6-3
CHEMICALS OF POTENTIAL CONCERN
SIX VACANT LOTS ON RIDGE ROAD SITE
LACKAWANNA, NEW YORK

Chemical	Surface and Subsurface Soil	Groundwater
Volatile Organic Compounds		
Cyclohexane	-	X
Dichlorodifluoromethane	X	-
2-Hexanone	X	-
Methylcyclohexane	-	X
Semivolatile Organic Compounds		
Benzo(a)anthracene	X	-
Benzo(a)pyrene	X	-
Benzo(b)fluoranthene	X	-
Benzo(k)fluoranthene	X	-
Biphenyl	X	-
Carbazole	X	-
Chrysene	X	-
Dibenzo(a,h)anthracene	X	-
Pesticides/PCBs		
Endrin	-	X
Endrin aldehyde	X	-
Inorganics		
Aluminum	•	X
Antimony	•	X
Barium	•	X
Chromium	X	•
Cobalt	•	X
Iron	X	•
Lead	X	•
Magnesium	•	X
Manganese	X	X
Mercury	X	-
Vanadium	X	X
Zinc	X	•

Notes:

X : Selected as a Chemical of Potential Concern (COPC).

Shaded entries are COPCs selected based on exceedance of the screening criteria.

Unshaded entries are COPCs for which no screening criteria are available.

• : Detected, but not selected as a COPC.

- : Not Analyzed or Not Detected.

- SVOCs: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, biphenyl, carbazole, chrysene, and dibenzo(a,h)anthracene
- Pesticides/PCBs: endrin aldehyde
- Inorganics: chromium, iron, lead, manganese, mercury, vanadium, and zinc

Dichlorodifluoromethane, 2-hexanone, biphenyl, carbazole, and endrin aldehyde were included as COPCs due to a lack of screening criteria. Of the PAHs selected as COPC, only benzo(a)pyrene and chrysene were detected at concentrations greater than those typically found in urban soils, as reported by ATSDR (1995).

Although an essential nutrient, iron was selected as a COPC, because the maximum detected concentration (120,000 mg/kg) is above both the soil cleanup objective (2,000 mg/kg) and the nutrient screening criterion (50,000 mg/kg). However, the maximum iron concentration is within the range of Eastern USA background concentrations, as reported in NYSDEC TAGM 4046. Likewise, lead was selected as a COPC, because the maximum detected concentration (427 mg/kg) is slightly above the selected screening criterion (400 mg/kg). However, it is within the range of reported urban background concentrations.

6.2.2 Groundwater

The collection of groundwater samples from the May 2005 sampling event is documented in Section 2.8.3. Sample locations are shown in Figure 2.1. All monitoring wells were installed to depths of 14 to 16 ft bgs. Depth to groundwater during sample collection ranged from 4.5 to 8.3 ft bgs. Groundwater samples were analyzed for VOCs, SVOCs, pesticides, PCBs, and inorganics.

Groundwater data are summarized in Table 6-2. The frequency of detection, range of detected concentrations, and screening criteria are provided. The screening criteria used are "Class GA" *Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations* from NYSDEC's Technical and Operational Guidance Series (TOGS) 1.1.1 (June 1998 and April 2000 Addendum) and the essential nutrient screening concentrations. The derivation of screening concentrations for essential nutrients are shown in Table F-2 of Appendix F.

The following chemicals were selected as COPC based on the monitoring well data:

- VOCs: cyclohexane and methylcyclohexane
- Pesticides/PCBs: endrin
- Inorganics: aluminum, antimony, barium, cobalt, magnesium, manganese, and vanadium

Cyclohexane, methylcyclohexane, aluminum, cobalt, manganese, and vanadium were selected as COPCs due to the lack of screening criteria. Although an essential nutrient, manganese was selected as a COPC, because the maximum detected concentration (84,500 µg/L) is above the derived nutrient screening criterion (80,000 µg/L).

6.3 Exposure Assessment

The objective of the exposure assessment is to estimate the type of and potential for human exposure to the COPC that are present in, or migrating from, soil and groundwater at the Site. The exposure assessment identifies potential human receptor populations, under both current and future land use scenarios. A conceptual Site model is used to facilitate the evaluation of all potentially complete exposure pathways and routes, through which receptors may be exposed to COPCs in soil and groundwater.

The 0.77 acre Site consists of six vacant lots identified with addresses of 113, 117, 121, 125, 129, and 135 Ridge Road in Lackawanna, Erie County, New York. Figure 1-1 identifies the location of the Site.

The Site is located in an urban area, within the city limits of Lackawanna, New York. Properties surrounding the Site consist of mixed commercial, light industrial and residential properties. Two light industrial facilities are located north of the Site. A vacant lot and small corner store are located east of the Site. To the South are several residential properties and a church. A religious temple is located to the west.

The Site is rectangular in shape, flat in topography, and covered with grass and gravel. There are no aboveground structures. Occasional partial foundations of previous structures and concrete walkways are partially exposed at the ground surface. There are no surface water bodies on the Site.

Results of the hydrogeologic investigation indicate general subsurface conditions are fill materials, with depths between 1 and 3 feet below grade, underlain by silt and fine sand.

The fill materials were encountered throughout the Site but varied in composition from location to location, as well as vertically. Fill units consisted primarily of sandy silt, slag and gravel, foundry sands, and, at one location, a former basement filled with bricks and timbers. The water table is located approximately 4 to 7 feet below grade. Shallow groundwater has a general northeasterly flow across the Site. There are no potable groundwater wells in the vicinity of the Site. There are currently no buried utilities on the properties.

It is anticipated that redevelopment of the Site will result in at least 90% of the Site being covered with either pavement or a building, and the possibly remaining 10% with "clean" fill and vegetated cover (e.g., lawn or ornamental vegetation in a median). The Site will not become residential or green space.

6.3.1 Potentially Exposed Populations

The potential for human exposure to the COPC at the Site was considered under potential current and future land use scenarios. The following four categories of human receptors (termed "potentially exposed populations") were identified:

Current/Future

- Trespassers: (adults and adolescents) who may live in the vicinity of the Site and frequently walk across the vacant lots, in order to "cut the corner" of Ridge Road and Wasson Avenue. There is no fence surrounding the lots to prohibit access to trespassers. However, there are also no structures on the Site that would entice trespassers to remain on the Site for periods of time.

Future

- Construction/Utility Worker: (adults) whose work may require excavation at the Site while improving and/or maintaining the Site for future use.
- Indoor Site Worker: (adults and adolescents, aged 16-18 yrs) who may perform work within future structures on the Site.
- Outdoor Site Worker: (adults and adolescents, aged 16-18 yrs) who may perform work outside the future structures of the Site (e.g., maintaining a lawn or other vegetation around a building and parking lot).

6.3.2 Exposure Pathways

Chemical release mechanisms, under current and future land use scenarios and in the absence of remedial action, are summarized in Table 6-4. The potential human receptors and the likelihood of receptor exposure to COPCs in soil and groundwater are summarized, with descriptions justifying the inclusion of potentially complete exposure pathways. The exposure pathways identified as potentially complete are presented in the conceptual Site model (Figure 6-1) and are discussed with regard to their likelihood below.

6.3.2.1 Current/Future Scenario

The following exposure scenarios were based on current conditions, and are expected to exist in the future, in the absence of Site remediation or redevelopment.

Trespasser: Based on current land use, trespassers may continue to walk across the vacant lots.. The following exposure pathways are identified as potentially complete:

- Dermal contact with and incidental ingestion and inhalation of COPC in surface soil.

6.3.2.2 Future Scenario

The following additional exposure scenarios, which may occur in the future, were evaluated based on the planned redevelopment of the Site for commercial use, such as a corporate office building or a fast food restaurant. It is anticipated that the Site will be at least 90% covered with pavement or a building, and the possibly remaining 10% will be covered with "clean" fill and vegetation.

Construction/Utility Worker: During future redevelopment or maintenance of the Site, the following exposure pathways were identified as potentially complete:

- Dermal contact with and incidental ingestion and inhalation of COPC in surface soil.
- Dermal contact with and incidental ingestion and inhalation of COPC in subsurface soil.
- Dermal contact with and inhalation of COPC in shallow groundwater.

TABLE 6-4
CHEMICAL RELEASE MECHANISMS IN THE ABSENCE OF REMEDIAL ACTION
SIX VACANT LOTS ON RIDGE ROAD SITE
LACKAWANNA, NEW YORK

Source Media	Release Mechanism	Receiving Medium	Site Conditions	Viable Current Release Scenario?	Viable Future Release Scenario?
On-Site Soil	--	Surface Soil	The Site is comprised of 6 vacant lots that are covered with grass and gravel, with no aboveground structures. Occasional partial foundations of previous structures and concrete walkways are partially exposed at the ground surface.	Yes - surface soil samples were collected for analysis, and data are considered representative of conditions throughout the site. COPC have been found in all surface soil samples. As such, human receptors may be exposed to COPC present in surface soil.	Yes - in the absence of Site remediation, future release mechanisms will not differ from the current scenario.
On-Site Soil	--	Subsurface Soil	Results of the hydrogeologic investigation indicate general subsurface conditions are fill materials, with depths of 1 - 3 feet below grade, underlain by silt and fine sand. Fill units consist primarily of sandy silt, slag and gravel, foundry sands, and, at one location, a former basement filled with bricks and timbers.	No - subsurface soil samples were collected for analysis, and data are considered representative of conditions across the site. COPC have been found in all subsurface soil samples. However, based on current land use activities, human receptors are not expected to contact subsurface soil.	Yes - in the absence of Site remediation, COPC present in subsurface soil may be released by future construction/utility activities. There is also the potential for vapor intrusion of volatile COPCs to indoor air. As such, human receptors may be exposed to COPC in subsurface soil.
On-Site Soil	Leaching	Groundwater	See descriptions of "Surface Soil" and "Subsurface Soil" above. Results of the hydrogeologic investigation indicate the groundwater table is present approximately 4 - 7 feet below grade. Shallow groundwater flows in a northeasterly direction. There are no potable groundwater wells in the vicinity of the Site.	No - groundwater samples were collected for analysis, and data are considered representative of conditions across the site. COPC have been detected in groundwater. However, based on current land use activities, human receptors are not expected to have contact with groundwater.	Yes - in the absence of Site remediation, COPC may continue to be transported to groundwater. Human receptors performing construction / utility work on the Site may be exposed to COPC in shallow groundwater. In addition, the presence of VOCs in groundwater may result in inhalation exposure to indoor workers.

Notes:
COPC = Chemical of Potential Concern

Indoor Site Worker: Since the future land use of the Site will most likely be as a commercial establishment of some sort, there will be indoor Site workers who may have infrequent contact with COPCs in surface soil, possibly while crossing a vegetated area on their way from the parking lot to the building. The following exposure pathways were identified as potentially complete:

- Dermal contact with and incidental ingestion of COPC in surface soil.
- Inhalation of VOCs from subsurface soil in indoor air.
- Inhalation of VOCs from groundwater in indoor air.

Outdoor Site Worker: Since the future land use of the Site will most likely be as a commercial establishment of some sort, there may be areas of the Site that are covered with lawn or ornamental vegetation. Outdoor Site workers who establish and maintain the vegetated areas may have contact with COPCs in surface soil. The following exposure pathways were identified as potentially complete:

- Dermal contact with and incidental ingestion and inhalation of COPC in surface soil.

6.4 Toxicity Assessment

For each COPC, critical non-carcinogenic and carcinogenic health effects, for oral and inhalation exposures, are presented in Tables 6-5 and 6-6, respectively. The critical health effects given were those that are used by the USEPA to derive reference doses and reference concentrations (to assess the potential for chronic non-carcinogenic health effects), and slope factors (to assess carcinogenic risk), that are typically used in the quantification of human health risks.

6.5 Risk Characterization

Based on Site conditions, observations, and the likelihood that the Site will be redeveloped, the potential for exposure to COPCs and resultant adverse health effects are discussed for each receptor population below. Table 6-7 provides a summary of the human health risk characterization.

TABLE 6-5
NON-CARCINOGENIC HEALTH EFFECTS OF CHEMICALS OF POTENTIAL CONCERN
SIX VACANT LOTS ON RIDGE ROAD SITE
LACKAWANNA, NEW YORK

CHEMICAL	CAS #	NON-CARCINOGENIC ORAL CRITICAL EFFECT	NON-CARCINOGENIC INHALATION CRITICAL EFFECT
Volatile Organic Compounds			
Cyclohexane	110-82-7	--	Reduced pup weights
Dichlorodifluoromethane	75-71-8	Reduced body weight	--
2-Hexanone	591-78-6	--	--
Methylcyclohexane	108-87-2	--	--
Semivolatile Organic Compounds			
Benzo(a)anthracene	56-55-3	--	--
Benzo(a)pyrene	50-32-8	--	--
Benzo(b)fluoranthene	205-99-2	--	--
Benzo(k)fluoranthene	208-08-9	--	--
Biphenyl	92-52-4	Kidney damage	--
Carbazole	86-74-8	--	--
Chrysene	218-01-9	--	--
Dibenzo(a,h)anthracene	53-70-3	--	--
Pesticides/PCBs			
Endrin	72-20-8	Mild histological lesions in liver, occasional convulsions	--
Endrin aldehyde	7421-93-4	--	--
Inorganics			
Aluminum	121-82-4	Minimal neurotoxicity	Psychomotor and cognitive impairment
Antimony	7440-36-0	Decreased longevity, decreased blood glucose levels, and altered chloesterol levels	--
Barium	7440-39-3	Increased kidney weight	--
Chromium (as Chromium III)	16065-83-1	--	--
Chromium (as Chromium VI)	18540-29-9	--	Nasal septum atrophy; lactate dehydrogenase in bronchioalveolar lavage fluid
Cobalt	7440-48-4	--	--
Iron	7439-89-6	--	--
Lead	7439-92-1	--	--
Magnesium	7439-95-4	--	--
Manganese	7439-96-5	Central nervous system effects (other effect: Impairment of neurobehavioral function)	Impairment of neurobehavioral function
Mercury (as elemental mercury)	7439-97-6	--	Hand tremor; increases in memory disturbances; slight subjective and objective evidence of autonomic dysfunction
Mercury (as mercuric chloride)	7487-94-7	Autoimmune effects	--
Vanadium	7440-62-2	--	--
Zinc	7440-66-6	Decrease in erythrocyte superoxide dismutase activity	--

Source: USEPA Integrated Risk Information System (IRIS)

TABLE 6-6
CARCINOGENIC HEALTH EFFECTS OF CHEMICALS OF POTENTIAL CONCERN
SIX VACANT LOTS ON RIDGE ROAD SITE
LACKAWANNA, NEW YORK

CHEMICAL	CAS #	ORAL CARCINOGENIC EFFECT	INHALATION CARCINOGENIC EFFECT	Weight-of-Evidence Classification (*)
Volatile Organic Compounds				
Cyclohexane	110-82-7	--	--	--
Dichlorodifluoromethane	75-71-8	--	--	--
2-Hexanone	591-78-6	--	--	--
Methylcyclohexane	108-87-2	--	--	--
Semivolatile Organic Compounds				
Benzo(a)anthracene	56-55-3	--	--	B2
Benzo(a)pyrene	50-32-8	Forestomach, squamous cell papillomas, and carcinomas	--	B2
Benzo(b)fluoranthene	205-99-2	--	--	B2
Benzo(k)fluoranthene	207-08-9	--	--	B2
Biphenyl	92-52-4	--	--	D
Carbazole	86-74-8	--	--	--
Chrysene	218-01-9	--	--	B2
Dibenzo(a,h)anthracene	53-70-3	--	--	B2
Pesticides/PCBs				
Endrin	72-20-8	--	--	D
Endrin aldehyde	7421-93-4	--	--	--
Inorganics				
Aluminum	121-82-4	--	--	D
Antimony	7440-36-0	--	--	--
Barium	7440-39-3	--	--	D
Chromium (as Chromium III)	16065-83-1	No effects observed	--	D
Chromium (as Chromium VI)	18540-29-9	--	Lung cancer	A
Cobalt	7440-48-4	--	--	--
Iron	7439-89-6	--	--	--
Lead	7439-92-1	Increased renal tumors; suppressed gene expression	--	B2
Magnesium	7439-95-4	--	--	--
Manganese	7439-96-5	--	--	D
Mercury (as elemental mercury)	7439-97-6	--	--	D
Mercury (as mercuric chloride)	7487-94-7	--	--	C
Vanadium	7440-62-2	--	--	--
Zinc	7440-66-6	--	--	--

(*): USEPA Weight-of-Evidence Classification:
A: Human carcinogen
B1: Probable human carcinogen; limited human data are available
B2: Probably human carcinogen; sufficient evidence in animals and inadequate or no evidence in humans
C: Possible human carcinogen
D: Not classifiable as to human carcinogenicity
--: Not evaluated
Source: USEPA Integrated Risk Information System (IRIS)

TABLE 6-7
SUMMARY OF HUMAN HEALTH EVALUATION RISK CHARACTERIZATION
SIX VACANT LOTS ON RIDGE ROAD SITE
LACKAWANNA, NEW YORK

Scenario Timeframe	Receptor Population	Environmental Medium	Exposure Routes Evaluated			Likelihood of Exposure		
						Not Expected	Possible	Likely
Current / Future	Trespasser	Surface Soil	Ingestion	Dermal Contact	Inhalation			X
Future	Construction / Utility Worker	Surface Soil	Ingestion	Dermal Contact	Inhalation			X
		Subsurface Soil	Ingestion	Dermal Contact	Inhalation			X
		Groundwater		Dermal Contact	Inhalation		X	
	Indoor Site Worker	Surface Soil	Ingestion	Dermal Contact	Inhalation	X		
		Subsurface Soil			Inhalation	X		
		Groundwater			Inhalation	X		
	Outdoor Site Worker	Surface Soil	Ingestion	Dermal Contact	Inhalation	X		

6.5.1 Current/Future Scenario

The potential for exposure to COPC via the pathways described in the Exposure Assessment was discussed for each receptor population in the current/future scenario under the assumption that there will be no remediation or redevelopment of the Site. In this section, the potential for exposure is classified as "Not Expected", "Possible", or "Likely" based on Site conditions.

Trespasser

Dermal contact with and incidental ingestion and inhalation of COPC in surface soil:

It is known that residents who may live in the area frequently walk across the Site, to cut the corner of Ridge Road and Wasson Avenue. There is no fence surrounding the vacant lots to prohibit access to trespassers. Therefore, exposure of trespassers to COPC in surface soil via incidental ingestion of and dermal contact with soil, and/or inhalation of particulates released from the soil, is likely.

6.5.2 Future Scenario

The potential for exposure to COPC via the pathways described in the Exposure Assessment is discussed for each receptor population in the future scenario listed below, under the assumption that redevelopment will occur, without remediation of the Site. In this section, the potential for exposure is classified as "Not Expected", "Possible", or "Likely" based on Site conditions.

Construction/Utility Worker:

Dermal contact with and incidental ingestion and inhalation of COPC in surface soil:

Future redevelopment and/or maintenance-related excavation or grading work at the Site could lead to contact with COPC in surface soil. Therefore, dermal contact with and incidental ingestion of COPC in surface soil, and inhalation of VOCs and windblown or mechanically driven COPC adsorbed to fugitive dust released from soil, are likely. Such exposure would be limited to the duration of the construction/maintenance work.

Dermal contact with and incidental ingestion and inhalation of COPC in subsurface soil:

Redevelopment and/or maintenance-related excavation or grading work at the Site could lead to contact with subsurface soil. Therefore, dermal contact with and incidental ingestion of COPC in subsurface soil, and inhalation of VOCs and windblown or mechanically driven COPC adsorbed to fugitive dust released from soil are likely. Such exposure would be limited to the duration of the construction/maintenance work.

Dermal contact with COPC and inhalation of volatile COPC in shallow groundwater:

Shallow groundwater at the Site is approximately 4-7 feet below grade; therefore, exposure of a construction/utility worker to COPC in shallow groundwater may be possible. It is conceivable that excavation work at the Site may encounter the groundwater interface. Should this occur, dermal contact with COPC and inhalation of volatile COPC in shallow groundwater are possible. Such exposure would be limited to the duration of the construction/maintenance work.

Indoor Site Worker:

Dermal contact with and incidental ingestion of COPC in surface soil:

If the Site is to be redeveloped for commercial use, it will most likely serve as a corporate office building or a fast food franchise. Indoor workers may have contact with surface soil while walking across vegetated areas of the Site (e.g., from a parking lot to the building). However, redevelopment of the Site would include capping the existing surface soil with "clean fill," which would act as a barrier to immediate exposure to COPC in surface soil at the Site. Therefore, exposure to COPC in surface soil via dermal contact and incidental ingestion is not expected.

Inhalation of volatile COPC from subsurface soil in indoor air:

If the Site is to be redeveloped for commercial use, it will most likely serve as a corporate office building or a fast food franchise. VOCs were detected in soil; therefore, there is the potential for indoor Site worker exposure to volatile COPCs from subsurface soil in indoor air. However, dichlorodifluoromethane and 2-hexanone were selected as COPCs due to a lack of screening criteria, not an exceedance of available risk-based criteria. In addition, the only detected concentrations of these 2 chemicals (16 and 740 µg/kg, respectively) are considered relatively low and not likely to pose health risks from indoor

air inhalation. Therefore, exposure to COPC in susburface soil via inhalation is not expected.

Inhalation of volatile COPC from shallow groundwater in indoor air:

If the Site is to be redeveloped for commercial use, it will most likely serve as a corporate office building or a fast food franchise. VOCs were detected in groundwater; therefore, there is the potential for indoor Site worker exposure to volatile COPCs in indoor air. However, cyclohexane and methylcyclohexane were selected as COPCs due to a lack of screening criteria, not an exceedance of available risk-based criteria. In addition, the only detected concentrations of these 2 chemicals (0.3 and 0.4 µg/L, respectively) are considered very low and are not likely to pose health risks from indoor air inhalation. Therefore, exposure to COPC in shallow groundwater via inhalation is not expected.

Outdoor Site Worker:

Dermal contact with and incidental ingestion and inhalation of COPC in surface soil:

If the Site is to be redeveloped for light commercial use, it will most likely serve as a corporate office building or a fast food franchise. It is anticipated that redevelopment will potentially result in 10% of the Site being covered with either lawn or ornamental vegetation. Outdoor Site workers who establish and maintain the vegetated areas may have contact with COPCs in surface soil. However, redevelopment of the Site would include capping the existing surface soil with "clean fill," which would act as a barrier to immediate exposure to COPC in surface soil at the Site. Therefore, exposure via dermal contact and incidental ingestion and inhalation of COPCs in surface soil is not expected.

6.6 Uncertainty Analysis

Uncertainty is inherent in the process of conducting human health evaluations. In qualitative evaluations, sampling and analysis data, information and assumptions regarding the likelihood, frequency, and magnitude of exposure, and information on the toxicity of the constituents are used to infer the potential for exposure and health risk. By design, the evaluations rely on simple and conservative assumptions with the sole intent of identifying and eliminating from concern those scenarios that are unlikely to result in exposure and health risk and highlighting those scenarios that, depending on actual circumstances, may result in exposure and risk. Uncertainty is associated with each

component of this process, the sum of which could alter the conclusions regarding the likelihood of exposure and health risk for any given receptor population.

6.6.1 Sampling and Analysis

Uncertainty associated with environmental sampling is generally related to the limitations of the sampling in terms of the number and distribution of samples, while uncertainty associated with the sample analysis is generally associated with systematic or random errors (e.g., false positive or false negative results). Thus, the potential for exposure may be overstated or understated depending on how well each environmental medium was characterized.

6.6.2 Exposure Assessment

Aspects of the human exposure assessment generally result in overstatement of the potential for long-term exposure. In addition, the release mechanisms for COPC may have been overstated.

6.6.3 Toxicological/Screening Criteria

Screening criteria were not available for all chemicals that were detected in samples collected at the Site. As such, the potential for adverse health effects as a result of potential exposure to those chemicals is uncertain. In addition, in most cases, the critical effects listed for the COPC are for laboratory animals. Differences in toxicity may exist between laboratory animals and humans.

6.7 Summary

The current/future scenario assumed current land use indefinitely, with no remediation or fencing of the Site. The future scenario assumed redevelopment and reuse of the Site, with no remediation. The following presents a summary of the results of the human health evaluation for the Site.

6.7.1 Current/Future Scenario

Based on the human health evaluation of the potential for trespasser exposure to COPCs in surface soil, exposure via incidental ingestion of and dermal contact with soil, and/or inhalation of particulates released from the soil, is likely. It is known that residents who

may live in the area frequently walk across the Site. There is no fence surrounding the vacant lots to prohibit access to trespassers.

6.7.2 Future Scenario

Based on the human health evaluation of the most likely future land use scenarios, exposures of indoor and outdoor Site workers to COPCs in soil and groundwater at the Site are not expected. If the Site is to be redeveloped for light commercial use, it will most likely serve as a corporate office building or a fast food franchise. The only times that indoor Site workers may have contact with surface soil is when walking across vegetated areas of the Site (e.g., from a parking lot to a building or other structure). Outdoor Site workers may have contact with surface and subsurface soil when establishing and maintaining vegetated areas of the Site. However, redevelopment of the Site will include capping any unpaved areas of the Site (conservatively estimated as </= 10% total Site area) with clean fill before planting with vegetation. Therefore, neither indoor nor outdoor Site workers are expected to be exposed to COPCs in soil.

An additional exposure scenario was evaluated to include the potential for indoor worker exposures to detected volatile COPCs in soil and groundwater. The potential for exposure and resultant risks to health as a result was deemed not expected, due to the very low concentrations of two COPCs in soil and two COPCs in groundwater.

The only exposure scenario evaluated that resulted in likely human exposure to COPCs in soil and/or groundwater was for future exposure of a construction/utility worker to COPCs in soil. In the event that redevelopment of the Site should occur, construction/utility workers may be exposed to COPCs in surface and subsurface soil via the dermal contact, incidental ingestion, and inhalation routes of exposure. However, use of common construction/utility worker protection practices would serve to limit human contact with COPCs in soil.

The potential for exposure of a construction/utility worker to COPCs in groundwater was deemed possible. Depth to the groundwater table was estimated as approximately 4 -7 feet below grade. It is therefore possible that construction/utility workers could be exposed to COPCs in groundwater via the dermal contact and inhalation routes of exposure. However, use of common construction/utility worker protection practices would sufficiently serve to limit human contact with COPCs in groundwater.

Reuse Planning

SECTION 7

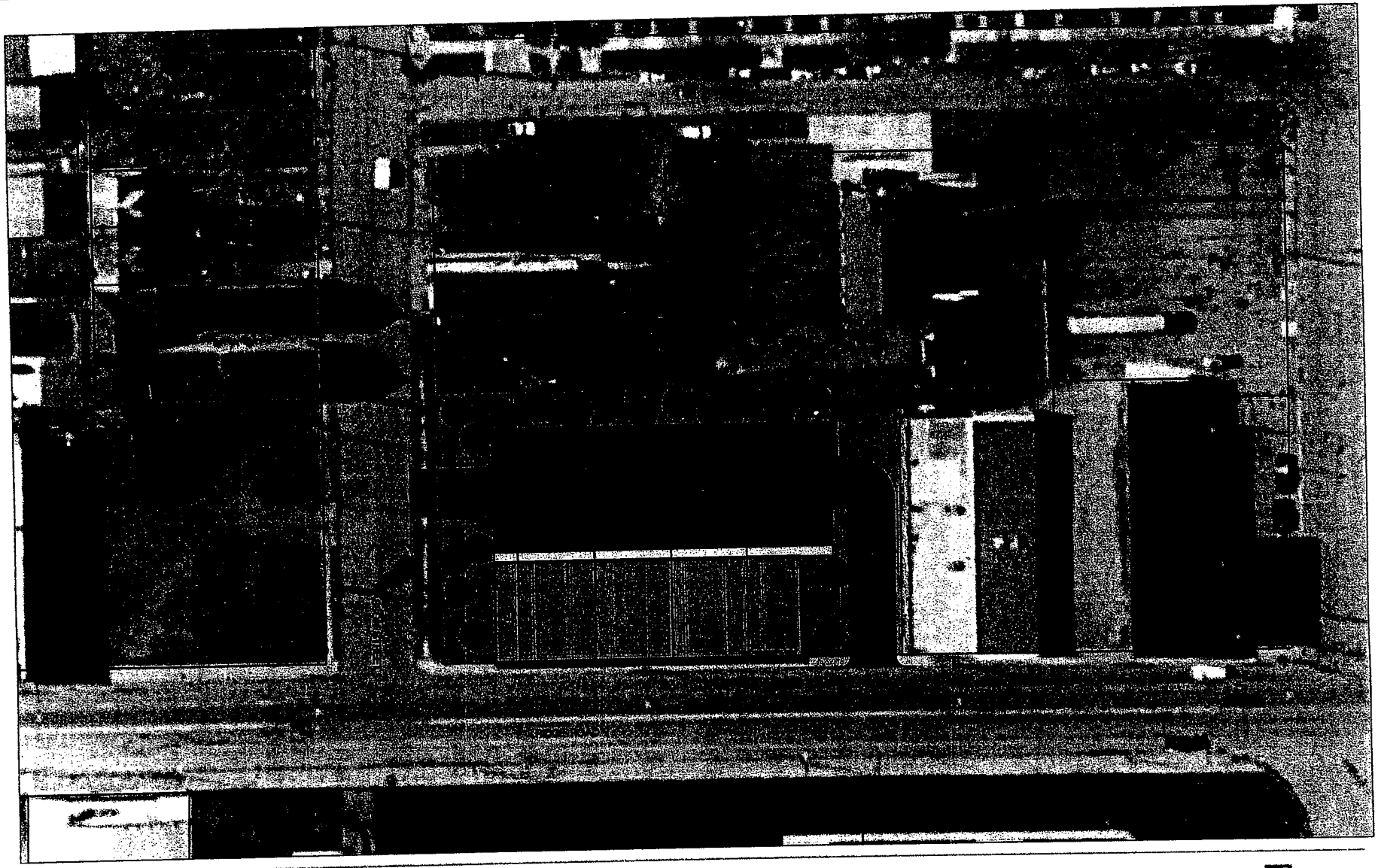
Based on the findings of the Site Investigation, the qualitative risk assessment and meetings with representatives of the City of Lackawanna and feedback from local residents, conceptual redevelopment plans were prepared. Wendel Duchscherer Architects and Engineers as subcontractor to Malcolm Pirnie was tasked to prepare two different reuse plans for the Six Vacant Lots on Ridge Road Site. Both reuse plans are for commercial use that would enhance the business environment in the area of the Site and add needed tax revenue for the City. The two reuse plans are illustrated as Figures 7-1 and 7-2 and are described below:

Reuse Plan Option A – Office/Retail

Under Option A, the Site would be redeveloped as either a business office building or a retail store. The Site would include a new office/retail building, paved entrance and egress roads and parking for employees and clients or customers. Limited green space would be as a natural barrier along the rear Site perimeter and decorative landscaping planted as part of the building design, see Figure 7-1.

Reuse Plan Option B – Drive-Through Commercial

Under reuse Option B, the Site would be redeveloped as a fast-food type restaurant. A relatively small restaurant building would be built near the center of the Site. Surrounding the Site building would be paved parking, a drive-through order/pickup lane, and vehicle entrance and exits. Similar to Option A, limited green space would be planted to provide a natural barrier along the rear Site perimeter and decorative landscaping would be incorporated into the building design, see Figure 7-2.



SITE PLAN
SCALE: 1"=20'
0 10 20 40

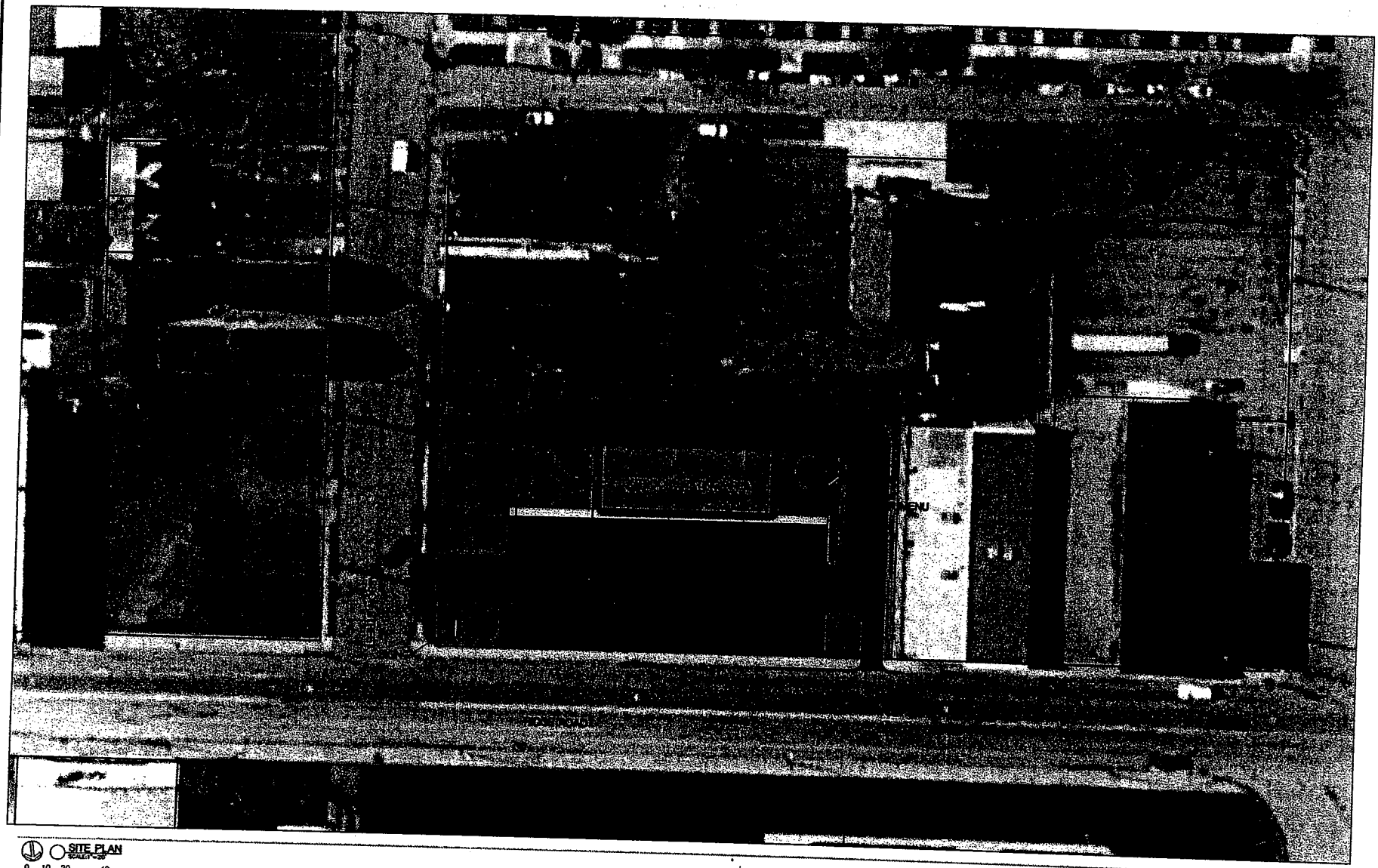
WENDEL DUCHSCHERER

MALCOLM PIRNIE

OCTOBER 2005 4852-002

SIX VACANT LOTS ON RIDGE ROAD SITE
CITY OF LACKAWANNA, NY
SITE INVESTIGATION/REMEDIAL ALTERNATIVES REPORT

FIGURE 7-1
CONCEPTUAL REUSE PLAN
OPTION A: OFFICE/RETAIL



WENDEL DUCHSCHERER

MALCOLM PIRNIE

OCTOBER 2005 4852-002

SIX VACANT LOTS ON RIDGE ROAD SITE
CITY OF LACKAWANNA, NY
SITE INVESTIGATION/REMEDIAL ALTERNATIVES REPORT

FIGURE 7-2
CONCEPTUAL REUSE PLAN
OPTION B: DRIVE-THROUGH COMMERCIAL

MALCOLM PIRNIE

Conclusions and Recommendations

SECTION 8

8.1 Conclusions

The site investigation of the Six Vacant Lots on Ridge Road Site provided an environmental characterization of surface and subsurface soil/fill and groundwater sufficient to evaluate their potential risk to human health. A summary of conclusions is provided below:

8.1.1 Hydrogeology

Geologic Units

The Site is essentially flat, covered with layer of soil/fill and underlain by naturally deposited glacial lake sediments. The soil/fill is composed of sandy silt, slag, gravel, foundry sands, and brick. The thickness of the soil/fill ranges from one to three feet and averages two feet. Directly under the soil/fill layer are natural deposits. The uppermost natural unit is composed of sandy silt with trace amounts of gravel and clay. Under this layer are two glacial till units. The upper till unit consists of sandy silt till that extends to depths between 13 and 15 feet bgs. The lower till unit is silty- sandy clay till that extends to at least 34 feet, the maximum depth drilled on Site.

Groundwater Flow

The water table, as measured on two occasions in the groundwater monitoring wells, was generally observed at depths of approximately four to seven feet below grade. At the time of measurement, the shallow groundwater has a horizontal gradient toward the northeast.

8.1.2 Environmental Media

8.1.2.1 Surface Soil

Evaluation of analytical results of on-site surface soil samples indicates that there are PAHs and metals in the soil/fill at concentrations above TAGM and typical urban background levels. PAHs at such levels are not uncommon in urban settings even without fill material present. Also, when totaled, the PAHs in subsurface soil/fill samples do not exceed the TAGM value for total SVOCs. With the exception of elevated chromium at two sample locations, the concentrations of PAHs and metals detected in the on-site subsurface soil/fill were similar to those measured in the off-site background surface soil samples, indicating a general area condition and not a site-specific source. The two locations at which chromium was detected at significant concentrations represented the only clear Site contamination point sources. These two areas of elevated chromium have been subsequently remediated under an IRM, see Appendix I.

VOCs, pesticides, and PCBs were not detected in any of the surface soil samples at concentrations above TAGM values.

8.1.2.2 Subsurface Soil/Fill

Evaluation of analytical results of subsurface soil/fill samples indicates that there are PAHs and metals in the soil/fill at concentrations above TAGM and typical urban background levels. PAHs at such levels are not uncommon in urban settings even without fill material present. Also, when totaled, the PAHs in subsurface soil/fill samples do not exceed the TAGM value for total SVOCs. In general, the concentrations of PAHs and metals detected in the on-site subsurface soil/fill were similar to those measured in the off-site background surface soil samples, indicating a general area condition and not a site-specific source.

VOCs, pesticides, and PCBs were not detected in any of the subsurface soil/fill samples at concentrations above TAGM values.

8.1.2.3 Groundwater

No VOCs, SVOCs, or PCBs were present in the groundwater samples at concentrations above analytical method detection limits. Only one metal (sodium) was detected at concentrations above groundwater standard. Based on the locations at which this analyte was detected at elevated concentrations, its presence may be attributable to the application of road salt for winter time deicing.

8.1.3 Risk Assessment

The qualitative human health evaluation indicates that in the current and future scenario, exposure to constituents of potential concern (COPC) present in surface and subsurface soil/fill is likely for trespassers.

Under the future scenario of a developed commercial site without remediation, exposure to COPC in surface and subsurface soil/fill is possible for future construction/utility workers.

8.2 Recommendations

Based on the findings of the site investigation and the results of the qualitative human health evaluation, the following recommendations are offered:

Surface and Subsurface Soil/Fill:

- Because of the presence of significant concentrations of chromium in surface soil/fill at two locations, a limited soil removal was completed at those two areas of concern, see Appendix I for the IRM Completion Report.
- Because of the presence of elevated metals and PAHs in the overall on-site soil/fill, future development of the Site should include provisions to either remove or cover the soil/fill to minimize human exposure.
- If future plans include leaving the soil/fill on-site, even if covered, proper handling by implementation of a soil/fill management plan and safety measures should be followed to minimize human exposure during development, site use, and maintenance activities on Site.

Remedial Alternatives Analysis

SECTION 9

Based on the results of the site investigation and qualitative human health evaluation surface and subsurface soil/fill material that is known to contain elevated PAHs and metals may pose potential risks to current and future on-site human receptors.

Groundwater was determined not to be of environmental concern.

Two limited areas of surface soil/fill were recommended for removal and off-site disposal because of elevated concentrations of chromium. This limited soil removal was performed as an interim remedial measure (IRM) prior to and independent of the overall Site remedy, see Appendix I. With the IRM now completed, the site no longer poses a significant threat to human health. Until site development takes place, no further action is recommended. For the purpose of site development the remedial alternatives analysis focuses exclusively on the overall on-site soil/fill material.

9.1 Remedial Goals

Several remedial alternatives exist for the soil/fill material and therefore the goal of the remedial alternatives analysis is to identify, evaluate, and recommend remedial alternative(s) that address the potential risks posed by the on-site soil/fill. Only those remedial alternatives that relate directly to the on-site soil/fill are considered for possible implementation at the Site.

9.2 Identification of Remedial Alternatives

Remedies identified fall into one of two general categories; those that provide for unrestricted use and those that result in restricted use of the Site.

Remedies that could result in unrestricted use of the Site include:

- Excavation and off-site disposal of all on-site soil/fill and replacement with clean fill.
- In-situ or ex-situ treatment of the contaminated soil/fill.

Restricted use remediation of the Site can be accomplished by providing soil cover over all areas of the Site where direct contact will not be precluded by the presence of either buildings or pavement. Off-site disposal of only that soil/fill material excavated during construction would be part of this remedy.

The following subsection describes each remedial alternative.

9.3 Description of Remedial Alternatives

9.3.1 Unrestricted Use Remedies

Excavation and Off-Site Disposal

This alternative involves excavation of all fill materials and off-site transport and placement in an appropriately permitted secure landfill. This alternative will be retained for detailed analysis.

Treatment Technologies

Treatment technologies potentially applicable for the contaminants associated with the Site include:

- solidification/stabilization,
- bioremediation,
- phytoremediation,
- chemical oxidation,
- electro kinetic separation
- soil flushing.

Each of these potentially applicable treatment technologies are described below:

Solidification/Stabilization (S/S) involves physically binding or enclosing the Site contaminants within a stabilized mass (solidification), or inducing chemical reactions between the stabilizing agent and the contaminants to reduce their mobility (stabilization). S/S can be applied in-situ or ex-situ. The target contaminant group for in-situ S/S is generally inorganics and thus would not address the PAHs. The In-Situ

Vitrification (ISV) process can destroy or remove organics and immobilize most inorganics in contaminated soils, sludge, or other earthen materials. The process has been tested on a broad range of VOCs and SVOCs, other organics including dioxins and PCBs, and on most priority pollutant metals and radionuclides. However, future usage of the Site may "weather" the materials and affect their ability to maintain contaminant stability. Most vitrification processes result in a significant increase in volume (up to double the original volume). In addition, the solidified material may potentially hinder future Site uses. As a result S/S is considered not applicable for remediation of this Site and will not be included for further consideration.

Bioremediation/Bio-augmentation describes the activity of naturally occurring or inoculated microbes stimulated by circulating water-based solutions through the contaminated soils to enhance in situ biological degradation of organic contaminants or immobilization of inorganic contaminants. Nutrients, oxygen, or other admixed materials may be used to enhance bioremediation and contaminant desorption from subsurface materials. The contaminant groups treated most often are PAHs, non-halogenated SVOCs (not including PAHs), and BTEX. Remediation of metals with microbial techniques is in the experimental stage, with limited data/guidance.

Bioleaching uses microorganisms to solubilize metal contaminants either by direct action of the bacteria, as a result of interactions with metabolic products, or both. Bioleaching can be used in-situ or ex-situ to aid the removal of metals from soil. Because of bioremediation's limited applicability for treating recalcitrant PAHs and metals, and the potential for the on-site metals concentrations to be toxic to the microorganisms, this treatment technology is not considered to be applicable for remediation of this Site and will not be given further consideration.

Phytoremediation is a process that uses plants to remove, transfer, stabilize, or destroy contaminants in soil, sediment, and groundwater. The mechanisms of phytoremediation include enhanced rhizosphere biodegradation, which takes place in soil or groundwater immediately surrounding plant roots; phytoextraction (also known as phytoaccumulation), the uptake of contaminants by plant roots and the translocation/accumulation of contaminants into plant shoots and leaves; phytodegradation, the metabolism of contaminants within plant tissues; and phytostabilization, the production of chemical compounds by plants to immobilize contaminants at the interface of roots and soil. Phytoremediation applies to all biological,

chemical, and physical processes that are influenced by plants (including the rhizosphere) and that aid in cleanup of the contaminated substances. Plants can be used in Site remediation, both through the mineralization of toxic organic compounds and through the accumulation and concentration of heavy metals and other inorganic compounds from soil into aboveground shoots. Phytoremediation may be applicable for the remediation of metals, pesticides, solvents, explosives, crude oil, PAHs, and landfill leachates. Some plant species have the ability to store metals in their roots. As the roots become saturated with metal contaminants, they can be harvested. Hyper-accumulator plants may be able to remove and store significant amounts of metallic contaminants. Currently, trees are under investigation to determine their ability to remove organic contaminants from ground water, translocate and transpiration, and possibly metabolize them either to CO2 or plant tissue. The depth of the treatment zone varies based on the plants used in phytoremediation, but in most cases, it is limited to shallow soils. High concentrations of some contaminants can be toxic to plants. In addition, the process occurs seasonally. Since different planting materials would be required for each group of site contaminants, this process likely requires many seasons to remediate to non-risk concentrations.

Given the nature of the Site, selected plant species may not consistently remove materials from across the Site and with depth; contaminants may potentially be mobilized into groundwater. This treatment technology is not applicable for remediation of this Site and will not be given further consideration.

Chemical Oxidation chemically converts hazardous contaminants to non-hazardous or less toxic compounds that are more stable, less mobile, and/or inert. The oxidizing agents most commonly used are ozone, hydrogen peroxide, hypochlorites, chlorine, and chlorine dioxide. This technology can be applied in-situ or ex-situ. In-situ chemical oxidation (ISCO) using permanganate for soil and groundwater treatment has been demonstrated at a number of sites for the following organics: chlorinated solvents (such as trichloroethylene [TCE]), naphthalene, and pyrene. Fenton's Reagent can be used to treat a wide range of organic contaminants in soil and groundwater, including chlorinated solvents, petroleum hydrocarbons, semi-volatile organic compounds (SVOCs), and pesticides. ISCO has also been used to remediate polyaromatic hydrocarbons (PAHs), petroleum products, and ordnance compounds. Chemical treatment may be used to solubilize contaminants from the most contaminated fraction of the soil. Many processes manipulate the acid/base chemistry of the slurry to leach contaminants from the soil. Oxidizing and reducing agents (e.g., hydrogen peroxide, sodium borohydride) provide yet

another option to aid in solubilization of metals since chemical oxidation/ reduction can convert metals to more soluble forms. Finally, surfactants may be used in extraction of the metals from soil. Because different chemicals would be required to treat each contaminant group, and application is limited by the ability of the oxidants to reach the contaminants, this treatment technology is not considered applicable for remediation of this Site and will not be given further consideration.

Electrokinetic Separation relies upon the application of a low-intensity direct current through the soil between ceramic electrodes that are divided into a cathode array and an anode array. This mobilizes charged species, causing ions and water to move toward the electrodes. Metal ions, ammonium ions, and positively charged organic compounds move toward the cathode. Anions such as chloride, cyanide, fluoride, nitrate, and negatively charged organic compounds move toward the anode. The current creates an acid front at the anode and a base front at the cathode. This generation of an in-situ acidic condition may help to mobilize sorbed metal contaminants for transport to the collection system at the cathode. Concentrated (migrated) contaminants are then removed for treatment or can be treated in treatment walls as they migrate. The polarity of the electrodes is reversed periodically, which reverses the direction of the contaminants back and forth through treatment zones. Electrokinetics has been used for decades in the oil recovery industry and to remove water from soils, but in-situ application of electrokinetics to remediate contaminated soil is new. Recently, attention has focused on developing in-situ electrokinetic techniques for the treatment of low permeability soils, which are resistant to remediation with traditional technologies because of their low hydraulic conductivity. Because of its limited effectiveness for non-polar organic contaminants, such as PAHs, this treatment technology will not be given further consideration for remediation of this Site.

In-Situ Soil Flushing is used to mobilize metals by leaching contaminants from soils so that they can be extracted without excavating the contaminated materials. An aqueous extracting solution is injected into or sprayed onto the contaminated area to mobilize the contaminants, usually by solubilization. After being contacted with the contaminated material, the extractant solution is collected using pump-and-treat methods for disposal or treatment and reuse. Common extracting agents include acids/bases, chelating agents, oxidizing/reducing agents and surfactant cosolvents. This process can be applied in-situ or ex-situ (soil washing). The target contaminant groups for soil washing are SVOCs, fuels, and heavy metals. The technology can be used on selected VOCs and pesticides.

The technology offers the ability for recovery of metals and can clean a wide range of organic and inorganic contaminants from coarse-grained soils. However, complex mixtures of contaminants in the soil (such as a mixture of metals, nonvolatile organics, and SVOCs) and heterogeneous contaminant compositions throughout the soil mixture make it difficult to formulate a single suitable washing solution that will consistently and reliably remove all of the different types of contaminants. There is additionally limited data regarding flushing for PAHs. For these reasons, this treatment technology is not considered applicable for remediation of this Site and will not be considered further.

9.3.2 Restricted Use Remedy

In order to eliminate potential exposure risks associated with direct contact with site soil/fill material, the entire Site can be covered as part of site redevelopment. The cover system would be placed directly on top of the regraded on-site fill material and will include clean soil for outdoor, vegetated areas, asphalt for roads and parking lots, or concrete for sidewalks, buildings and heavy use areas. A Soil/Fill Management Plan would be necessary in order to set guidelines for management of soil cover during activities that would breach the cover system. A proposed soil/fill management plan is provided in Appendix G and an Operation, Monitoring, and Maintenance (OM&M) Work Plan for implementation following remediation of the Site is included in Appendix H.

The proposed cover system has been designed to be protective of human health and the environment. The primary exposure pathway for contaminants at the Site (PAHs and metals in soil) is via direct contact. The proposed plan of covering the on-site soil/fill material will eliminate the potential for direct contact with soil and is therefore protective of human health and the environment.

Exposure to soil fill piles generated during construction activities will be precluded for on-site workers and trespassers through covering with poly sheeting. Exposure to fill at the surface would also be precluded for future on-site workers through covering. The potential for exposure through invasive on-site construction activities would be managed by implementation of the protocols described in the Soil/Fill Management Plan, presented in Appendix G.

Preparation of Site Surface

The surface will be graded in accordance with the redevelopment project grading plan such that precipitation events will not cause the formation of standing water. Prior to placement of the cover soil, all protruding material will be removed from the ground surface. Burning shall not be allowed on the Site.

The placement of the cover material may occur as portions of the Site are developed. The Site will be hydroseeded to limit dust generation from the soil/fill that has not yet been covered.

Soil

In areas that will not receive significant equipment or vehicular use, the minimum cover system will be composed of documented clean off-site soil tested in accordance with Section G.4 of the Soil/Fill Management Plan and found to contain constituent concentrations less than those specified in NYSDEC TAGM 4046. The completed soil cover will be of a thickness required to maintain sufficient vegetative cover to prevent exposure to the on-site fill material. The minimum soil thickness must be 24 inches.

In areas in which trees and shrubs will be planted, bermed islands or greenspace will be of sufficient thickness to allow the excavation of only clean fill to a depth sufficient to plant the tree or shrub root ball. Unless additional soil is required for the plantings, the soil cover thickness will be 24 inches. The soil used to cover berms or mounds will contain sufficient organic material to allow the growth of trees and/or shrubs and will be of sufficient strength to support trees and/or shrubs at their maximum height. Fill materials containing lumps, pockets, or concentrations of silt or clay, rubble, debris, wood or other organic matter will not be acceptable. Fill containing unacceptable material shall be removed and disposed appropriately.

Topsoil used for the final cover shall meet the following general specifications:

1. Fertile, friable, natural loam surface soil, capable of sustaining plant growth, and free of clods of hard earth, plants or roots, sticks or other extraneous material harmful to plant growth. The topsoil will have the following characteristics:

    a. pH 5.5 to pH 7.6.

    b. Minimum organic content of 2.5 percent as determined by ignition loss.

c. Soluble salt content not greater than 500 ppm.

2. Before delivery, soil samples will conform to the criteria specified in Sections 2.3 and 2.4 in the Soil/Fill Management Plan.

Grass seed used for final cover shall meet the following general specifications:

1. The grass seed mixture will be fresh, clean, new-crop seed complying with the tolerance for purity and germination established by the Official Seed Analysts of North America.

2. The entire ground surface disturbed by construction operations shall be seeded with 100 lbs/acre of seed conforming to the following:

a.

Name of Grass	Application Rate (lbs/acre)	Purity (%)	Germination (%)
Perennial Ryegrass	10	95	85
Kentucky Bluegrass	20	85	75
Strong Creeping Red Fescue	20	95	80
Chewings Fescue	20	95	80
Hard Fescue	20	95	80
White Clover	10	98	75

b. Germination and purity percentages should equal or exceed the minimum seed standards listed. If it necessary to use seed with a germination percentage less than the minimum recommended above, the seeding rate will be increased accordingly to compensate for the lower germinations.

c. Weed seed content will be less than 0.25 percent and free of noxious weeds.

d. All seed shall be rejected if the label lists any of the following grasses:

1) Sheep Fescue
2) Meadow Fescue
3) Canada Blue
4) Alta Fescue
5) Kentucky 31 Fescue
6) Bent Grass

3. In addition to the seed mixtures listed above, one bushel per acre of oats or rye seed shall be sowed over the entire area, including drainage ditches, to provide a quick shade cover and to prevent erosion during turf establishment.

Asphalt

Where applicable, the cover system in areas that will become roads, sidewalks, and parking lots consists of a minimum of two inches of asphalt placed over the soil/fill material at the Site. Asphalt will be placed over a four-inch gravel subbase to provide stability for construction and to limit subsidence. Prior to placement of the subbase, all protruding material will be removed from the ground surface and the area regraded to a regular surface.

Concrete

Where applicable, the cover system in areas that will become slab-on-grade structures will consist of a minimum of two inches of concrete that will be placed above the soil/fill material. The concrete will be placed on a minimum four-inch gravel subbase to provide stability for construction and to limit subsidence. Concrete may also be used instead of asphalt for roads, sidewalks, and parking lots. Prior to placement of the subbase, all protruding material will be removed from the ground surface and the area regraded to a sufficient regular surface.

This alternative will be retained for detailed analysis.

9.4 Remedial Evaluation Criteria

The criteria used to evaluate the selected remedial technologies include the following:

- Short-term effectiveness and impacts
- Long-term effectiveness and permanence
- Implementability
- Reduction of toxicity, mobility and volume
- Conformance to standards, criteria and guidance
- Overall Protectiveness

- Cost

The issues considered for each criteria are discussed below.

Short term Effectiveness and Impacts - The effectiveness of alternatives in protecting human health and the environment during construction and implementation of the remedial action is evaluated by this criterion. Short-term effectiveness is assessed by protection of the community, protection of workers, environmental impacts, and time until protection is achieved.

Long term Effectiveness and Permanence - This criterion evaluates the long-term protection of human health and the environment at the completion of the remedial action. Effectiveness is assessed with respect to the magnitude of residual risks; adequacy of controls, if any, in managing residuals or untreated wastes that remain at the Site; reliability of controls against possible failure, and potential to provide continued protection.

Reduction of Toxicity, Mobility, and Volume - This evaluation criterion prioritizes those remedial actions that permanently and significantly reduce toxicity, mobility, or volume of the hazardous substances. This criterion is satisfied when the treatment is used to reduce the principal threats at a site through destruction of toxic contaminants, irreversible reduction in contaminant mobility, or reduction of total volume of contaminated media.

Implementability - This assessment criterion evaluates the technical and administrative feasibility of implementing alternatives and the availability of services and materials.

Compliance with Standards, Criteria, and Guidelines - This threshold addresses whether or not a remedy will meet regulatory environmental limits.

Overall Protection of Human Health and the Environment - This is a threshold assessment, which addresses whether or not a remedy provides adequate protection and describes how risks posed through each pathway are eliminated, reduced, or controlled. This evaluation allows for consideration of whether an alternative poses any unacceptable short term or cross-media impacts.

Cost - The estimated capital and operation and maintenance (O&M) costs.

These criteria serve to provide a basis of comparison and allow for ranking of the alternatives by preference and acceptability.

9.5 Evaluation of Remedial Alternatives

Potential remedial technologies that could reasonably be developed for the Site are identified and evaluated in this section. No unrestricted Site use alternatives are considered feasible for redevelopment of the Site. Only remedies that accomplish restricted Site use are evaluated in this detailed evaluation of remedial alternatives. The two remedial alternatives evaluated are:

- Alternative #1 – Soil/Fill Removal and Placement of Clean Fill
- Alternative #2 – Limited Excavation Using Soil/Fill Management Plus Cover System.

Alternative #1 - Soil/Fill Removal and Placement of Clean Fill

This alternative involves the removal of all soil/fill, transport and placement of these materials in an appropriately permitted secure landfill and placement of clean backfill.

A discussion of the evaluation criteria for this alternative follows.

Excavation of impacted soil/fill materials and subsequent backfilling and re-grading would effectively eliminate the source of the contamination. Short-term risks of exposure to construction personnel could be adequately managed through the appropriate use of personal protective equipment (PPE), and health and safety protocols. Disposal of the removed material at an approved off-site facility would effectively eliminate the human health risks posed by the Site and would thus provide a permanent remedy for the Site. This alternative does pose a slight potential risk of exposure to the public during transport to the disposal facility if a truck were to spill its contents.

Excavation of the Site's fill material could be accomplished using standard construction equipment and techniques. Some time would be required to sample and characterize the soil/fill and obtain appropriate approvals for disposal. This alternative would reduce the mobility of the contaminants, but not the toxicity or volume. Under this alternative site-specific action levels (SSALs) would be achieved and no long-term monitoring or special maintenance of the Site would be required.

Table 9-1 presents the capital cost of this alternative. While this alternative is implementable and effective in achieving the remedial action objectives, the transportation and disposal cost of the excavated materials would be comparably high at approximately $ 378,000.

Alternative #2 – Limited Excavation Using Soil/Fill Management Plus Cover System

This alternative involves installing a cover system over the entire Site using either asphalt or concrete pavement or two feet of documented clean soil. Soil/fill material excavated during site redevelopment and maintenance would be managed using a soil/fill management plan.

A discussion of the evaluation criteria for this alternative follows.

Excavation of the soil/fill, if performed, could pose a short-term risk to construction personnel. These short-term risks could be adequately managed through the use of personal protective equipment (PPE) and appropriate health and safety protocols. Short-term risk of exposure to site workers and trespassers during construction activities would be addressed through covering stockpiled soil/fill, temporary seeding of graded soil/fill areas and site security. Once the construction is complete and the Site is fully covered, the risk to on-site workers and the public will be eliminated and sustained through adequate protections and maintenance of the cover systems. Exposure risks to future construction workers would be adequately managed through the Soil/Fill Management protocols and appropriate health and safety protocols. Standard readily available construction equipment and techniques would be utilized. This alternative would reduce the mobility and volume of the contaminants, but not their toxicity. The SSAL's would be achieved through implementation of the Soil/Fill Management Plan, since no excavated fill or soils with concentrations in excess of the SSAL's would be returned to the Site. The resulting Site condition would not pose a potential risk to human health provided the cover systems are appropriately maintained. Table 9-2 presents the capital cost of this alternative. The cost to implement this alternative is approximately $112,500 in capital cost.

Table 9-1
Cost Estimate of Remedial Alternative # 1
Soil/Fill Removal and Placement of Clean Fill
Six Vacant Lots on Ridge Road Site, Lackawanna, New York

ITEM	DESCRIPTION	ESTIMATED QUANTITY	UNIT	ESTIMATED UNIT PRICE	ESTIMATED BID AMOUNT
1	Excavation and Off-Site Disposal of Fill Material (1)	3,500	Tons	$60	$210,000
2	Off-site backfill material	2,500	yd^3	$12	$30,000
3	Engineering costs (2)	1	LS	$75,000	$75,000
Sub-Total					$315,000
20% Contingency					$63,000
Total Project Cost					**$378,000**

1) Assumes 2 feet thickness of soil/fill and soil/fill contains non-hazardous concentrations of PAHs and metals, above the Site-Specific Action Limits (SSALs).

2) Engineering costs include: Implementation of the Soil/fill management Plan, PID screening, health and safety plan development, site safety officer, decontamination units,
site access control, NYSDEC coordination, and construction certification report preparation.

Table 9-2
Cost Estimate of Remedial Alternative #2
Limited Excavation Using Soil/Fill Management Plus a Cover System
Six Vacant Lots on Ridge Road Site, Lackawanna, New York

ITEM	DESCRIPTION	ESTIMATED QUANTITY	UNIT	ESTIMATED UNIT PRICE	ESTIMATED BID AMOUNT
1	Excavation and off-site Disposal of Fill Material (1)	250	yd^3	$60	$15,000
2	24" clean soil cover material	250	yd^3	$15	$3,750
4	Engineering costs (2)	1	LS	$75,000	$75,000
Sub-Total					$93,750
20% Contingency					$18,750
Total Project Cost					**$112,500**

1) Assumes 1/10 of site area to require soil/fill replacement to 2 feet depth, the rest assumed covered with pavement or foundations as part of site development. A 6" topsoil layer will make up the uppermost portion of the 24"soil barrier layer.

2) Engineering costs include: Implementation of the Soil/Fill Management Plan, PID screening, health and safety plan development, site safety officer, decontamination units, site access control, NYSDEC coordination, and construction certification report preparation.

9.6 Comparative Analysis of Remedial Alternatives

This comparison evaluates the relative performance of both alternatives considered with respect to the following seven evaluation criteria:

- Short-term effectiveness and impacts.
- Long-term effectiveness and permanence
- Reduction of toxicity, mobility, and volume.
- Implementability.
- Compliance with standards, criteria, and guidelines.
- Overall protection of human health and the environment.
- Cost.

The advantages and disadvantages of the alternatives are identified so that trade-offs between the alternatives can be appropriately evaluated. Tables 9-1 and 9-2 provide the capital costs for each alternative.

Short-term Effectiveness and Impacts – Equivalent levels of potential exposure for workers exist under both alternatives. Short-term exposure risk would be minimal for the public for the excavation and disposal alternative, (Alternative #1).

Long-term Effectiveness and Permanence – Alternative #2 would not remove the contaminant source, but with routine maintenance would be effective in long-term containment of the contaminated soils. Alternative #1 would remove the contamination from the Site and thus be considered a permanent remedy.

Reduction of Toxicity, Mobility, and Volume – Both alternatives would reduce the mobility and volume of the contaminants. Neither alternative would reduce the toxicity.

Implementability – Both the alternatives are readily implementable with standard construction equipment and techniques.

Compliance with Standards, Criteria, and Guidelines – Both alternatives would be expected to achieve compliance with SSAL's.

Overall Protection of Human Health and the Environment – Both alternatives provide equivalent protection of human health and ecological receptors.

Cost – Capital cost for implementing Alternative #1 is estimated at $378,000 as compared to $112,500 for Alternative #2.

9.7 Recommended Approach

9.7.1 Proposed Approach

Both of the two proposed alternatives provide comparable long-term effectiveness and overall protection to human health and the environment, but full excavation and disposal at a properly permitted landfill increases the cost for Site development by approximately $265,500.

As a result, based on an evaluation of the criteria for each alternative and review of the capital cost impact, Alternative #2 (Limited Excavation using Soil/Fill Management and a Cover System) would provide the best overall remedy for the Site. This alternative is able to provide effective long-term contaminant containment and be protective of both on-site and off-site potential receptors at a lower overall cost.

9.7.2 Soil/Fill Management Plan (SFMP)

During construction activities at the Site, excavation of selected areas of soil/fill material will be necessary for the construction of utility corridors. Excavation may also be necessary during the construction of footings for structures and for other activities. Although the site investigation has characterized the nature and extent of contamination, the nature of investigations does not allow for a 100 percent complete or accurate characterization. Therefore, it is possible that some quantity of undocumented contamination may be encountered during redevelopment activities.

Soil management protocols are necessary to limit the potential for exposure of on-site workers to contaminated fill material. The soil handling protocols will also be necessary for assisting with the determination of whether soil/fill removed during excavation activities may be reused on-site or must be disposed off-site. The Soil/Fill Management Protocols are included in Appendix G

9.7.3 Health and Safety

Invasive work performed at the Site will be performed in accordance with all applicable local, state, and federal regulations to protect worker health and safety. The Soil/Fill Management Protocols (Appendix G) describes recommended Health and Safety procedures for intrusive work activities at the Site.

All contractors performing redevelopment or maintenance activities involving intrusive work at the Site will be required to prepare a site-specific, activity-specific Health and Safety Plan. In order to facilitate the creation of an appropriate Health and Safety Plan by the contractor(s) performing work, the ranges of concentrations of contaminants detected in samples of site media collected during the site investigation are shown in Tables 5-1 through 5-8.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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March 20, 2017

City of Lackawanna
Honorable Geoffrey M. Szymanski
714 Ridge Road, Room 301
Lackawanna, New York 14218

Dear Mayor Szymanski:

Site Management Plan
Six Vacant Lots on Ridge Road, Lackawanna
Erie County, Site No.: E915188

In light of the pending sale and redevelopment of the Six Vacant Lots site (113-115 Ridge Road, Lackawanna) the NYSDEC takes this opportunity to clarify that the accepted and approved Site Management Plan for the subject site shall consist of appendices G and H of the Site Investigation/Remedial Alternatives Report (May 2006) **with revisions to those appendices** as noted below and in the enclosed excerpts. Specifically:

1. Section G.8 of Appendix G (Soil/Fill Management Protocols) is rescinded. Fencing the site and posting warning signs prior to placement of the site cover are not necessary components of the site remedy.

2. Typographical errors in Figures G-1 (Soil/Fill Characterization Flow Chart) and G-2 (Subgrade Material Flow Chart) of Appendix G have been corrected.

3. Section H.3, page H-3 of Appendix H (Operation, Monitoring and Maintenance Work Plan) is revised: "Where not paved or covered by new site structures, the Site Will be covered with...' **a minimum of one foot** "of documented soil cover material".

4. Section H.3, Page H-3 is further revised: **The clean soil cover material shall be placed on top of a demarcation layer** of netting, landscape fabric or other material suitable for delineating the boundary between clean cover material and existing soil/fill.

5. Sections H.4.2 and H.6.1 of Appendix H are revised: "The soil cover will be placed..." and "Cover soil shall be placed..." **in accordance with the Record of Decision (May 2006)**

The Record of Decision is the official description of the site remedy, the Site Management Plan stems from it. A two-foot site cover might be required for residential use of a site, but since the intended use of the Six Vacant Lot site was and still is commercial, the Record of Decision required a minimum site cover of just one foot.

The environmental easement that was recorded for the site in September 2007 will also need to be corrected; it states that the cover shall be two feet thick instead of the required one-foot minimum thickness. Please contact the NYSDEC's project attorney, Bradford D. Burns, concerning the amendment of the easement.

Bradford D. Burns, Senior Attorney
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Office of General Counsel
625 Broadway, 14th Floor
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Phone: (518) 402-9518
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Bradford.burns@dec.ny.gov

Please call me at 716-851-7220 or email david.locey@dec.ny.gov if you have any questions.

Sincerely,

David P. Locey
NYSDEC Project Manager

DPL:tm

Enclosures

Ec w/Enc:

Bill Burdwood, Durban Group
Andrew Hart, Bergmann Associates
Stephen DeMeo, Bergmann Associates
Fred Heinle, City of Lackawanna Development
Antonio Savaglio, Lackawanna City Attorney

Soil/Fill Management Plan

Appendix

G

MALCOLM PIRNIE

Soil/Fill Management Protocols

APPENDIX G

The objective of this Soil/Fill Management Plan (SFMP) is to set guidelines for management of soil material during any activities, which would breach the cover system. The SFMP is a portion of the overall remedy, which addresses disturbance/use of any residually contaminated soil/fill left on the Site, after other elements of the remedy have been implemented. This SFMP addresses environmental concerns related to soil/fill management. This SFMP is not intended to serve as a design document for construction activities related to redevelopment activities. It is the developer's responsibility to prepare a design that incorporates the requirements for cover and soil management as set forth in this SFMP.

G.1 Excavation and Handling of On-Site Soil/Fill

No excavation, grading or disturbance of the final vegetated soil cover or existing subgrade soil/fill shall be initiated prior to a minimum of three working days notification to the NYSDEC Region 9, Division of Environmental Remediation. A Professional Engineer with remedial investigation experience, representing the subject property owner or developer will oversee soil/fill excavations or disturbances. The excavation activities will be conducted in accordance with the protocols detailed in Attachment I and in the sections below.

All on-site soil/fill will be presumed to contain metals and PAHs and will be handled in accordance with the provisions of this SFMP. Although the environmental site investigation has provided a characterization of the contamination, the nature of investigations does not allow for a 100 percent complete or accurate characterization. It is possible that some quantity of unsuspected contamination may be encountered during redevelopment activities. Therefore, as a safeguard for unknown or unsuspected

contamination presence, during excavation, all soil/fill will be visually inspected for staining and will be field screened for the presence of volatile organic compounds (VOCs). A photoionization detector (PID) will be used to check for VOCs. Visual observation will be sufficient to identify stained soils. Stained soil is soil that is discolored, tinted, dyed, unnaturally mottled, or exhibits a sheen. Attachment II (Standard Operating Procedures) contains an SOP for Soil Screening. Excavated soil/fill that is visibly stained or produces elevated PID readings (i.e., sustained 10 PPM or greater) will be considered potentially contaminated and stockpiled separately on-site for further assessment. The potentially contaminated soil/fill will be stockpiled (in maximum 100 cubic yard piles) on polyethylene sheeting and then sampled to determine its ultimate disposition; viz., reuse or off-site disposal. The stockpiled potentially contaminated soil/fill will also be completely covered using polyethylene sheeting to reduce particle runoff and entrain dust. Sampling and analysis will be completed in accordance with the protocols delineated in Section G.2. Soil/fill containing one or more constituents in excess of the site-specific action levels (SSALs) shown in Table G-1 will be transported off-site to a permitted waste management facility. Soil/fill awaiting analytical results or awaiting transportation will be stored continuously on-site under polyethylene sheeting.

Any soil/fill with a pH higher than 12.5 is considered hazardous and therefore must be properly disposed off-site. Additionally, any soil/fill with a pH greater than 9.0 but less than 12.5 may be reused on-site but only to fill in areas below grade. This soil/fill may not be used as backfill in utility trenches or to create berms or other above grade mounds. This soil/fill must also be covered with clean material in accordance with Section 9.3.2 of the RAR.

If buried drums or underground storage tanks are encountered during soil excavation activities, excavation will cease and the NYSDEC will be immediately notified. All drums and/or underground storage tanks encountered will be evaluated and the Owner will submit a removal plan for NYSDEC approval. Appropriately trained personnel will excavate all of the drums and/or underground storage tanks while following all applicable federal, state, and local regulations. Removed drums and underground storage tanks will be properly characterized and disposed off-site. The soil/fill surrounding the buried

MALCOLM PIRNIE

TABLE G-1
SITE SPECIFIC ACTION LEVELS
SOIL/FILL MANAGEMENT PLAN
SIX VACANT LOTS ON RIDGE ROAD SITE
LACKAWANNA, NEW YORK

Sample Location Sampling Depth (ft. bgs) Collection D	NYSDEC TAGM 4046[1]	Eastern USA Background Concentrations[2]	Maximum Concentration Detected[3]	Average Concentration Detected	Frequency of Detections	Proposed Site Specific Action Level (SSAL)
TAL Inorganic Analytes (mg/kg)						
Cadmium	1.4	0.1 - 1	6.60	1.97	8 / 12	5
Chromium	14	1.4 - 40	1,360	426	8 12	1,000
Copper	31	1 - 50	65	38.9	12 12	100
Lead	400	200 - 500	427	191	12 / 12	500
Manganese	624	50 - 5,000	25,200	6,470	12 12	20,000
Mercury	0.1	0.001 - 0.2	0.323	0.16	12 / 12	1.0
Zinc	318	9 - 50	1,420	365	10 / 12	1,000
Pest/PCBs (ug/kg)						
Total Pesticides	10	NA	132.0	44	11 / 12	10,000
Total PCBs (Surface - 1.0')	1,000	NA	770	176	6 / 6	1,000
Total PCBs (Subsurface > 1.0')	10,000	NA	190	82	6 / 6	10,000
Semi-Volatile Organic Compounds - SVOCs (ug/kg)						
Total SVOCs	500,000	NA	123,820	38,900	12 / 18	500,000
Volatile Organic Compounds - VOC (ug/kg)						
Total VOCs	10,000	NA	3,771.0	524.0	7 / 18	10,000

Notes:

(1) New York State Dept. of Environmental Conservation TAGM 4046, Recommended Soil Cleanup Objectives, Dec. 2000.

(2) TAL Inorganic Analytes from Eastern USA Background as shown in New York State Dept. of Environmental Conservation TAGM 4046, Dec. 2000.

(3) Maximum concentration detected during subsurface investigation (MPI, April 2004), (LCS July 2004) and the Remedial Investigation

NA - Not Avaialable.
ND - Not Detected

drums or underground storage tanks will be considered as potentially contaminated and will be stockpiled and characterized.

All excavations or disturbances must be backfilled as soon as the work allows. Backfilled excavations must be covered with suitable cover material defined in Section 9.3.2 of the RAR within ten working days of backfilling or as otherwise approved by the NYSDEC.

If no evidence of additional contamination is encountered through the screening during excavation activities, the excavated soil fill will be stockpiled as appropriate on site. No special provisions for separate handling are required other than the characterization defined in Section G.2.

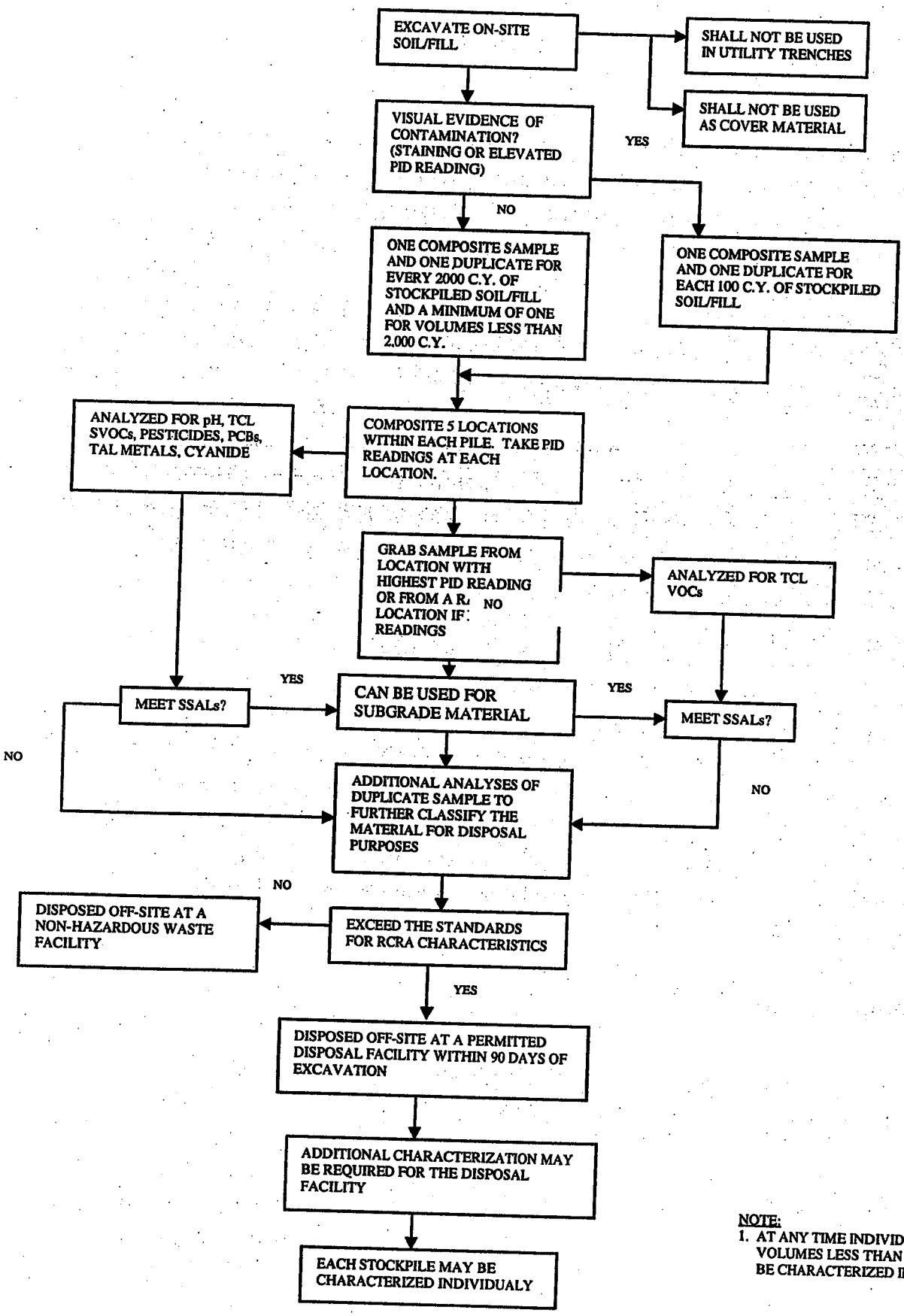
Excavated or disturbed backfill may be used as subgrade, excavation backfill or berm construction following characterization performed in accordance with Section G.2 if it meets the SSAL's presented in Table G-1.

G.2 Soil/Fill Sampling and Analysis Protocol

A soil/fill characterization flow chart is provided as Figure G-1. As stated in Section G.1, all excavated soil/fill that exhibits evidence of additional contamination through screening (staining or elevated PID measurements) will be stockpiled separately and sampled and classified for reuse or disposal. One composite soil sample will be collected for each 100 cubic yards of soil. The composite sample will be collected in the manner described in the Standard Operating Procedures (SOPs) included in Attachment II from five locations within each stockpile. PID measurements will be recorded for each of the five composite sample locations, and one grab sample and one duplicate sample will be collected from the location with the highest PID measurement of the five composite locations. The composite sample will be analyzed by a NYSDOH ELAP-certified laboratory for Target Compound List (TCL) semivolatile organic compounds (SVOCs), PCBs and pesticides, and the metals cadmium, chromium, copper, lead, manganese, mercury, and zinc using current NYSDEC Analytical Services Protocols (ASP).

FIGURE G-1

SOIL/FILL CHARACTERIZATION FLOW CHART



NOTE:
1. AT ANY TIME INDIVIDUAL STOCKPILES OF VOLUMES LESS THAN THOSE STATED MAY BE CHARACTERIZED INDIVIDUALLY.

Additionally, the grab sample will be analyzed for TCL volatile organic compounds (VOCs).

Excavated soil/fill that exhibits no evidence of additional contamination (staining or elevated PID measurements) will also require characterization prior to use as subgrade or backfill at the site. Characterization samples will be collected and analyzed at a frequency of not less than one sample for 2000 cubic yards of soil/fill, and a minimum of one sample will be collected for volumes less than 2000 cubic yards. The characterization samples will be collected in accordance with the protocols described above; the sampling efforts shall consist of discrete samples for VOCs and composite samples collected from five locations for the remaining analytes.

Any soil/fill that has been characterized and found to meet the SSALs may be reused as subgrade, excavation subgrade backfill, or for berm construction. If the analysis of the soil/fill samples reveals unacceptably high levels of any analytes (i.e., greater than one or more SSALs), additional analyses will be necessary to further classify the material for hazardous characteristics for disposal purposes. At a minimum, the duplicate sample will be analyzed using the Toxicity Characteristic Leaching Procedure (TCLP) for the particular analytes that were detected at concentrations exceeding the SSALs. The duplicate sample may also be analyzed for RCRA Characteristics including reactivity, corrosivity, and ignitability. If the analytical results indicate that concentrations exceed the standards for either TCLP or RCRA Characteristic analysis, the material will be considered a hazardous waste and must be properly disposed off-site at a permitted disposal facility within 90 days of excavation. Additional characterization sampling for off-site disposal may be required by the disposal facility. To potentially reduce off-site disposal requirements/costs, the owner or site developer may also choose to characterize each stockpile individually.

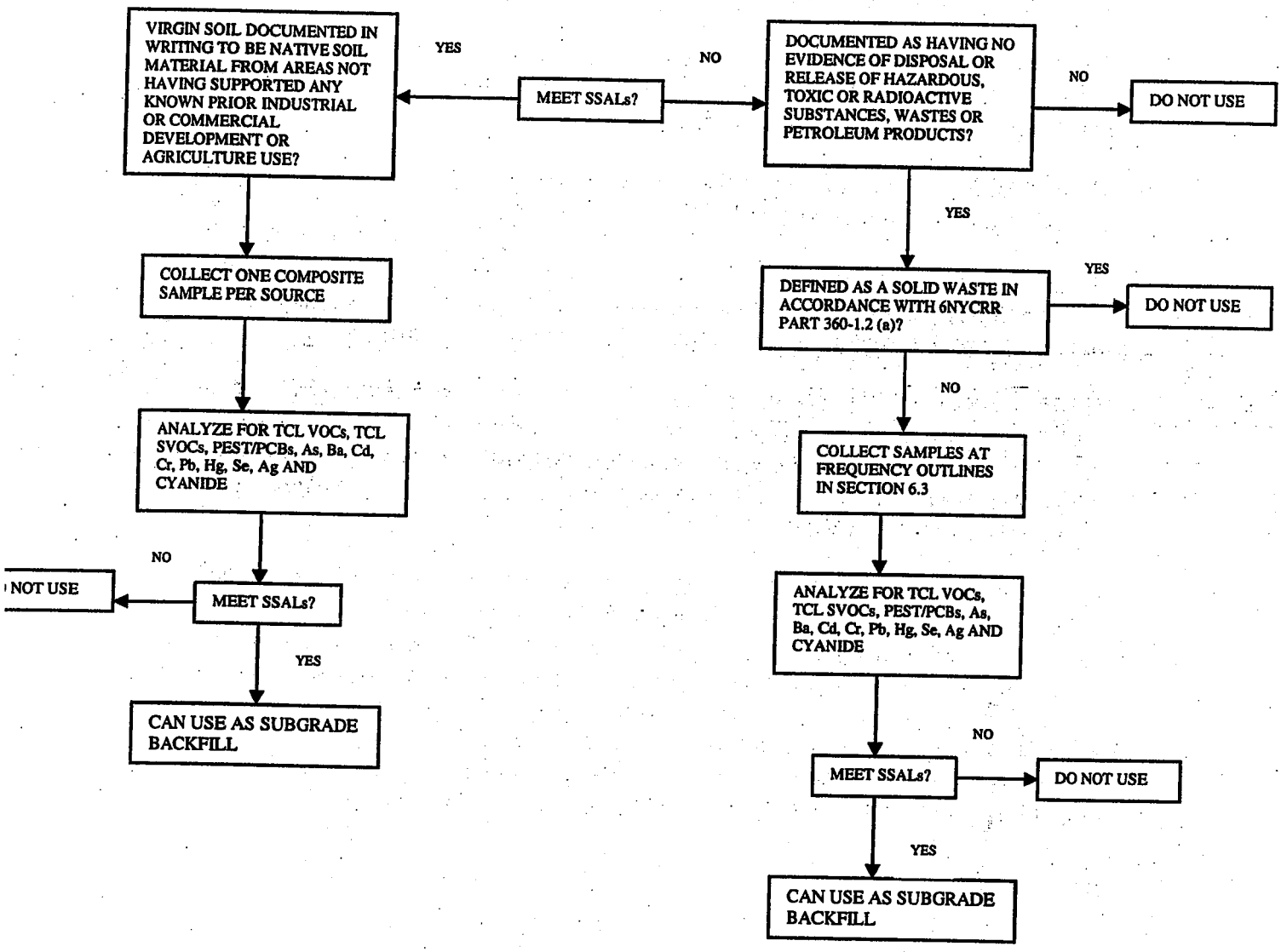
G.3 Subgrade Material

Subgrade material used to backfill excavations or placed to increase site grades or elevation shall meet the following criteria (see Figure G-2):

- Excavated on-site soil/fill shall either exhibit no evidence of contamination

FIGURE G-2

SUBGRADE MATERIAL FLOW CHART



NOTE:

1. AT ANY TIME INDIVIDUAL STOCKPILES OF VOLUMES LESS THAN THOSE STATED MAY BE CHARACTERIZED INDIVIDUALLY.

(staining and/or elevated PID measurements) or, if evidence of contamination is present, analytical results of the soil/fill indicate that the contaminants are present at concentrations below the SSALs.

- Off-site borrow soils will be documented as having originated from locations having no evidence of disposal or release of hazardous, toxic or radioactive substances, wastes or petroleum products.

- Off-site soils intended for use as site backfill cannot otherwise be defined as a solid waste in accordance with 6NYCRR Part 360-1.2(a).

- If the contractor designates a source as "virgin" soil, it shall be further documented in writing to be native soil material from areas not having supported any known prior industrial or commercial development or agricultural use.

- Virgin soils should be subject to collection of one representative composite sample per source. The sample should be analyzed for TCL VOCs, SVOCs, pesticides, PCBs, and the metals cadmium, chromium, copper, lead, manganese, mercury, and zinc. The soil will be acceptable for use as backfill provided that all parameters meet the SSALs.

- Non-virgin source area soils will be tested via collection of one composite sample per 500 cubic yards of material from each source area. If more than 1,000 cubic yards of soil are borrowed from a given off-site non-virgin soil source area and both samples of the first 1,000 cubic yards meet the SSALs, the sample collection frequency will be reduced to one composite for every 2,500 cubic yards of additional soils from the same source, up to 5,000 cubic yards. For borrow sources greater than 5,000 cubic yards, sampling frequency may be reduced to one sample per 5,000 cubic yards, provided all earlier samples met the SSALs.

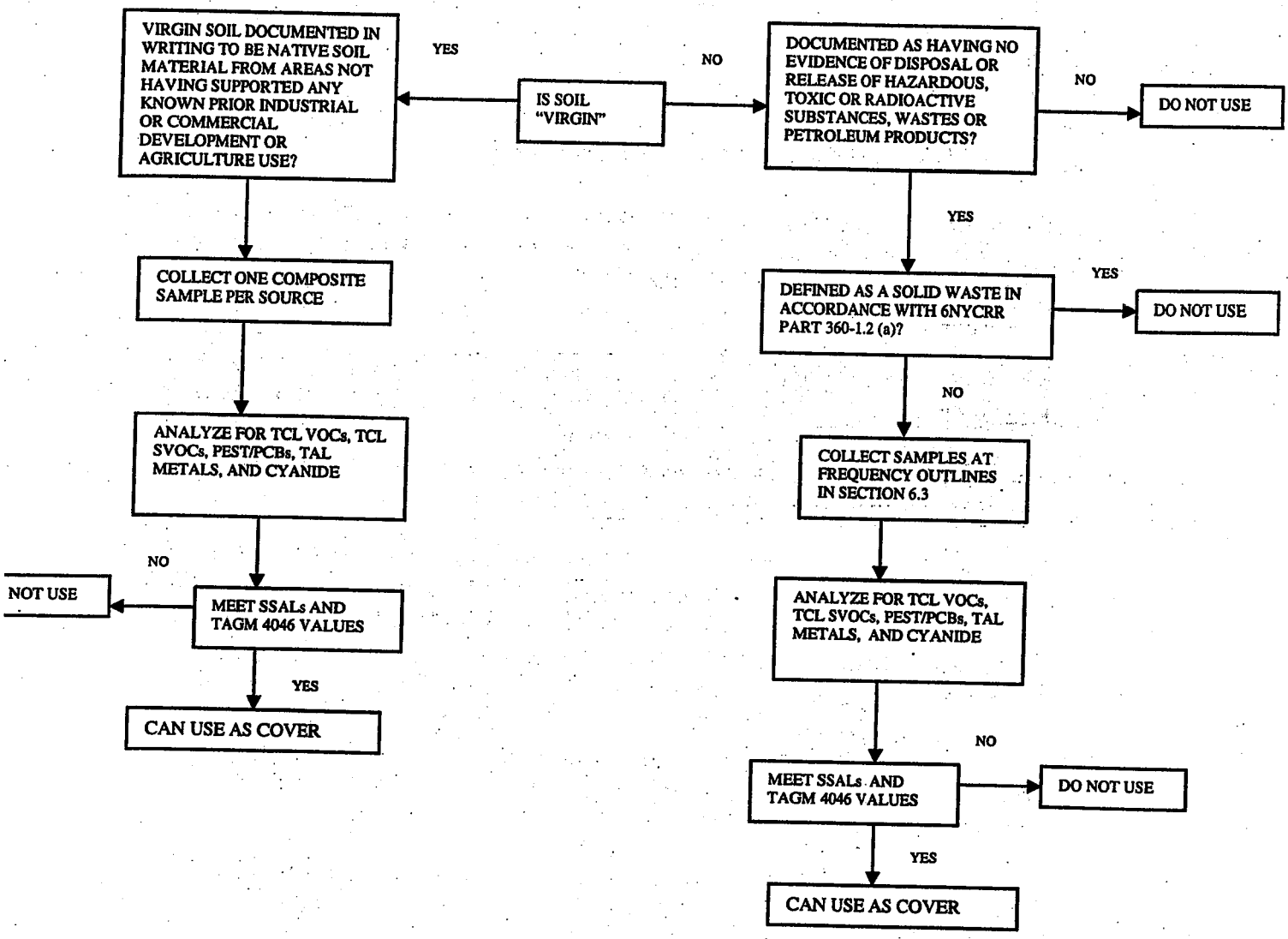
G.4 Final Cover

Surface coverage over the entire redeveloped parcel or subparcels will be required by the developer or owner as a pre-condition of occupancy. The purpose of the surface cover is to eliminate the potential for human contact with fill material. Surface coverage will consist of documented clean soil with vegetative cover, asphalt or concrete paving, or buildings with concrete floors.

The cover soil material shall meet the following criteria (see Figure G-3):

FIGURE G-3

FINAL COVER MATERIAL FLOW CHART



NOTE:

1. AT ANY TIME INDIVIDUAL STOCKPILES OF VOLUMES LESS THAN THOSE STATED MAY BE CHARACTERIZED INDIVIDUALLY.

- Excavated on-site soil/fill shall not be used as cover material.
- Off-site borrow soils will be documented as having originated from locations having no evidence of disposal or release of hazardous, toxic or radioactive substances, wastes or petroleum products.
- Off-site soils intended for use as site cover cannot otherwise be defined as a solid waste in accordance with 6NYCRR Part 360-1.2(a).
- If the contractor designates a source as "virgin" soil, it shall be further documented in writing to be native soil material from areas not having supported any known prior industrial or commercial development or agricultural use.
- Virgin soils should be subject to collection of one representative composite sample per source. The sample should be analyzed for TCL VOCs, SVOCs, pesticides, PCBs, and TAL metals plus cyanide. The soil will be acceptable for use as cover material provided that all parameters meet the NYSDEC recommended soil cleanup objectives included in TAGM 4046.
- Non-virgin source area soils will be tested via collection of one composite sample per 500 cubic yards of material from each source area. If more than 1,000 cubic yards of soil are borrowed from a given off-site non-virgin soil source area and both samples of the first 1,000 cubic yards meet the TAGM 4046 criteria, the sample collection frequency will be reduced to one composite for every 2,500 cubic yards of additional soils from the same source, up to 5,000 cubic yards. For borrow sources greater than 5,000 cubic yards, sampling frequency may be reduced to one sample per 5,000 cubic yards, provided all earlier samples met the TAGM 4046 criteria.
- To reduce the potential for disturbance of the soil cover material, berms or mounds composed of clean soil will be constructed in areas in which trees and shrubs will be planted.

G.5 Erosion Controls

G.5.1 General Guidelines

When site development or remedial actions require the disturbance of more than one acre of land, federal and state laws[1] require that the project obtain coverage Under the NYSDEC SPDES General Permit for Storm Water Discharges from Construction Activities that are classified as "Associated with Industrial Activity", Permit #GP-93-06 (Construction Storm Water General Permit). Requirements for coverage under the Construction Storm Water General Permit include the submittal of a Notice of Intent form and the development of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must fulfill all permit requirements and must be prepared in accordance with "Chapter Four: the Storm Water Management and Erosion Control Plan" in Reducing Impacts of Storm Water Runoff from New Development, NYSDEC, 1992. This Storm Water Management and Erosion Control Plan, in accordance with permit requirements, will provide the following information:

- A background discussion of the scope of the construction project.
- A statement of the storm water management objectives.
- An evaluation of post-development runoff conditions.
- A description of proposed storm water control measures.
- A description of the type and frequency of maintenance activities required to support the control measure.

[1] The Federal Water Pollution Control Act (as amended, 33 U.S.C. 1251 et. Seq.) and the New York State Environmental Conservation Law: Article 17, Titles 7 and 8 and Article 70.

The SWPPP will address issues such as erosion prevention, sedimentation control, hydraulic loading, pollutant loading, ecological protection, physical site characteristics that impact design, and site management planning. The SWPP will also include a contingency plan to be implemented in the event of heavy rain events. All descriptions of proposed features and structures at the site will include a description of structure placement, supporting engineering data and calculations, construction scheduling, and references to established detailed design criteria. The SWPPP will conform to all requirements as established by applicable regulatory agencies.

Proven soil conservation practices will be incorporated in the construction and development plans to mitigate soil erosion damage, off-site sediment migration, and water pollution from erosion. These practices combine vegetative and structural measures. Many of these measures will be permanent in nature and become part of the completed construction project (design features such as drainage channels and grading). Other measures will be temporary and serve only during the construction stage. The contractor will remove temporary measures at the completion of construction. The selection of erosion and sediment control measures will be based on several general principles, including:

- The minimization of erosion through project design (maximum slopes, phased construction, etc.).
- The incorporation of temporary and permanent erosion control measures.
- The removal of sediment from sediment-laden storm water before it leaves the site.

The generic erosion and surface water control plan included in Attachment III details typical methods of erosion control that must be followed during site redevelopment activities. As described in Attachment III, a specific erosion and surface water control plan must be created prior to implementation of redevelopment activities. The use of appropriate temporary erosion control measures such as silt fencing and/or hay bales will be required around all soil/fill stockpiles and unvegetated soil surfaces during redevelopment activities. These methods are described below, and Attachment IV includes details for various erosion control measures that might be used during site

redevelopment activities. Stockpiles shall be graded and compacted as necessary for positive surface water runoff and dust control. Stockpiles of soil/fill will be placed a minimum of fifty feet from the boundaries.

G.5.2 Temporary and Permanent Erosion Control Measures

G.5.2.1 Temporary Measures

Temporary erosion and sedimentation control measures and facilities will be employed during active construction stages. Prior to any construction activity, temporary erosion and sediment control measures shall be installed and maintained until they are no longer needed, or until such time that permanent erosion control measures are installed and effective. Additional sediment control measures may also be necessary. Structural measures, as described below, will be designed and installed to provide the required sediment and erosion control. The following temporary measures will be incorporated into construction activities:

- Silt fencing.
- Straw bales.
- Temporary vegetation/mulching.

G.5.2.1.1 Silt Fencing

Regrading and capping activities may result in sheet flow to various areas of the site; therefore, silt fencing will be used as the primary sediment control measure. Prior to extensive clearing, grading, excavation, and placement of cover soils, silt fences will be installed along all construction perimeter areas to prevent sedimentation in low areas and drainage areas. The location and orientation of silt fencing to be used during redevelopment operations will be field determined. There may be breaks and overlaps in the silt fencing to allow construction vehicles access to the construction areas.

Intermediate silt fencing will be used upslope of perimeter areas where phased construction activities are occurring. This measure will effectively lower sheet flow

velocities and reduce sediment loads to perimeter fencing. In addition, silt fencing around soil stockpiles will be employed.

As sediment collects along the silt fences, they will be cleaned to maintain desired roval performance and prevent structural failure of the fence. Removed sediment will be disposed on-site as general fill in a designated area. The perimeter silt fences will remain in place until construction activities in the area are completed and vegetative cover or other erosion control measures are adequately established. Silt fences will be provided and installed in accordance with the details presented in Attachment IV.

G.5.2.1.2 Straw Bales

Straw bales will be used to intercept sediment-laden runoff from storm water channels as needed during various phases of construction. Additional straw bale dikes may be necessary in some areas during some phases of construction.

Use of straw bales will be limited to swales and/or diversion ditches where the anticipated flow velocity will not be greater than 5 feet per second (fps). Where flows may eventually exceed 5 fps along a swale or diversion ditch, an intermediate straw bale barrier will be installed upgradient of the final bale barrier. The intermediate bale barrier will effectively reduce flow velocities and sediment load to the final barrier.

As with the silt fencing, sediment will be removed to maintain performance and prevent overtopping or failure of the straw bale barrier. Removed sediment will be disposed of on-site as general fill in a designated area. Sediment laden straw bales that have lost their structural integrity and/or effectiveness will be disposed of off-site as a solid waste. Straw bale barriers will remain in place until construction activities contributing sediment to the barrier are complete and vegetative cover or other erosion control measures are adequately established. Straw bales will be provided and installed in accordance with the details presented in Attachment IV.

G.5.2.1.3 Temporary Vegetation and Mulching

As a result of phased construction and split construction schedule, portions of the site may be left in intermediate/incomplete conditions. Intermediate areas may include rough graded areas awaiting finer grading or areas awaiting topsoil placement. Intermediate areas where activities will not resume for a period in excess of two weeks shall be seeded with a quick germinating variety of grass or covered with a layer of straw mulch.

The temporary cover will act to stabilize the soil and reduce erosion. As construction progresses, areas containing temporary vegetation or straw mulch can be covered without removal of the temporary vegetation or mulch.

G.5.2.2 Permanent Control Measures

Permanent erosion control measures and facilities will be incorporated during cover construction and during site redevelopment for long-term erosion protection. Permanent measures and facilities will be installed as early as possible during construction phases. Parking and building systems associated with redevelopment shall not include dry wells or other subsurface injections/disposal piping or facilities.

G.5.2.2.1 Design Features

The remedial construction activities will involve the installation of cover system including asphalt, concrete, or clean fill over the entire site. Permanent erosion control measures incorporate a combination of design features to limit overall erosion and sediment problems to practical design limits, and the placement of permanent facilities during site restoration for long-term erosion protection. The soil cover system will be designed based on the following criteria:

- Maximum slope of 33% (3H: 1V) to limit erosion.
- Minimize the potential contact with, and migration of, waste fill.
- Provide a medium for the growth of vegetation to control erosion.

Design features incorporated into the construction plans to control erosion will include limiting steep slopes, routing runoff to surface water collection channels, limiting flow velocities in the collection channels to the extent practical, and lining collection channels, where appropriate. In areas where flow will be concentrated (i.e.; collection channels) the channel slopes and configuration will be designed to maintain channel stability.

G.5.2.2.2 Construction Features

Any final slopes greater than 25 percent will be reinforced or have a demarcation layer under the clean cover to indicate if erosion has extended into the subgrade. Following the placement of final cover soils over regraded areas, a revegetation program will be implemented to establish permanent vegetation. Vegetation serves to reduce erosion, enhance evapotranspiration, and improve runoff water quality. The areas to be grassed will be seeded in stages as construction in is completed with 70 lbs./acre of seed conforming to the mix included in section 9.3.2 of the RAR. In addition to the above seed mixture, mulch, mulch blankets, or synthetic fabric will be placed to prevent erosion during turf establishment. Mulch will be placed on all slopes less than 15% and a mulch blanket on all slopes greater than 15%. Synthetic erosion control fabric will be placed in drainage ditches and swales. As an aid to turf establishment, seeded areas will be fertilized with a starter fertilizer.

G.6 Dust Controls

The surface of unvegetated or disturbed soil/fill areas will be wetted at all times with water or other dust suppressive agents to control dust during construction. There shall be no visible dust generated during redevelopment activities. Any subgrade material left exposed during extended interim periods (greater than 90 days) prior to placement of final cover shall be covered with a temporary cover system (i.e., tarps, spray type cover system, etc.) or planted with vegetation to control fugitive dust to the extent practicable. Particulate monitoring will be performed along the downwind occupied perimeter of parcels during subgrade excavation, grading, and handling activities in accordance with the Community Air Monitoring Plan.

Dust suppression techniques will be employed at the site in accordance with NYSDEC TAGM 4031 (Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites). This TAGM describes guidance for dust monitoring, and includes a list of effective dust suppression techniques. Dust monitoring is more fully described in Section G.12.2 (Community Air Monitoring Program). As per TAGM 4031, dust suppression techniques that may be used at the site include applying water on roadways, wetting equipment, spraying water on buckets during excavation and dumping, hauling materials in properly covered or watertight containers, covering excavated areas and material after excavation activity ceases, establishing vegetative cover immediately after placement of cover soil, and reducing the excavation size and/or number of excavations.

G.7 Construction Water Management

Pumping of water (i.e., groundwater and/or storm water that has accumulated in an excavation) from excavations, if necessary, will be done in such a manner as to prevent the migration of particulates, soil/fill, or unsolidified concrete materials, and to prevent damage to the existing subgrade. Water pumped from excavations will be managed properly in accordance with all applicable regulations so as to prevent endangerment of public health, property, or any portion of the construction.

The groundwater in excavations will be field screened for VOCs and observed for any noticeable sheens. Water in the excavations will not be discharged to the ground surface if:

- Staining or PID measurements above background are observed in the excavation, or
- A sheen is present on the water surface.

If any of these conditions exist, the water pumped from the excavations will be containerized and analyzed in accordance with the Surface Water and Groundwater quality Standards set forth in 6 NYCRR Part 703.5 and the local sewer authority discharge permit. If the water meets the surface water and groundwater quality standards,

it may be discharged to the ground surface. If the water does not meet the surface water and groundwater quality standards, it may be discharged to the local sewer authority under a discharge permit. If the water quality is such that the local sewer authority discharge permit requirements will be exceeded, or the local sewer authority will not approve the discharge to a sewer, it will be transported off-site for proper disposal or treated on-site via a treatment system that has been approved by NYSDEC.

Runoff from surface discharges shall be controlled. No discharges shall enter a surface water body without proper permits.

G.8 Fencing and Access Control

Access to soil/fill on the site must be controlled until final cover is placed to prevent direct contact with subgrade materials. To better control site access, obvious access points will be gated. All gates and existing fencing will be posted with "No Trespassing" signs. The majority of the site will be covered with clean fill or vegetated via hydroseeding to limit dust generation.

G.9 Property Use Limitations

The use of the property will be restricted through an environmental easement to which this Soil/Fill Management Plan will be attached.

G.10 Notification and Reporting Requirements

The following minimum notification and reporting requirements shall be followed by the property owner prior to and following site development, as appropriate:

- The NYSDEC and NYSDOH will be notified that subgrade activities are being initiated a minimum of five working days in advance of construction.
- A construction certification report stamped by a New York State licensed Professional Engineer will be prepared and submitted to the NYSDEC and

NYSDOH within 90 days after development of each parcel or subparcel. At a minimum, the report will include:

- An area map showing the parcel or subparcel that was developed and the property's tax map number.
- A topographic map of the developed property showing actual building locations and dimensions, roads, parking areas, utility locations, berms, fences, property lines, sidewalks, green areas, contours and other pertinent improvements and features. The topographic map will be stamped by a New York State licensed surveyor.
- Plans showing areas and depth of fill removal.
- Description of erosion control measures.
- A text narrative describing the excavation activities performed, health and safety monitoring performed (both site specified and Community Air Monitoring), quantities and locations of soil/fill excavated, disposal locations for the soil/fill, soil sampling locations and results, a description of any problems encountered, location and acceptability test results for backfill sources, and other pertinent information necessary to document that the site activities were carried out properly.
- Plans showing before and after survey elevations on a 100-foot grid system to document the thickness of the clean soil cover system.
- A certification that all work was performed in conformance with the SFMP.

G.11 Quality Assurance and Quality Control (QA/QC)

G.11.1 Analytical Methods

All site soil/fill characterization samples collected during site redevelopment activities will be analyzed using EPA-approved analytical methods using the most recent edition of the EPA's "Test Methods for Evaluating Solid Waste" (SW-846). Methods for Chemical Analysis of Water and Wastes "(EPA 600/4-79-020), Standard Methods for Examination of Waste and Wastewater" (prepared and published jointly by the American Public Health Association, American Waterworks Association and Water Pollution Control Federation).

G.11.2 Laboratory

The laboratory proposed to perform the analyses will be certified through the New York State Department of Health Environmental Laboratory Approval Program (ELAP) to perform Contract Laboratory Program (CLP) analysis and Solid Waste and Hazardous Waste Analytical testing on all media to be sampled during this investigation. The laboratory will maintain this certification for the duration of the project.

G.11.3 Data Submittal

The laboratory will perform the analysis of samples in accordance with the most recent NYSDEC Analytical Services Protocol (ASP). Analytical data will be submitted in complete ASP Category B data packs including documentation of laboratory QA/QC procedures that will provide legally defensible data in a court of law. If requested, the Category B data packs will be submitted to the NYSDEC.

Procedures for chain of custody, laboratory instrumentation calibration, laboratory analyses, reporting of data, internal quality control, and corrective actions shall be followed as per SW-846 and as per the laboratory's Quality Assurance Plan. Where appropriate, trip blanks, field blanks, field duplicates, and matrix spike, matrix spike duplicate shall be performed at a rate of 10% and will be used to assess the quality of the data. The laboratory's in-house QA/QC limits will be utilized whenever they are more stringent than those suggested by the EPA methods.

G.11.4 Data Usability Summary Reports

After receipt of analytical results, the data package will be sent to a qualified, third party, data validation specialist for evaluation. A Data Usability Summary Report (DUSR) will be prepared. The DUSR will provide a determination of whether or not the data meets the project specific criteria for data quality and data use.

G.12 Health and Safety Procedures for Intrusive or Maintenance Activities

G.12.1 Construction Personnel Protection

Contractors engaged in subsurface (invasive) construction or maintenance activities (e.g., foundation and utility workers) will be required to implement appropriate health and safety procedures. These procedures will involve, at a minimum, donning adequate personal protective equipment, performing appropriate air monitoring, and implementing other engineering controls as necessary to mitigate potential ingestion, inhalation and contact with residual constituents in the soils. A site-specific, activity-specific health and safety plan must be prepared by the contractor prior to on-site construction activities. Recommended health and safety procedures include the following:

- While conducting invasive work at the site, the Contractor shall provide working conditions on each operation that shall be as safe and healthful as the nature of that operation permits. The Contractor shall comply with all New York State Department of Labor regulations and published recommendations and regulations promulgated under the Federal Occupational Safety and Health Act of 1970 and the Construction Safety Act of 1969, as amended, and with laws, rules, and regulations of other authorities having jurisdiction. Compliance with governmental requirements is mandated by law and considered only a minimum level of safety performance. The Contractor shall insure that all work is performed in accordance with recognized safe work practices.

- The Contractor shall be responsible for the safety of the Contractor's employees, the public and all other persons at or about the site of the work. The Contractor shall be solely responsible for the adequacy and safety of all construction methods, materials, equipment and the safe prosecution of the work.

- The Contractor shall have a written health and safety plan (HASP) prepared, signed and sealed by a safety professional; a safety professional and/or a trained safety representative(s) active on the job whenever the work is in progress; an effective and documented safety training program; and a safety work method check list system.

- The Contractor shall stop work whenever a work procedure or a condition at a

work site is deemed unsafe by the safety professional or his trained safety representative(s).

- The Contractor shall employ a properly qualified safety professional whose duties shall be to initiate, review and implement measures for the protection of health and prevention of accidents. The Contractor shall also employ safety representative(s) whose duties, working under the direct supervision of the safety professional, shall include the implementation the safety program for the work at the site.

- Recognition as a safety professional shall be based on a minimum of certification by the Board of Certified Safety Professionals as a Certified Safety Professional and 5 years of professional safety management experience in the types of construction and conditions expected to be encountered on the site.

- The safety representative(s) who will work under the direction of the safety professional will have appropriate qualifications. The required qualifications shall include a minimum of: five years of relevant construction experience, two years of which were exclusively in construction safety management; successful completion of a 30-hour OSHA Construction Safety and Health training course; 40-hour training as per 29 CFR 1926.65, Hazardous Waste Operations and Emergency Response; and, if confined space entry is required, training as per 29 CFR 1910.146, Permit-Required Confined Spaces.

- The safety professional shall visit and audit all work areas as often as necessary but at least once each week and shall be available for consultation whenever necessary.

- The safety representative(s) must be at the job site full-time (a minimum of 8 hours per working day) whenever intrusive work is in progress. When multiple shift work is in progress more than one safety representative may be required.

- The safety professional and his safety representative(s) shall be responsible for ensuring Contractor compliance with governing laws, rules and regulations as well as of good safety practice.

- The safety staff shall maintain and keep available safety records, up-to-date copies of all pertinent safety rules and regulations, Material Safety Data Sheets, and the Contractors' site specific health and safety plans (HASPs) and the site emergency response plan with emergency and telephone contacts for supportive actions.

- The responsible safety professional shall sign and seal the Contractor's written site-specific HASP and the Plan shall be available to workers on site. The Contractor shall provide copies of the HASP to the Contractors' insurer, if required.

- The HASP will identify and define the following: the hazards anticipated for each major invasive task; the engineering, administrative and/or personal protective equipment control measures that will be implemented; the surveillance methods, and schedules of both walk through surveys and in-depth safety audits to be performed on site; medical monitoring and screening methods; the Contractors' pre-start-up and continuous safety- training program; emergency response equipment, notification, training and procedures; and include copies of safety inspection check-off sheets, specific to the work methods and crews performing work at the various job locations, to be used on a regular basis in evaluating the site and work methods.

- The safety professional and/or his trained safety representative(s) shall as a minimum:

  - Schedule and conduct safety meetings and safety training programs as required by law, the health and safety plan, and good safety practice. A specific schedule of dates of these meetings and an outline of materials to be covered shall be provided with the health and safety plan. All employees shall be instructed on the recognition of hazards, observance of precautions, of the contents of the health and safety plan and the use of protective and emergency equipment.

  - Determine that operators of specific equipment are qualified by training and/or experience before they are allowed to operate such equipment.

  - Develop and implement emergency response procedures. Post the name, address and hours of the nearest medical doctor, name and address of nearby clinics and hospitals, and the telephone numbers of the appropriate ambulance service, fire, and the police department.

  - Post all appropriate notices regarding safety and health regulations at locations that afford maximum exposure to all personnel at the job site.

- Post appropriate instructions and warning signs in regard to all hazardous areas or conditions that cannot be eliminated. Identification of these areas shall be based on experience, on site surveillance, and severity of hazard. Such signs shall not be used in place of appropriate workplace controls.

- Ascertain by personal inspection that all safety rules and regulations are enforced. Make inspections at least once a shift to ensure that all machines, tools and equipment are in a safe operating condition; and that all work areas are free of hazards. Take necessary and timely corrective actions to eliminate all unsafe acts and/or conditions, and submit to the Engineer each day a copy of his findings on the inspection check list report forms established in the health and safety plan.

- Provide safety training and orientation to authorized visitors to ensure their safety while occupying the job site.

- Perform all related tasks necessary to achieve the highest degree of safety that the nature of the work permits.

- The Contractor shall have proper safety and rescue equipment, adequately maintained and readily available, for foreseeable contingencies. This equipment may include such applicable items as: proper fire extinguishers, first aid supplies, safety ropes and harnesses, stretchers, water safety devices, oxygen breathing apparatus, resuscitators, gas detectors, oxygen deficiency indicators, combustible gas detectors, etc. This equipment should be kept in protected areas and checked at scheduled intervals. A log shall be maintained indicating who checked the equipment, when it was checked, and that it was acceptable. This equipment log shall be updated monthly and be submitted with the monthly report. Equipment that requires calibration shall have copies of dated calibration certificates on site. Substitute safety and rescue equipment must be provided while primary equipment is being serviced or calibrated.

- All personnel employed by the Contractor or his subcontractors or any visitors whenever entering the job site, shall be required to wear appropriate personal protection equipment required for that area. The Contractor may remove from the site any person who fails to comply with this or any other safety requirement.

- Because water with elevated pH may act as a skin irritant, care must be taken to inhibit dermal contact when handling any groundwater at the site. Actions to inhibit contact with groundwater may include the use of latex or other waterproof gloves by on-site workers.

G.12.2 Community Air Monitoring Program

Ambient air monitoring will be conducted by the Professional Engineer monitoring the work on a real-time basis during all subsurface construction activities using a minimum of a photoionization detector and a dust meter. Battery charge level for each instrument will be checked at the beginning and end of each day. The instruments will be calibrated at a frequency recommended by the manufacturer. All air monitoring readings will be recorded in a logbook and will be available for review by the NYSDEC and New York State Department of Health (NYSDOH).

Baseline conditions will be measured at proposed intrusive activity locations prior to commencement of operations. Air quality within the work zone will be monitored in accordance with the site-specific health and safety plan created by the site developer or contractor. In addition to monitoring the work area for worker health and safety, volatile organic compounds will be monitored at the downwind perimeter of the work area every hour. If downwind perimeter organic vapor levels exceed five parts per million (ppm) above the upwind work area perimeter concentrations, the Vapor Emission Response Plan will be implemented.

As described in Section G.6, appropriate dust suppression techniques will be employed at all times during site redevelopment activities. Using a dust meter, particulates will be continuously monitored immediately downwind in the work area and integrated over a period not to exceed 15 minutes. If the downwind particulate level is more than 150 ug/m^3, then upwind (background) levels must be measured immediately. If the downwind levels are more than 100 ug/m^3 above background, additional dust suppression measures must be taken.

G.12.1.1 Vapor Emission Response Plan

If the downwind area perimeter air concentrations of organic vapors exceed the upwind work area perimeter concentration by 5 ppm but less than 25 ppm, the following actions will be taken:

- Every 30 minutes monitor the perimeter work area location.
- Every 30 minutes monitor the organic vapor concentration 200 feet downwind of the work area perimeter or half the distance to the nearest receptor, whichever is less. If this reading exceeds the perimeter work area upwind organic vapor concentration by 5 ppm, all work must halt and monitoring increased to every 15 minutes. If, at any time, this reading exceeds the perimeter work area upwind concentration by 10 ppm, the Major Vapor Emissions Response Plan will be initiated.
- If organic vapor levels 200 feet downwind of the perimeter work area or half the distance to the nearest downwind receptor, whichever is less, exceeds by 5 ppm the work area perimeter upwind concentration persistently, then air quality monitoring must be performed within 20 feet of the nearest downwind receptor (20-foot zone). If the readings in the 20-foot zone exceed the perimeter work area upwind concentration by 5 ppm for more than 30 minutes, then the Major Vapor Emissions Response Plan will be implemented.
- Work activities can resume only after the downwind 200-foot reading and the 20-foot zone reading are less than 5 ppm above the perimeter work area upwind concentration. In addition, the downwind perimeter work area concentration must be less than 25 ppm above the perimeter work area upwind concentration.

G.12.2.2 Major Vapor Emission Response Plan

If the downwind work area perimeter organic vapor concentration exceeds the upwind work area perimeter concentration by more than 25 ppm, then the Major Vapor Emission Response Plan will be activated. Upon activation, the following activities will be undertaken:

1. All work will halt.

2. All Emergency Response Contacts as listed in the Health and Safety Plan will be contacted.

3. The NYSDEC, NYSDOH, and the Erie County Health Department will be notified and advised of the situation.

4. The local police and fire department authorities will immediately be contacted by the Safety Officer and advised of the situation.

5. Frequent air monitoring will be conducted at 30-minute intervals within the 20-Foot Zone. If two successive readings below action levels are measured, air monitoring may be halted or modified by the Safety Officer and work may resume.

MALCOLM PIRNIE

Operation Monitoring and Maintenance Plan

Appendix

H

MALCOLM PIRNIE

Operation, Monitoring and Maintenance Work Plan

APPENDIX H

H.1 Introduction

This Operation, Monitoring and Maintenance (OM&M) Work Plan has been prepared for the Six Vacant Lots on Ridge Road Site in Lackawanna, New York (the Site). The Site was investigated under the New York State Clean Water/Clean Air Bond Act – Environmental Restoration Program and a USEPA Brownfields assessment grant. After completion of the site investigation, a Remedial Action Report (RAR) was prepared. The RAR recommended limited removal of chromium-impacted soil/fill at two areas of the Site. This work was subsequently completed, see appendix I. Also, because elevated concentrations of polycyclic aromatic hydrocarbons (PAHs) and metals were present in the rest of the on-site soil/fill material, capping of the Site as part of its redevelopment was recommended as well as implementation of a soil/fill management plan. In conjunction with the capping remedy, it is recommended that the Site owner maintains the institutional and physical components of the cover using prescribed procedures acceptable to the regulatory agency (the NYSDEC). This OM&M Work Plan describes the conditions and procedures for maintaining the physical components of the Site remedy and is recommended as part of the overall Site cleanup.

The owner of the Site should evaluate the criteria presented in this plan and should recommend changes to the NYSDEC, as appropriate, depending on actual post-closure Site conditions. As a minimum, this plan should be reviewed annually during the post-closure period and updated when necessary.

Prior to initiation of the OM&M Work Plan, the Owner shall prepare and submit appropriate organizational documents to the Regulator for review and approval. The organizational documents shall include:

- An organizational chart outlining the responsible parties personnel (with qualifications) who will be responsible for implementing the post-closure operation, maintenance and monitoring program.
- A health and safety plan.
- Example inspection report forms.
- A schedule for the annual inspections and reporting.

H.2 Background

The 0.77 acres Site includes six vacant lots identified with addresses of 113, 117, 121, 125, 129, and 135 Ridge Road in Lackawanna, Erie County, New York. The Site is a rectangular shaped vacant lot covered with grass and gravel, with no aboveground structures. Occasional partial foundations of previous structures and concrete walkways are partially exposed at the ground surface.

A review of historical records indicates that the former on-site structures were constructed primarily between 1915 and 1927 and that the buildings were mainly two story brick framed structures that fronted Ridge Road and Wasson Avenue, and several single story wood-framed and stone structures at the rear of the main structures or along the southern property boundary. These buildings were used for a variety of commercial activities including a bakery, jeweler, men's clothing store, restaurants and a tin shop. Based on the review of City directories and the Sanborn Maps®, it is believed that many of the buildings existed until the late 1960's, at which time they were demolished, however this could not be verified. The City of Lackawanna acquired the properties in the late 1970's. No known environmental studies have been performed at the Site.

H.3 Remedial Alternatives Report

The Remedial Action Report (RAR) for the Site was finalized in May 2006 to be implemented during the cleanup of the Former Incinerator Site.

According to the RAR, in order to eliminate potential exposure risks associated with direct contact with site fill material, the entire Site will be covered as part of site redevelopment. Where not paved or covered by new site structures, the Site will be covered with either pavement (asphalt or concrete) or a minimum of two feet of documented clean soil cover material. Excavation of the soil/fill, if necessary to attain proper grade, will be performed in accordance with the Soil/Fill Management Plan (Appendix H of the RAR). The cover system may be placed directly on top of the re-graded on-site fill material. Surface coverage over the entire redeveloped parcel or subparcel will be required by the Site owner as a pre-condition of reuse.

The proposed cover system has been designed to be protective of human health and the environment. The primary exposure pathway for contaminants at the Site (metals and polycyclic aromatic hydrocarbons) in soil is via direct contact. The proposed plan of covering the on-site fill material will eliminate the potential for direct contact with soil and is therefore protective of human health.

The Qualitative Risk Assessment performed as part of the Site Investigation (Malcolm Pirnie, 2005) evaluated the risk posed by chemicals of potential concern ("COPCs") to human health. The Risk Assessment also evaluated the adequacy of the cover system planned for placement during site redevelopment and determined that the above-described cover system would protect human health from these COPCs.

H.4 Summary of the Remedial Closure Design

H.4.1 Preparation of Site Surface

The Site will require grading prior to cover placement activities, in accordance with the RAR and appended Soil/Fill Management Plan (SFMP). Any fill material will be graded to a regular topographic surface as planned for redevelopment. Any trees, shrubs, roots, brush, masonry, rubbish, scrap, debris, pavement, curbs, fences and miscellaneous structures will either be removed or disposed of off-site at a permitted disposal facility. Prior to placement of the cover system, all protruding material will be removed from the ground surface. Burning shall not be allowed on the Site.

H.4.2 Cover System

H.4.2.1 Soil

In areas that will not receive significant equipment or vehicular use, the cover system will be composed of soil fill from a NYSDEC-approved borrow source and tested in accordance with the Soil/Fill Management Plan and found to contain constituent concentrations less than those specified in NYSDEC TAGM 4046. The soil cover will be placed in accordance with the RAR.

It will be the responsibility of the Owner to annually verify that the soil cover has remained in good condition (e.g., grass or other vegetation is maintained) and sufficiently covers the soil/fill material at the Site (i.e., eroded areas are repaired and the soil cover is maintained). Certification as to this verification is included on the Site inspection form on Attachment A.

H.4.2.2 Asphalt

The cover system in areas that will remain as or become roads, sidewalks, and parking lots will consist of a minimum of two inches of asphalt that will be placed over the soil/fill material at the Site. The asphalt will be placed on a minimum four-inch gravel subbase to provide stability for construction and to limit subsidence, in accordance with the RAR. Prior to placement of the subbase, all protruding material will be removed from the ground surface and the area re-graded to a regular surface.

It will be the responsibility of the Owner to annually verify that the asphalt has remained in good condition and sufficiently covers the soil/fill material.

H.4.2.3 Concrete

The cover system in areas that will become structures will consist of a minimum of two inches of concrete that will be placed above the soil/fill material. The concrete will be placed on a minimum four-inch gravel subbase to provide stability for construction and to limit subsidence. Concrete may also be used instead of asphalt for roads, sidewalks, and parking lots. Prior to placement of the subbase, all protruding material will be removed from the ground surface and the area re-graded to a sufficient regular surface.

It will be the responsibility of the Owner to annually verify that the concrete has remained in good condition and sufficiently covers the soil/fill material at the Site as per Attachment A.

H.4.3 Erosion Control Measures

In accordance with the SFMP, design and permanent construction features shall be incorporated into the Site construction plans to control erosion. It will be the responsibility of the Owner to annually certify that storm water channel slopes, vegetation and any synthetic erosion control fabrics placed in such channels remain in good condition.

H.5 Inspection Procedures

The physical components of the cover system shall be inspected annually by a representative of Owner (or its delegated agent) qualified to carry out such inspections. The inspector should be, at minimum, a certified industrial hygienist or a person with a four-year college degree in environmental sciences. The inspection will be coordinated with facility personnel at least one week prior to ensure that most, if not all, of the paved areas will be accessible for inspection. Arrangements to repair those areas that the inspector requires to be maintained, if any, will be initiated as may be required by the inspector.

The annual inspection shall include, but not be limited to, those matters set forth on the Environmental Inspection Form, attached hereto as Attachment B. These inspection reports, which shall include a map that shows areas of damage or required maintenance, shall be kept on file by the Owner. If the inspections reveal that maintenance is necessary, then the Owner shall notify the NYSDEC, and arrange to complete the repairs. The NYSDEC shall be informed by Owner when repairs are complete.

H.6 Final Cover System Condition

The final cover system shall be observed by traversing the cover on foot and making appropriate observations, notes and photographic records as necessary, for inclusion with the report. It is anticipated that some maintenance activities will be necessary during the closure period. The following characteristics shall be looked for during the observation of the cover system and erosion control features:

- Sloughing.
- Cracks.
- Settlement (depression and puddles).
- Erosion features.
- Distressed vegetation/turf.

The following paragraphs describe actions that should be taken to address the conditions described above. Maintenance and repairs that are typically necessary during the closure period are also described.

H.6.1 Sloughing

Sloughing of the soil cover may occur. Areas where sloughing has occurred shall be repaired. Cover soil shall be placed in accordance with the requirements of the RAR, and of the Soil/Fill Management Plan (SFMP).

H.6.2 Cracks

The locations of any cracks in the soil, asphalt or concrete cover should be noted on the inspection log and Site map, including width, length and depth of the crack. The appropriate maintenance procedure will be determined by the inspector. Small willow cracks in the soil cover can be repaired by minor re-grading of the cracked area and re-seeding the area. Larger cracks that appear to extend into the fill material shall be filled with soil similar to that used for construction of the cover soil layer prior to re-seeding, in accordance with the RAR. Repairs to the asphalt and/or concrete will be completed when and in the fashion deemed necessary by the inspector.

H.6.3 Settlement

Settlement features such as depressions or areas of ponding water shall be re-graded by placing additional soil cover so that surface water drains in the appropriate direction.

H.6.4 Erosion Features

Erosion features shall be repaired by backfilling to the original grade with soil and re-seeding. Torn or displaced synthetic erosion control fabric in storm water channels shall be repaired or replaced as directed by the inspector.

H.6.5 Distressed Vegetation/Turf

Areas of distressed turf shall be re-seeded and a starter fertilizer applied. Large-root growth may also compromise the integrity of the soil cover and shall be discouraged with regular mowing. Reasonable efforts shall be taken to avoid damage to the turf from traffic and other unintended uses.

H.7 Inspection Reporting

Annual inspection reports shall be forwarded by the Owner to the NYSDEC. If the inspection finds that corrective action is required, a followup inspection will be made after the repairs have been completed. If the inspector determines that corrective action is required, the Corrective Action Form (Attachment C) will be included with the inspection report, confirming that the repairs were completed, and in accordance with the Remedial Work Plan.

Any analytical data that may be gathered during the course of the inspection or corrective action shall also be included with the inspection report and submitted to the NYSDEC within 21 days of the inspection. The inspection reports will be submitted by the Site Owner with an attached Annual Certification form, signed and notarized by the Site Owner, certifying that the specified engineering and institutional controls are in place and functioning.

ATTACHMENTS

A. Environmental Inspection Form

B. Annual Certification of Institutional/Engineering Controls

C. Correction Action Form

ATTACHMENT A

ENVIRONMENTAL INSPECTION FORM

6 Lots Site, Lackawanna, New York

Property Name: _____ Inspection Date: _____

Property Address: _____

City: _____ State: _____ Zip Code: _____

Property ID: (Tax Assessment Map)

Section:_____ Block:_____ Lot(s):_____

Total Acreage: _____

Weather (during inspection): Temperature: _____ Conditions:

SIGNATURE:

The findings of this inspection were discussed with appropriate personnel, corrective actions were identified and implementation was mutually agreed upon:

Inspector: _____ Date: _____

Next Scheduled Inspection Date: _____

COVER & VEGETATION

1. Final cover in acceptable condition?	_____	_____
Is there evidence of sloughing, erosion, ponding or settlement?	_____	_____
Is there evidence of unintended traffic; rutting?	_____	_____
Is there evidence of distressed vegetation/turf?	_____	_____
	Yes	No
2. Final cover sufficiently covers soil/fill material?	_____	_____
Are there cracks visible in the soil or pavement?	_____	_____
Is there evidence of erosion in the storm water channels or swales?	_____	_____
Is there damage to the synthetic erosion control fabric in the channels or swales?	_____	_____

ACTIVITY ON SITE

3. Any activity on site that mechanically disturbed soil cover?	_____	_____

ADDITIONAL FACILITY INFORMATION

Development on or near the site? (Specify size and type):

COMMENTS

Item #

ATTACHMENTS

1. Site Sketch
2. Photographs
3. Laboratory Report (s)

ATTACHMENT B

Annual Certification of Institutional/Engineering Controls

6 Lots Site, Lackawanna, New York

Property Name:
Property Address:

County: Erie
City/Town: Lackawanna
Property ID: (Tax Assessment Map)
Section:_____ Block:_____ Lot(s):_____

I (name) _____ , residing at (address) _____, as owner of the property(ies) listed above which are located wholly or partially within the boundaries of the Site named above; do certify that the engineering and/or institutional controls, as specified in the Soil/Fill Management Plan and the Operation, Monitoring and Maintenance Work Plan are in-place and functioning as designed within the property(ies) listed above.

Signature:_____

(This area for notary public)

ATTACHMENT C

CORRECTIVE ACTION FORM
6 Lots Site, Lackawanna, New York

Property Name: _____

Property Address:

City: _____ State: _____ Zip Code: _____

Property ID: (Tax Assessment Map)

Section:_____ Block:_____ Lot(s):_____

Total Acreage: _____

Weather (during inspection): Temperature: _____ Conditions:

An inspection of the subject property on (date) identified the need for corrective action.

CORRECTIVE ACTION TAKEN

Description: (attach site sketch and photographs)

Date Completed:

SIGNATURE:

The corrective action described above was completed in accordance with all relevant requirements of the Remedial Action Work Plan.

Inspector: _____Date: _____

ATTACHMENTS

1. Site Sketch
2. Photographs

3. Laboratory Report (s)

Appendix C – Daily Observation Reports and Photo Log

Report Number:
Service Date: September 6, 2017
Report Date: September 6, 2017

Client: Lackawanna FDS 715792 (Durban) Project: FDS – Ridge Road, Lackawanna, NY

Project Number: J5171046

Terracon's representative Frank Minnolera was present at the proposed site of a Family Dollar Store on Ridge Road in Lackawanna, New York to observe and document excavation activities pertaining to the construction of the new retail store. Terracon arrived at the site at 0930 hrs and met with Julie Baehre representing Westlake Construction and Joe representing Johnson Excavation. Discussed the sequence of excavation and construction activity monitoring.

1030 hrs: Observe installation of temporary construction entrance off Ridge Road. Johnson removing surficial fills in area and installing geotextile fabric under crushed stone fill for driveway. Excavated soils/fills "screened" utilizing MiniRae 2000 Photoionization Detector (PID) for the presence of volatile organic vapors. There were no elevated PID readings detected in the soils excavated beneath the temporary driveway.

1045 hrs: Johnson begins excavation along the western portion of the site in preparation for installation of perimeter drainage pipe. Start at the NW corner of the site and proceed to the SW corner. Soils appear to consist of approximately 1' of mixed fills overlying native silty sand soils. Johnson excavating to a depth of approximately 2 ½ ' BGS for installation of drain pipe.

1145-1215 hrs – Lunch

1215 hrs: Resume excavation along western drainage alignment – arrive at SW corner and make turn east along the southern property boundary. Encountered substantial depths of fills consisting of C&D (bricks, wood) at SW corner (turn in drainage alignment). No elevated PID readings encountered in the soils excavated in this area of site.

Excavation for drainage continued eastward towards Wasson Ave. Several old concrete foundation walls were encountered and left in place for future demolition and removal. Fill soils were observed to be approximately 1' in depth over native silty sand soils. There were no elevated PID readings detected along the alignment of the proposed drain pipe.

1400 hrs. Terracon representative leaves site.

Services:

Reported To:
Contractor:
Report Distribution:

Report Number:
Service Date: September 11, 2017
Report Date: September 11, 2017

Client: Lackawanna FDS 715792 (Durban) **Project: FDS – Ridge Road, Lackawanna, NY**

Project Number: J5171046

0830 hrs: Terracon arrives at the site – Johnson preparing to commence excavation for building foundations. Start at the NE corner of the proposed building near Wasson Ave. Difficult excavation through relatively deep (8' +) of C&D fill materials at this location.

Johnson encounters old basement walls and floor slab in this area. Apparently, building was demolished at this location and pushed into the basement, covered with soil and left in place.

Excavation undermining work areas due to large volume of fills (brick, clay tile, wood, metal and misc. debris) being removed from foundation alignment.

Contact Michele Fiorillo from Terracon – geotechnical engineer of record for the project. Discussed fill removal and site preparation for foundation. All fill materials must be overexcavated and removed (including the basement floor slab where encountered) and backfilled with fabric encapsulated stone.

1300 hrs: Terracon off site due to excavation and backfill issues. Johnson will have stone delivered and stockpiled on site for immediate use.

Services:

Reported To:
Contractor:
Report Distribution:

Report Number:
Service Date: September 12, 2017
Report Date: September 12, 2017

Client: Lackawanna FDS 715792 (Durban) **Project: FDS – Ridge Road, Lackawanna, NY**

Project Number: J5171046

0815 hrs: Terracon arrives on site - discuss backfill requirements with Julie from Westlake, wait on 9 am conference call with client.

1230 hrs: Johnson commences foundation excavation from the NE corner of the site south along Wasson Ave. (Area 'A' in the site sketch). Concrete floor slab from former basement encountered in this portion of the excavation. Fills area noted to be approximately 9' in depth in this area. Area "A" terminated upon encountering former basement walls at each end. "L" shaped area approximately 40' long by 30' long and 10-12' wide excavated for NE corner of building. All fills and former concrete floor slab removed in this area. No elevated PID readings encountered in the fills removed from this area.

Johnson staging removed fills/soils on poly sheeting in the southwestern portion of site for future off site disposal.

1315 hrs: Johnson begins excavation west along the northern foundation alignment from old basement wall at west end of Area "A". Approximately 1.5' of fill overlying native silty sands encountered in this area. This area is designated Area "B" on the site sketch, and is approximately 33' in length by 7' wide and 3 ½ ' in depth. Another concrete wall was encountered at the western terminus of Area "B". There were no elevated PID readings obtained on the soils and fills removed from Area "B".

1425 hrs: Johnson begins excavation of Area "C' on site sketch. Deep fills encountered in this section of excavation (approximately 34' long by 8' wide and 8 ½' deep). A third concrete wall was encountered approximately 34' from the previous wall (West end of Area "B"). All fills were removed and there were no elevated PID readings encountered on the soils excavated from Area "C".

1500 hrs: Johnson begins excavation in area designated Area "D" on site sketch (from wall at west terminus of Area "C" west towards NW corner of new building). Foundation noted to have step down in this area – minimal fill depths noted in this area. No elevated PID readings encountered in Area "D".

1515 hrs: Johnson commences excavation from concrete wall encountered at south end of Area "A" south towards SE corner of building. Designated Area "E" on site sketch. Minimal fills encountered in this area, bearing on firm native silty sand with occasional cobbles. No elevated PID readings encountered in this area.

Client: Lackawanna FDS 715792 (Durban) **Project: FDS – Ridge Road, Lackawanna, NY**

Project Number: J5171046

1530 hrs: Excavate west from SE corner along southern building line - Encountered 2 old foundation walls – 23" and 43' from the SE building corner. Depth of excavation is approximately 3 ½' deep – no elevated PID readings encountered in this area.

1630 hrs: Leave site.

Services:

Reported To:
Contractor:
Report Distribution:

Report Number:
Service Date: September 13, 2017
Report Date: September 13, 2017

Client: Lackawanna FDS 715792 (Durban) **Project: FDS – Ridge Road, Lackawanna, NY**

Project Number: J5171046

0830 hrs: Terracon arrives on site – Johnson filling Area 'C 'with #2 stone encapsulated in fabric – compacting with excavator.

1015 hrs: Johnson begins backfilling Area 'A' with stone.

1040 hrs: Johnson begins removing old concrete foundation walls were encountered between Areas 'C' and 'D' – backfilling continues in Area 'A'

1445 hrs: Johnson begins excavation of center pier locations. Start at eastern pier – existing surface is at correct building grade, however there is fill present – Johnson removes 1' to 3' of fill at that location so pier can bear on native soils. Move west 1 pier location, and over excavate 2 ½' feet to remove fills. Move west again, encountered concrete wall at this pier location, and deep fills – over excavate approximately 6' to native soils. Move to westernmost interior pier location, encountered slag fills, utilized hoe ram to break through slag, excavate to native soils. There were no elevated PID readings encountered in the excavations in the pier locations.

1600 hrs: leave site.

Services:

Reported To:
Contractor:
Report Distribution:

Report Number:
Service Date: September 14, 2017
Report Date: September 14, 2017

Client: Lackawanna FDS 715792 (Durban) **Project: FDS – Ridge Road, Lackawanna, NY**

Project Number: J5171046

0815 hrs: Terracon arrives at site – Johnson placing fabric and stone in previously excavated pier locations – compacting with vibratory roller.

0945 hrs: Johnson resumes excavation along southern building wall from point left off at on 9/12/17 - stop near SW building corner. Old concrete wall and 3-4' of fills noted in vicinity of SW building corner. No elevated PID readings noted on materials removed from excavation.

1100 hrs: Johnson begins excavation from NW building corner south along western building foundation. Encountered old foundation walls and removed them.

1140 hrs: Encountered old foundation wall approximately 15' north of SW building corner and removed it.

1220 hrs: Completed perimeter excavation for foundations. Prepare excavations with stone and fabric where required.

In summary, foundation excavations required removal of substantial amounts of fills consisting of C&D materials, slag and soil. All foundations were observed to bear on either native soils or compacted stone overlying native soils. Excavations were screened utilizing a PID meter for the presence of volatile organic vapors – there were no elevated reading encountered in either the excavation or on the soils removed from the excavation.

Services:

Reported To:
Contractor:
Report Distribution:

Report Number:
Service Date: September 15, 2017
Report Date: September 15, 2017

Client: Lackawanna FDS 715792 (Durban) **Project: FDS – Ridge Road, Lackawanna, NY**

Project Number: J5171046

Terracon was present at the FD site on Ridge Road in Lackawanna, NY to obtain samples of the soils present within the foundation excavations for the proposed new store.

A total of six samples were collected – 3 grab and 3 composite samples. The approximate location are indicated on the included site plan.

All samples were placed in pre cleaned glass sample containers provided by the laboratory, and transported via courier to the testing lab for analysis.

Services:

Reported To:
Contractor:
Report Distribution:

Photo 1 : Contractor preparing "Construction" entrance to site. Fills noted approximately 20' south of sidewalk off Ridge Road.

Photo 2 : Contractor excavating along alignment of drain on western side of site. Approximately 1.5 feet of fills underlain by native soils encountered in this area.

Photo 3 : Fills (predominantly C&D debris) encountered at southwestern corner of drain alignment.

Photo 4 : Old footing and C&D fills encountered in drainage alignment – east of bend at southwestern corner of site.

Photo 5 : Old footings and C&D fills – east of bend at southwestern corner

Photo 6 : Eastern portion of drainage alignment – minor amounts of surficial fills overlying native soils.

Photo 7 : Excavation for footings at northeastern corner of new building.

Photo 8 : Excavation at northeastern corner of new building – note C&D fills and old concrete foundation wall along right side of excavation (former basement likely encountered).

Photo 9 : Old basement wall encountered approximately 40' west of northeast building corner – Fill depth approximately 8.5 feet deep, with concrete slab at bottom.

Photo 10 : C&D fills and old basement floor slab – Area "A" on site plan.

Photo 11 : Closeup of old basement floor slab thickness encountered in Area “A”.

Photo 12 : Excavating south along eastern wall of new building – from northeastern corner.

Photo 13 : Excavating south along eastern footing alignment of new building – from northeastern corner (Area “A”).

Photo 14 : Area “A” excavation – old wall encountered approximately 30 feet south of northeastern building corner – C&D fills overlying old basement floor slab.

Photo 15 : Area “B” excavation – approximately 1.5 feet of fills underlain by firm native silty sands soils at bearing grade. Old footing wall encountered at end of trench by backhoe.

Photo 16 : Area “C” excavation – Native silty sands encountered at approximately 8.5 feet below grade – note old wall along right side of excavation.

Photo 17 : Excavation of Area “C” – old wall encountered approximately 14 feet east of northwestern building corner of new building.

Photo 18 : Excavation of Area “D” at northwestern building corner.

Photo 19 : Excavation of easternmost interior pier for new building.

Photo 20 : Fills removed at easternmost pier – bearing on native silty sand soils.

Photo 21 : Overexcavation at pier location due to organic and fills.

Photo 22 : Fills removed at pier location.

Photo 23 : Removing fills and old concrete walls at pier locations.

Photo 24 : Removing fills and old concrete walls at pier location.

Photo 25 : Breaking out slag at westernmost pier.

Photo 26 : Removing slag at westernmost pier.

Photo 27 : Slag and debris fill at westernmost pier.

Photo 28 : Westernmost pier overexcavated to remove fills.

Photo 29 : Contractor compacting encapsulated stone fill placed at northeastern corner of building footing excavation.

Photo 30 : Encapsulated stone fill being placed at center pier locations.

Photo 31 : View facing east from northwestern building corner – compacted stone to footing grade.

Photo 32 : Contractor compacting stone at piers.

Photo 33 : Excavating for southern building footings. Minimal fills encountered in this area.

Photo 34 : Old footing encountered during excavation along southern building footing – approximately 5' east of southwestern building corner.

Photo 35 : View of excavation facing east from southwestern building corner.

Photo 36 : View facing north from southwestern building corner – old footing in center.

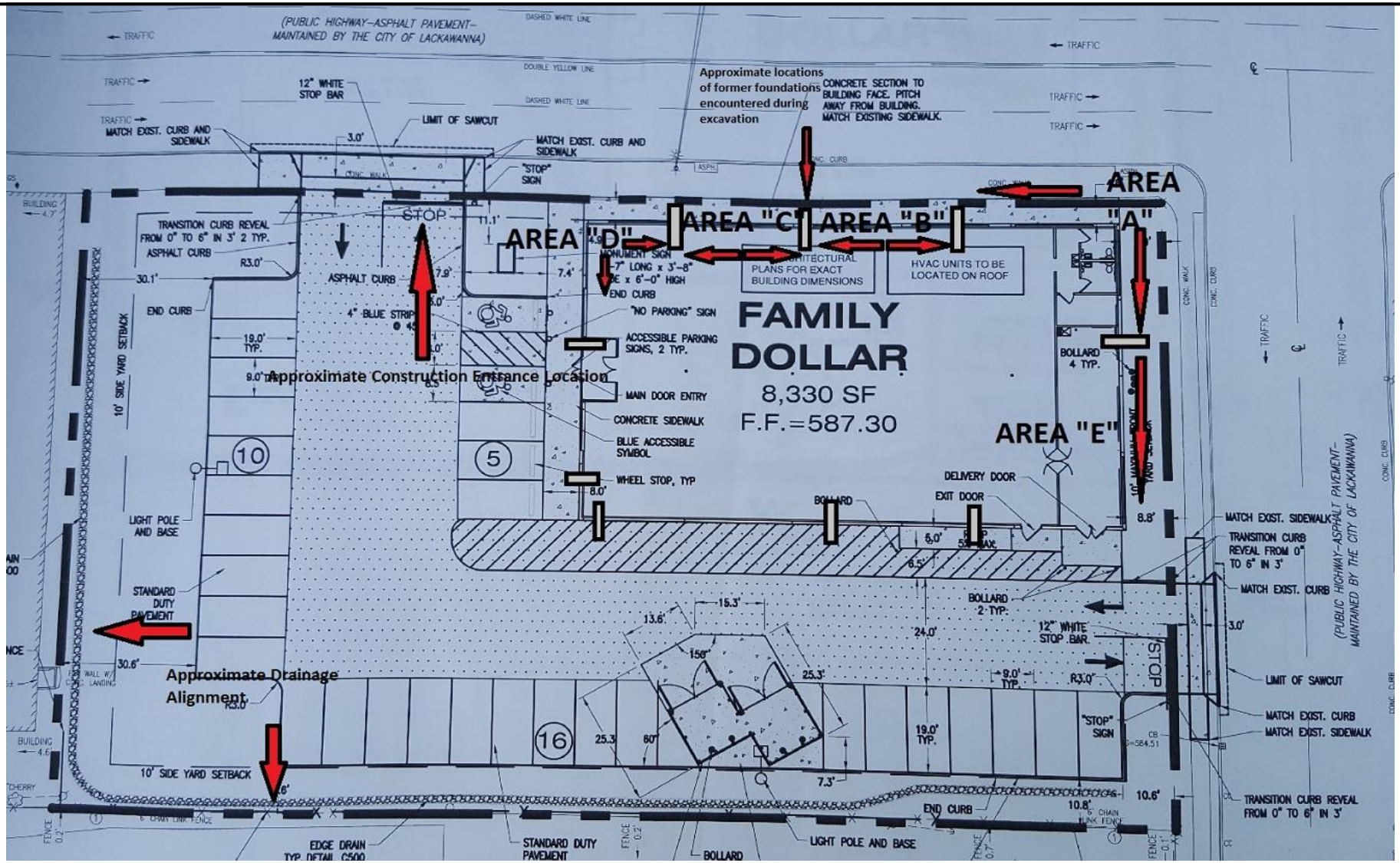
Photo 37 : Contractor placing fabric and stone in areas overexcavated due to fills and old concrete footings.

Photo 38 : Compacted center pier locations.

Photo 39 : View facing south from northwestern building corner.

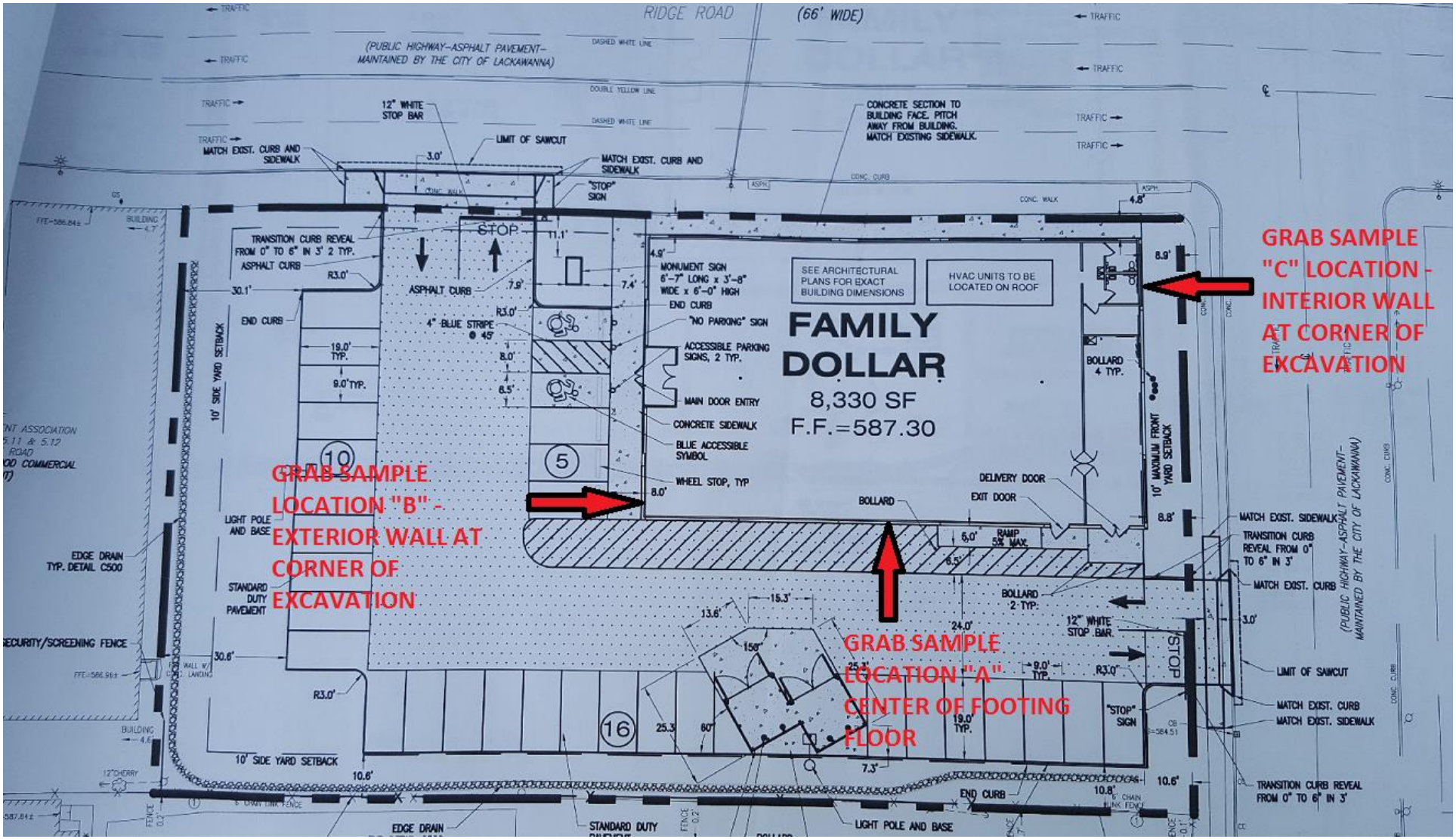
Photo 40 : View facing west from southeastern building corner – contractor placing fabric and stone in areas where old footings were removed.

Appendix D – Excavation and Sampling Figures



Site Plan Indicating Designation of Excavated Areas Along Foundations For Structure

	Site Plan:	Terracon
	Report Number: J5171046	
	Technician: FRM	Family Dollar Store 715792
	Date: 09/2017	113-115 Ridge Road, Lackawanna NY
	Scale: Not to Scale	



GRAB SAMPLE LOCATIONS FOR SOILS ANALYSIS

	Site Plan:	Terracon
	Report Number: J5171046	
	Technician: FRM	Family Dollar Store 715792
	Date: 09/2017	113-115 Ridge Road, Lackawanna, NY
	Scale: Not to Scale	

Appendix E – Laboratory Data

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

October 18, 2017

Frank Minnolera
Terracon
15 Marway Circle, Suite 2B
Rochester, NY 14624

RE: Project: 9/18
Pace Project No.: 7030143

Dear Frank Minnolera:
Enclosed are the analytical results for sample(s) received by the laboratory on September 16, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Caitlin Panzarella

Caitlin Panzarella
caitlin.panzarella@pacelabs.com
(631)694-3040
Project Manager

Enclosures

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

CERTIFICATIONS

Project: 9/18
Pace Project No.: 7030143

Long Island Certification IDs

575 Broad Hollow Rd, Melville, NY 11747
New York Certification #: 10478 Primary Accrediting Body
New Jersey Certification #: NY158
Pennsylvania Certification #: 68-00350
Connecticut Certification #: PH-0435
Maryland Certification #: 208
Rhode Island Certification #: LAO00340
Massachusetts Certification #: M-NY026
New Hampshire Certification #: 2987

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: FLOOR GRAB **Lab ID: 7030143001** Collected: 09/15/17 09:00 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides	Analytical Method: EPA 8081B Preparation Method: EPA 3545A							
Aldrin	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 21:40	309-00-2	
alpha-BHC	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 21:40	319-84-6	
beta-BHC	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 21:40	319-85-7	
delta-BHC	**3.4**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 21:40	319-86-8	
gamma-BHC (Lindane)	**4.0**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 21:40	58-89-9	
alpha-Chlordane	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 21:40	5103-71-9	
gamma-Chlordane	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 21:40	5103-74-2	L1
4,4'-DDD	**<3.6**	ug/kg	3.6	1	09/24/17 16:06	10/11/17 21:40	72-54-8	
4,4'-DDE	**<3.6**	ug/kg	3.6	1	09/24/17 16:06	10/11/17 21:40	72-55-9	L1
4,4'-DDT	**<3.6**	ug/kg	3.6	1	09/24/17 16:06	10/11/17 21:40	50-29-3	
Dieldrin	**<3.6**	ug/kg	3.6	1	09/24/17 16:06	10/11/17 21:40	60-57-1	
Endosulfan I	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 21:40	959-98-8	
Endosulfan II	**<3.6**	ug/kg	3.6	1	09/24/17 16:06	10/11/17 21:40	33213-65-9	L1
Endosulfan sulfate	**<3.6**	ug/kg	3.6	1	09/24/17 16:06	10/11/17 21:40	1031-07-8	
Endrin	**<3.6**	ug/kg	3.6	1	09/24/17 16:06	10/11/17 21:40	72-20-8	
Endrin aldehyde	**<3.6**	ug/kg	3.6	1	09/24/17 16:06	10/11/17 21:40	7421-93-4	
Endrin ketone	**<3.6**	ug/kg	3.6	1	09/24/17 16:06	10/11/17 21:40	53494-70-5	
Heptachlor	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 21:40	76-44-8	
Heptachlor epoxide	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 21:40	1024-57-3	
Methoxychlor	**<18.6**	ug/kg	18.6	1	09/24/17 16:06	10/11/17 21:40	72-43-5	
Toxaphene	**<186**	ug/kg	186	1	09/24/17 16:06	10/11/17 21:40	8001-35-2	
Surrogates								
Tetrachloro-m-xylene (S)	83	%.	30-150	1	09/24/17 16:06	10/11/17 21:40	877-09-8	
Decachlorobiphenyl (S)	100	%.	30-150	1	09/24/17 16:06	10/11/17 21:40	2051-24-3	
8082 GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3545A							
PCB-1016 (Aroclor 1016)	**<109**	ug/kg	109	3	09/22/17 10:00	10/12/17 14:17	12674-11-2	
PCB-1221 (Aroclor 1221)	**<222**	ug/kg	222	3	09/22/17 10:00	10/12/17 14:17	11104-28-2	
PCB-1232 (Aroclor 1232)	**<109**	ug/kg	109	3	09/22/17 10:00	10/12/17 14:17	11141-16-5	
PCB-1242 (Aroclor 1242)	**705**	ug/kg	109	3	09/22/17 10:00	10/12/17 14:17	53469-21-9	
PCB-1248 (Aroclor 1248)	**<109**	ug/kg	109	3	09/22/17 10:00	10/12/17 14:17	12672-29-6	
PCB-1254 (Aroclor 1254)	**<109**	ug/kg	109	3	09/22/17 10:00	10/12/17 14:17	11097-69-1	
PCB-1260 (Aroclor 1260)	**<109**	ug/kg	109	3	09/22/17 10:00	10/12/17 14:17	11096-82-5	
Surrogates								
Tetrachloro-m-xylene (S)	64	%.	30-150	1	09/22/17 10:00	10/11/17 22:27	877-09-8	
Decachlorobiphenyl (S)	72	%.	30-150	1	09/22/17 10:00	10/11/17 22:27	2051-24-3	
6010 MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B							
Aluminum	**4110**	mg/kg	11.9	1	09/20/17 09:53	09/21/17 03:35	7429-90-5	
Antimony	**<3.6**	mg/kg	3.6	1	09/20/17 09:53	09/21/17 03:35	7440-36-0	
Arsenic	**2.4**	mg/kg	0.59	1	09/20/17 09:53	09/21/17 03:35	7440-38-2	
Barium	**26.8**	mg/kg	11.9	1	09/20/17 09:53	09/21/17 03:35	7440-39-3	
Beryllium	**<3.0**	mg/kg	3.0	10	09/20/17 09:53	09/21/17 12:08	7440-41-7	
Cadmium	**0.42**	mg/kg	0.15	1	09/20/17 09:53	09/21/17 03:35	7440-43-9	
Calcium	**125000**	mg/kg	593	10	09/20/17 09:53	09/21/17 12:08	7440-70-2	
Chromium	**4.8**	mg/kg	0.59	1	09/20/17 09:53	09/21/17 03:35	7440-47-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: FLOOR GRAB **Lab ID: 7030143001** Collected: 09/15/17 09:00 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B							
Cobalt	**3.6**	mg/kg	3.0	1	09/20/17 09:53	09/21/17 03:35	7440-48-4	
Copper	**11.2**	mg/kg	1.5	1	09/20/17 09:53	09/21/17 03:35	7440-50-8	
Iron	**9070**	mg/kg	5.9	1	09/20/17 09:53	09/21/17 03:35	7439-89-6	
Lead	**4.0**	mg/kg	0.30	1	09/20/17 09:53	09/21/17 03:35	7439-92-1	
Magnesium	**16000**	mg/kg	59.3	1	09/20/17 09:53	09/21/17 03:35	7439-95-4	
Manganese	**245**	mg/kg	0.89	1	09/20/17 09:53	09/21/17 03:35	7439-96-5	
Nickel	**8.1**	mg/kg	2.4	1	09/20/17 09:53	09/21/17 03:35	7440-02-0	
Potassium	**985**	mg/kg	296	1	09/20/17 09:53	09/21/17 03:35	7440-09-7	
Selenium	**<0.59**	mg/kg	0.59	1	09/20/17 09:53	09/21/17 03:35	7782-49-2	
Silver	**<0.59**	mg/kg	0.59	1	09/20/17 09:53	09/21/17 03:35	7440-22-4	
Sodium	**1380**	mg/kg	296	1	09/20/17 09:53	09/21/17 03:35	7440-23-5	
Thallium	**<0.59**	mg/kg	0.59	1	09/20/17 09:53	09/21/17 03:35	7440-28-0	
Vanadium	**11.5**	mg/kg	3.0	1	09/20/17 09:53	09/21/17 03:35	7440-62-2	
Zinc	**40.5**	mg/kg	1.2	1	09/20/17 09:53	09/21/17 03:35	7440-66-6	
7471 Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B							
Mercury	**<0.044**	mg/kg	0.044	1	09/21/17 12:13	09/21/17 15:37	7439-97-6	
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3545A							
1,2,4-Trichlorobenzene	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	120-82-1	
2,2'-Oxybis(1-chloropropane)	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	108-60-1	
2,4,5-Trichlorophenol	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	95-95-4	
2,4,6-Trichlorophenol	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	88-06-2	
2,4-Dichlorophenol	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	120-83-2	
2,4-Dimethylphenol	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	105-67-9	M1,R1
2,4-Dinitrophenol	**<739**	ug/kg	739	1	09/20/17 10:30	09/22/17 13:50	51-28-5	CL
2,4-Dinitrotoluene	**<364**	ug/kg	364	1	09/20/17 10:30	09/22/17 13:50	121-14-2	
2,6-Dinitrotoluene	**<364**	ug/kg	364	1	09/20/17 10:30	09/22/17 13:50	606-20-2	
2-Chloronaphthalene	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	91-58-7	
2-Chlorophenol	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	95-57-8	
2-Methylnaphthalene	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	91-57-6	
2-Methylphenol(o-Cresol)	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	95-48-7	
2-Nitroaniline	**<364**	ug/kg	364	1	09/20/17 10:30	09/22/17 13:50	88-74-4	
2-Nitrophenol	**<364**	ug/kg	364	1	09/20/17 10:30	09/22/17 13:50	88-75-5	
3&4-Methylphenol(m&p Cresol)	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50		
3,3'-Dichlorobenzidine	**<364**	ug/kg	364	1	09/20/17 10:30	09/22/17 13:50	91-94-1	R1
3-Nitroaniline	**<364**	ug/kg	364	1	09/20/17 10:30	09/22/17 13:50	99-09-2	
4,6-Dinitro-2-methylphenol	**<739**	ug/kg	739	1	09/20/17 10:30	09/22/17 13:50	534-52-1	
4-Bromophenylphenyl ether	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	101-55-3	
4-Chloro-3-methylphenol	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	59-50-7	
4-Chloroaniline	**<364**	ug/kg	364	1	09/20/17 10:30	09/22/17 13:50	106-47-8	M1
4-Chlorophenylphenyl ether	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	7005-72-3	
4-Nitroaniline	**<364**	ug/kg	364	1	09/20/17 10:30	09/22/17 13:50	100-01-6	
4-Nitrophenol	**<739**	ug/kg	739	1	09/20/17 10:30	09/22/17 13:50	100-02-7	M1
Acenaphthene	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	83-32-9	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: FLOOR GRAB **Lab ID: 7030143001** Collected: 09/15/17 09:00 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3545A							
Acenaphthylene	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	208-96-8	
Acetophenone	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	98-86-2	
Anthracene	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	120-12-7	
Atrazine	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	1912-24-9	
Benzaldehyde	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	100-52-7	CL,IC,IL, L2
Benzo(a)anthracene	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	56-55-3	
Benzo(a)pyrene	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	50-32-8	
Benzo(b)fluoranthene	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	205-99-2	
Benzo(g,h,i)perylene	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	191-24-2	
Benzo(k)fluoranthene	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	207-08-9	
Biphenyl (Diphenyl)	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	92-52-4	
Butylbenzylphthalate	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	85-68-7	
Caprolactam	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	105-60-2	
Carbazole	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	86-74-8	
Chrysene	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	218-01-9	
Di-n-butylphthalate	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	84-74-2	
Di-n-octylphthalate	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	117-84-0	
Dibenz(a,h)anthracene	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	53-70-3	
Dibenzofuran	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	132-64-9	
Diethylphthalate	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	84-66-2	
Dimethylphthalate	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	131-11-3	
Fluoranthene	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	206-44-0	
Fluorene	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	86-73-7	
Hexachloro-1,3-butadiene	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	87-68-3	
Hexachlorobenzene	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	118-74-1	
Hexachlorocyclopentadiene	**<364**	ug/kg	364	1	09/20/17 10:30	09/22/17 13:50	77-47-4	CL,R1
Hexachloroethane	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	67-72-1	
Indeno(1,2,3-cd)pyrene	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	193-39-5	
Isophorone	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	78-59-1	
N-Nitroso-di-n-propylamine	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	621-64-7	
N-Nitrosodiphenylamine	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	86-30-6	
Naphthalene	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	91-20-3	
Nitrobenzene	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	98-95-3	
Pentachlorophenol	**<739**	ug/kg	739	1	09/20/17 10:30	09/22/17 13:50	87-86-5	CL,L2, M0
Phenanthrene	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	85-01-8	
Phenol	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	108-95-2	
Pyrene	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	129-00-0	
bis(2-Chloroethoxy)methane	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	111-91-1	
bis(2-Chloroethyl) ether	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	111-44-4	
bis(2-Ethylhexyl)phthalate	**<73.9**	ug/kg	73.9	1	09/20/17 10:30	09/22/17 13:50	117-81-7	
Surrogates								
Nitrobenzene-d5 (S)	38	%.	23-120	1	09/20/17 10:30	09/22/17 13:50	4165-60-0	
2-Fluorobiphenyl (S)	38	%.	30-115	1	09/20/17 10:30	09/22/17 13:50	321-60-8	
p-Terphenyl-d14 (S)	67	%.	18-137	1	09/20/17 10:30	09/22/17 13:50	1718-51-0	
Phenol-d5 (S)	36	%.	24-113	1	09/20/17 10:30	09/22/17 13:50	4165-62-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
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(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: FLOOR GRAB **Lab ID: 7030143001** Collected: 09/15/17 09:00 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3545A							
Surrogates								
2-Fluorophenol (S)	29	%.	25-121	1	09/20/17 10:30	09/22/17 13:50	367-12-4	
2,4,6-Tribromophenol (S)	37	%.	19-122	1	09/20/17 10:30	09/22/17 13:50	118-79-6	
2-Chlorophenol-d4 (S)	30	%.	20-130	1	09/20/17 10:30	09/22/17 13:50	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	23	%.	20-130	1	09/20/17 10:30	09/22/17 13:50	2199-69-1	
8260C MSV 5035A-L Low Level	Analytical Method: EPA 8260C Preparation Method: EPA 5035A-L							
1,1,1-Trichloroethane	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	71-55-6	
1,1,2,2-Tetrachloroethane	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	79-34-5	
1,1,2-Trichloroethane	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	79-00-5	
1,1,2-Trichlorotrifluoroethane	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	76-13-1	
1,1-Dichloroethane	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	75-34-3	
1,1-Dichloroethene	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	75-35-4	
1,2,4-Trichlorobenzene	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	120-82-1	
1,2-Dibromo-3-chloropropane	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	96-12-8	
1,2-Dibromoethane (EDB)	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	106-93-4	
1,2-Dichlorobenzene	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	95-50-1	
1,2-Dichloroethane	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	107-06-2	
1,2-Dichloropropane	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	78-87-5	
1,3-Dichlorobenzene	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	541-73-1	
1,4-Dichlorobenzene	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	106-46-7	
2-Butanone (MEK)	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	78-93-3	
2-Hexanone	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	591-78-6	
4-Methyl-2-pentanone (MIBK)	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	108-10-1	
Acetone	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	67-64-1	
Benzene	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	71-43-2	
Bromodichloromethane	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	75-27-4	
Bromoform	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	75-25-2	
Bromomethane	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	74-83-9	CL
Carbon disulfide	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	75-15-0	
Carbon tetrachloride	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	56-23-5	
Chlorobenzene	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	108-90-7	
Chloroethane	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	75-00-3	
Chloroform	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	67-66-3	
Chloromethane	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	74-87-3	CL
Cyclohexane	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	110-82-7	
Dibromochloromethane	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	124-48-1	
Dichlorodifluoromethane	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	75-71-8	CL
Ethylbenzene	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	100-41-4	
Isopropylbenzene (Cumene)	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	98-82-8	
Methyl acetate	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	79-20-9	
Methyl-tert-butyl ether	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	1634-04-4	
Methylcyclohexane	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	108-87-2	
Methylene Chloride	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	75-09-2	
Styrene	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	100-42-5	
Tetrachloroethene	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: FLOOR GRAB **Lab ID: 7030143001** Collected: 09/15/17 09:00 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV 5035A-L Low Level	Analytical Method: EPA 8260C Preparation Method: EPA 5035A-L							
Toluene	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	108-88-3	
Trichloroethene	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	79-01-6	
Trichlorofluoromethane	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	75-69-4	
Vinyl chloride	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	75-01-4	CL
Xylene (Total)	**<4.5**	ug/kg	4.5	1	09/24/17 16:03	09/24/17 19:27	1330-20-7	
cis-1,2-Dichloroethene	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	156-59-2	
cis-1,3-Dichloropropene	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	10061-01-5	
trans-1,2-Dichloroethene	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	156-60-5	
trans-1,3-Dichloropropene	**<2.2**	ug/kg	2.2	1	09/24/17 16:03	09/24/17 19:27	10061-02-6	
Surrogates								
Toluene-d8 (S)	101	%.	43-157	1	09/24/17 16:03	09/24/17 19:27	2037-26-5	
4-Bromofluorobenzene (S)	92	%.	34-145	1	09/24/17 16:03	09/24/17 19:27	460-00-4	
1,2-Dichloroethane-d4 (S)	91	%.	33-150	1	09/24/17 16:03	09/24/17 19:27	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2216-92M							
Percent Moisture	**9.4**	%	0.10	1		09/21/17 00:13		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: EXTERIOR WALL GRAB **Lab ID: 7030143002** Collected: 09/15/17 09:05 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides	Analytical Method: EPA 8081B Preparation Method: EPA 3545A							
Aldrin	**<2.1**	ug/kg	2.1	1	09/24/17 16:06	10/11/17 21:55	309-00-2	
alpha-BHC	**<2.1**	ug/kg	2.1	1	09/24/17 16:06	10/11/17 21:55	319-84-6	
beta-BHC	**<2.1**	ug/kg	2.1	1	09/24/17 16:06	10/11/17 21:55	319-85-7	
delta-BHC	**6.8**	ug/kg	2.1	1	09/24/17 16:06	10/11/17 21:55	319-86-8	
gamma-BHC (Lindane)	**<2.1**	ug/kg	2.1	1	09/24/17 16:06	10/11/17 21:55	58-89-9	
alpha-Chlordane	**<2.1**	ug/kg	2.1	1	09/24/17 16:06	10/11/17 21:55	5103-71-9	
gamma-Chlordane	**3.2**	ug/kg	2.1	1	09/24/17 16:06	10/11/17 21:55	5103-74-2	L1
4,4'-DDD	**<4.1**	ug/kg	4.1	1	09/24/17 16:06	10/11/17 21:55	72-54-8	
4,4'-DDE	**<4.1**	ug/kg	4.1	1	09/24/17 16:06	10/11/17 21:55	72-55-9	L1
4,4'-DDT	**<4.1**	ug/kg	4.1	1	09/24/17 16:06	10/11/17 21:55	50-29-3	
Dieldrin	**<4.1**	ug/kg	4.1	1	09/24/17 16:06	10/11/17 21:55	60-57-1	
Endosulfan I	**<2.1**	ug/kg	2.1	1	09/24/17 16:06	10/11/17 21:55	959-98-8	
Endosulfan II	**<4.1**	ug/kg	4.1	1	09/24/17 16:06	10/11/17 21:55	33213-65-9	L1
Endosulfan sulfate	**<4.1**	ug/kg	4.1	1	09/24/17 16:06	10/11/17 21:55	1031-07-8	
Endrin	**<4.1**	ug/kg	4.1	1	09/24/17 16:06	10/11/17 21:55	72-20-8	
Endrin aldehyde	**<4.1**	ug/kg	4.1	1	09/24/17 16:06	10/11/17 21:55	7421-93-4	
Endrin ketone	**4.3**	ug/kg	4.1	1	09/24/17 16:06	10/11/17 21:55	53494-70-5	
Heptachlor	**<2.1**	ug/kg	2.1	1	09/24/17 16:06	10/11/17 21:55	76-44-8	
Heptachlor epoxide	**<2.1**	ug/kg	2.1	1	09/24/17 16:06	10/11/17 21:55	1024-57-3	
Methoxychlor	**<21.3**	ug/kg	21.3	1	09/24/17 16:06	10/11/17 21:55	72-43-5	
Toxaphene	**<213**	ug/kg	213	1	09/24/17 16:06	10/11/17 21:55	8001-35-2	
Surrogates								
Tetrachloro-m-xylene (S)	44	%.	30-150	1	09/24/17 16:06	10/11/17 21:55	877-09-8	
Decachlorobiphenyl (S)	144	%.	30-150	1	09/24/17 16:06	10/11/17 21:55	2051-24-3	
8082 GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3545A							
PCB-1016 (Aroclor 1016)	**<41.3**	ug/kg	41.3	1	09/22/17 10:00	10/11/17 22:40	12674-11-2	
PCB-1221 (Aroclor 1221)	**<83.9**	ug/kg	83.9	1	09/22/17 10:00	10/11/17 22:40	11104-28-2	
PCB-1232 (Aroclor 1232)	**<41.3**	ug/kg	41.3	1	09/22/17 10:00	10/11/17 22:40	11141-16-5	
PCB-1242 (Aroclor 1242)	**271**	ug/kg	41.3	1	09/22/17 10:00	10/11/17 22:40	53469-21-9	
PCB-1248 (Aroclor 1248)	**<41.3**	ug/kg	41.3	1	09/22/17 10:00	10/11/17 22:40	12672-29-6	
PCB-1254 (Aroclor 1254)	**<41.3**	ug/kg	41.3	1	09/22/17 10:00	10/11/17 22:40	11097-69-1	
PCB-1260 (Aroclor 1260)	**<41.3**	ug/kg	41.3	1	09/22/17 10:00	10/11/17 22:40	11096-82-5	
Surrogates								
Tetrachloro-m-xylene (S)	48	%.	30-150	1	09/22/17 10:00	10/11/17 22:40	877-09-8	
Decachlorobiphenyl (S)	73	%.	30-150	1	09/22/17 10:00	10/11/17 22:40	2051-24-3	
6010 MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B							
Aluminum	**8390**	mg/kg	12.7	1	09/20/17 09:53	09/21/17 03:40	7429-90-5	
Antimony	**<3.8**	mg/kg	3.8	1	09/20/17 09:53	09/21/17 03:40	7440-36-0	
Arsenic	**4.8**	mg/kg	0.64	1	09/20/17 09:53	09/21/17 03:40	7440-38-2	
Barium	**59.2**	mg/kg	12.7	1	09/20/17 09:53	09/21/17 03:40	7440-39-3	
Beryllium	**<0.32**	mg/kg	0.32	1	09/20/17 09:53	09/21/17 03:40	7440-41-7	
Cadmium	**0.53**	mg/kg	0.16	1	09/20/17 09:53	09/21/17 03:40	7440-43-9	
Calcium	**4330**	mg/kg	63.7	1	09/20/17 09:53	09/21/17 03:40	7440-70-2	
Chromium	**6.5**	mg/kg	0.64	1	09/20/17 09:53	09/21/17 03:40	7440-47-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: EXTERIOR WALL GRAB **Lab ID: 7030143002** Collected: 09/15/17 09:05 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B							
Cobalt	**3.8**	mg/kg	3.2	1	09/20/17 09:53	09/21/17 03:40	7440-48-4	
Copper	**12.9**	mg/kg	1.6	1	09/20/17 09:53	09/21/17 03:40	7440-50-8	
Iron	**12900**	mg/kg	6.4	1	09/20/17 09:53	09/21/17 03:40	7439-89-6	
Lead	**24.1**	mg/kg	0.32	1	09/20/17 09:53	09/21/17 03:40	7439-92-1	
Magnesium	**1300**	mg/kg	63.7	1	09/20/17 09:53	09/21/17 03:40	7439-95-4	
Manganese	**238**	mg/kg	0.96	1	09/20/17 09:53	09/21/17 03:40	7439-96-5	
Nickel	**7.5**	mg/kg	2.5	1	09/20/17 09:53	09/21/17 03:40	7440-02-0	
Potassium	**680**	mg/kg	318	1	09/20/17 09:53	09/21/17 03:40	7440-09-7	
Selenium	**<0.64**	mg/kg	0.64	1	09/20/17 09:53	09/21/17 03:40	7782-49-2	
Silver	**<0.64**	mg/kg	0.64	1	09/20/17 09:53	09/21/17 03:40	7440-22-4	
Sodium	**<318**	mg/kg	318	1	09/20/17 09:53	09/21/17 03:40	7440-23-5	
Thallium	**<0.64**	mg/kg	0.64	1	09/20/17 09:53	09/21/17 03:40	7440-28-0	
Vanadium	**15.8**	mg/kg	3.2	1	09/20/17 09:53	09/21/17 03:40	7440-62-2	
Zinc	**47.6**	mg/kg	1.3	1	09/20/17 09:53	09/21/17 03:40	7440-66-6	
7471 Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B							
Mercury	**0.13**	mg/kg	0.054	1	09/21/17 12:13	09/21/17 15:44	7439-97-6	
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3545A							
1,2,4-Trichlorobenzene	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	120-82-1	
2,2'-Oxybis(1-chloropropane)	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	108-60-1	
2,4,5-Trichlorophenol	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	95-95-4	
2,4,6-Trichlorophenol	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	88-06-2	
2,4-Dichlorophenol	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	120-83-2	
2,4-Dimethylphenol	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	105-67-9	
2,4-Dinitrophenol	**<838**	ug/kg	838	1	09/20/17 10:30	09/22/17 16:34	51-28-5	CL
2,4-Dinitrotoluene	**<413**	ug/kg	413	1	09/20/17 10:30	09/22/17 16:34	121-14-2	
2,6-Dinitrotoluene	**<413**	ug/kg	413	1	09/20/17 10:30	09/22/17 16:34	606-20-2	
2-Chloronaphthalene	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	91-58-7	
2-Chlorophenol	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	95-57-8	
2-Methylnaphthalene	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	91-57-6	
2-Methylphenol(o-Cresol)	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	95-48-7	
2-Nitroaniline	**<413**	ug/kg	413	1	09/20/17 10:30	09/22/17 16:34	88-74-4	
2-Nitrophenol	**<413**	ug/kg	413	1	09/20/17 10:30	09/22/17 16:34	88-75-5	
3&4-Methylphenol(m&p Cresol)	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34		
3,3'-Dichlorobenzidine	**<413**	ug/kg	413	1	09/20/17 10:30	09/22/17 16:34	91-94-1	
3-Nitroaniline	**<413**	ug/kg	413	1	09/20/17 10:30	09/22/17 16:34	99-09-2	
4,6-Dinitro-2-methylphenol	**<838**	ug/kg	838	1	09/20/17 10:30	09/22/17 16:34	534-52-1	
4-Bromophenylphenyl ether	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	101-55-3	
4-Chloro-3-methylphenol	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	59-50-7	
4-Chloroaniline	**<413**	ug/kg	413	1	09/20/17 10:30	09/22/17 16:34	106-47-8	
4-Chlorophenylphenyl ether	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	7005-72-3	
4-Nitroaniline	**<413**	ug/kg	413	1	09/20/17 10:30	09/22/17 16:34	100-01-6	
4-Nitrophenol	**<838**	ug/kg	838	1	09/20/17 10:30	09/22/17 16:34	100-02-7	
Acenaphthene	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	83-32-9	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: EXTERIOR WALL GRAB **Lab ID: 7030143002** Collected: 09/15/17 09:05 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3545A							
Acenaphthylene	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	208-96-8	
Acetophenone	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	98-86-2	
Anthracene	**160**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	120-12-7	
Atrazine	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	1912-24-9	
Benzaldehyde	**118**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	100-52-7	CL,IC,IL, L2
Benzo(a)anthracene	**550**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	56-55-3	
Benzo(a)pyrene	**485**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	50-32-8	
Benzo(b)fluoranthene	**638**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	205-99-2	
Benzo(g,h,i)perylene	**313**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	191-24-2	
Benzo(k)fluoranthene	**306**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	207-08-9	
Biphenyl (Diphenyl)	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	92-52-4	
Butylbenzylphthalate	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	85-68-7	
Caprolactam	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	105-60-2	
Carbazole	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	86-74-8	
Chrysene	**623**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	218-01-9	
Di-n-butylphthalate	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	84-74-2	
Di-n-octylphthalate	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	117-84-0	
Dibenz(a,h)anthracene	**90.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	53-70-3	
Dibenzofuran	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	132-64-9	
Diethylphthalate	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	84-66-2	
Dimethylphthalate	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	131-11-3	
Fluoranthene	**1020**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	206-44-0	
Fluorene	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	86-73-7	
Hexachloro-1,3-butadiene	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	87-68-3	
Hexachlorobenzene	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	118-74-1	
Hexachlorocyclopentadiene	**<413**	ug/kg	413	1	09/20/17 10:30	09/22/17 16:34	77-47-4	CL
Hexachloroethane	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	67-72-1	
Indeno(1,2,3-cd)pyrene	**341**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	193-39-5	
Isophorone	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	78-59-1	
N-Nitroso-di-n-propylamine	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	621-64-7	
N-Nitrosodiphenylamine	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	86-30-6	
Naphthalene	**89.0**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	91-20-3	
Nitrobenzene	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	98-95-3	
Pentachlorophenol	**<838**	ug/kg	838	1	09/20/17 10:30	09/22/17 16:34	87-86-5	CL,L2
Phenanthrene	**678**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	85-01-8	
Phenol	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	108-95-2	
Pyrene	**936**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	129-00-0	
bis(2-Chloroethoxy)methane	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	111-91-1	
bis(2-Chloroethyl) ether	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	111-44-4	
bis(2-Ethylhexyl)phthalate	**<83.8**	ug/kg	83.8	1	09/20/17 10:30	09/22/17 16:34	117-81-7	
Surrogates								
Nitrobenzene-d5 (S)	67	%.	23-120	1	09/20/17 10:30	09/22/17 16:34	4165-60-0	
2-Fluorobiphenyl (S)	66	%.	30-115	1	09/20/17 10:30	09/22/17 16:34	321-60-8	
p-Terphenyl-d14 (S)	80	%.	18-137	1	09/20/17 10:30	09/22/17 16:34	1718-51-0	
Phenol-d5 (S)	58	%.	24-113	1	09/20/17 10:30	09/22/17 16:34	4165-62-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: EXTERIOR WALL GRAB **Lab ID: 7030143002** Collected: 09/15/17 09:05 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3545A							
Surrogates								
2-Fluorophenol (S)	50	%.	25-121	1	09/20/17 10:30	09/22/17 16:34	367-12-4	
2,4,6-Tribromophenol (S)	60	%.	19-122	1	09/20/17 10:30	09/22/17 16:34	118-79-6	
2-Chlorophenol-d4 (S)	53	%.	20-130	1	09/20/17 10:30	09/22/17 16:34	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	50	%.	20-130	1	09/20/17 10:30	09/22/17 16:34	2199-69-1	
8260C MSV 5035A-L Low Level	Analytical Method: EPA 8260C							
1,1,1-Trichloroethane	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	71-55-6	
1,1,2,2-Tetrachloroethane	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	79-34-5	
1,1,2-Trichloroethane	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	79-00-5	
1,1,2-Trichlorotrifluoroethane	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	76-13-1	
1,1-Dichloroethane	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	75-34-3	
1,1-Dichloroethene	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	75-35-4	
1,2,4-Trichlorobenzene	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	120-82-1	
1,2-Dibromo-3-chloropropane	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	96-12-8	
1,2-Dibromoethane (EDB)	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	106-93-4	
1,2-Dichlorobenzene	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	95-50-1	
1,2-Dichloroethane	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	107-06-2	
1,2-Dichloropropane	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	78-87-5	
1,3-Dichlorobenzene	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	541-73-1	
1,4-Dichlorobenzene	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	106-46-7	
2-Butanone (MEK)	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	78-93-3	CL
2-Hexanone	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	591-78-6	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	108-10-1	
Acetone	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	67-64-1	
Benzene	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	71-43-2	
Bromodichloromethane	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	75-27-4	
Bromoform	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	75-25-2	
Bromomethane	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	74-83-9	
Carbon disulfide	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	75-15-0	
Carbon tetrachloride	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	56-23-5	
Chlorobenzene	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	108-90-7	
Chloroethane	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	75-00-3	
Chloroform	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	67-66-3	
Chloromethane	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	74-87-3	
Cyclohexane	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	110-82-7	
Dibromochloromethane	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	124-48-1	
Dichlorodifluoromethane	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	75-71-8	
Ethylbenzene	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	100-41-4	
Isopropylbenzene (Cumene)	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	98-82-8	
Methyl acetate	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	79-20-9	
Methyl-tert-butyl ether	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	1634-04-4	
Methylcyclohexane	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	108-87-2	
Methylene Chloride	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	75-09-2	
Styrene	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	100-42-5	
Tetrachloroethene	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: EXTERIOR WALL GRAB **Lab ID: 7030143002** Collected: 09/15/17 09:05 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV 5035A-L Low Level	Analytical Method: EPA 8260C							
Toluene	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	108-88-3	
Trichloroethene	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	79-01-6	
Trichlorofluoromethane	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	75-69-4	
Vinyl chloride	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	75-01-4	
Xylene (Total)	**<5.0**	ug/kg	5.0	1		09/25/17 11:23	1330-20-7	
cis-1,2-Dichloroethene	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	156-59-2	
cis-1,3-Dichloropropene	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	10061-01-5	
trans-1,2-Dichloroethene	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	156-60-5	
trans-1,3-Dichloropropene	**<2.5**	ug/kg	2.5	1		09/25/17 11:23	10061-02-6	
Surrogates								
Toluene-d8 (S)	20900	%.	43-157	1		09/25/17 11:23	2037-26-5	
4-Bromofluorobenzene (S)	19000	%.	34-145	1		09/25/17 11:23	460-00-4	
1,2-Dichloroethane-d4 (S)	19500	%.	33-150	1		09/25/17 11:23	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2216-92M							
Percent Moisture	**20.1**	%	0.10	1		09/21/17 00:14		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: INTERIOR WALL GRAB **Lab ID: 7030143003** Collected: 09/15/17 09:10 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides	Analytical Method: EPA 8081B Preparation Method: EPA 3545A							
Aldrin	**2.9**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 22:09	309-00-2	
alpha-BHC	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 22:09	319-84-6	
beta-BHC	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 22:09	319-85-7	
delta-BHC	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 22:09	319-86-8	
gamma-BHC (Lindane)	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 22:09	58-89-9	
alpha-Chlordane	**2.4**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 22:09	5103-71-9	
gamma-Chlordane	**2.0**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 22:09	5103-74-2	L1
4,4'-DDD	**4.2**	ug/kg	3.6	1	09/24/17 16:06	10/11/17 22:09	72-54-8	
4,4'-DDE	**42.9**	ug/kg	36.5	10	09/24/17 16:06	10/16/17 17:46	72-55-9	L1
4,4'-DDT	**93.3**	ug/kg	36.5	10	09/24/17 16:06	10/16/17 17:46	50-29-3	
Dieldrin	**<3.6**	ug/kg	3.6	1	09/24/17 16:06	10/11/17 22:09	60-57-1	
Endosulfan I	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 22:09	959-98-8	
Endosulfan II	**<3.6**	ug/kg	3.6	1	09/24/17 16:06	10/11/17 22:09	33213-65-9	L1
Endosulfan sulfate	**<3.6**	ug/kg	3.6	1	09/24/17 16:06	10/11/17 22:09	1031-07-8	
Endrin	**<3.6**	ug/kg	3.6	1	09/24/17 16:06	10/11/17 22:09	72-20-8	
Endrin aldehyde	**4.6**	ug/kg	3.6	1	09/24/17 16:06	10/11/17 22:09	7421-93-4	
Endrin ketone	**<3.6**	ug/kg	3.6	1	09/24/17 16:06	10/11/17 22:09	53494-70-5	
Heptachlor	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 22:09	76-44-8	
Heptachlor epoxide	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 22:09	1024-57-3	
Methoxychlor	**<18.8**	ug/kg	18.8	1	09/24/17 16:06	10/11/17 22:09	72-43-5	
Toxaphene	**<188**	ug/kg	188	1	09/24/17 16:06	10/11/17 22:09	8001-35-2	
Surrogates								
Tetrachloro-m-xylene (S)	85	%.	30-150	1	09/24/17 16:06	10/11/17 22:09	877-09-8	
Decachlorobiphenyl (S)	77	%.	30-150	1	09/24/17 16:06	10/11/17 22:09	2051-24-3	
8082 GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3545A							
PCB-1016 (Aroclor 1016)	**<36.6**	ug/kg	36.6	1	09/22/17 10:00	10/11/17 22:53	12674-11-2	
PCB-1221 (Aroclor 1221)	**<74.3**	ug/kg	74.3	1	09/22/17 10:00	10/11/17 22:53	11104-28-2	
PCB-1232 (Aroclor 1232)	**<36.6**	ug/kg	36.6	1	09/22/17 10:00	10/11/17 22:53	11141-16-5	
PCB-1242 (Aroclor 1242)	**64.7**	ug/kg	36.6	1	09/22/17 10:00	10/11/17 22:53	53469-21-9	
PCB-1248 (Aroclor 1248)	**<36.6**	ug/kg	36.6	1	09/22/17 10:00	10/11/17 22:53	12672-29-6	
PCB-1254 (Aroclor 1254)	**<36.6**	ug/kg	36.6	1	09/22/17 10:00	10/11/17 22:53	11097-69-1	
PCB-1260 (Aroclor 1260)	**<36.6**	ug/kg	36.6	1	09/22/17 10:00	10/11/17 22:53	11096-82-5	
Surrogates								
Tetrachloro-m-xylene (S)	60	%.	30-150	1	09/22/17 10:00	10/11/17 22:53	877-09-8	
Decachlorobiphenyl (S)	94	%.	30-150	1	09/22/17 10:00	10/11/17 22:53	2051-24-3	
6010 MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B							
Aluminum	**6470**	mg/kg	11.8	1	09/20/17 09:53	09/21/17 03:45	7429-90-5	
Antimony	**<3.5**	mg/kg	3.5	1	09/20/17 09:53	09/21/17 03:45	7440-36-0	
Arsenic	**7.5**	mg/kg	0.59	1	09/20/17 09:53	09/21/17 03:45	7440-38-2	
Barium	**328**	mg/kg	11.8	1	09/20/17 09:53	09/21/17 03:45	7440-39-3	
Beryllium	**<2.9**	mg/kg	2.9	10	09/20/17 09:53	09/21/17 12:13	7440-41-7	
Cadmium	**1.7**	mg/kg	0.15	1	09/20/17 09:53	09/21/17 03:45	7440-43-9	
Calcium	**66300**	mg/kg	588	10	09/20/17 09:53	09/21/17 12:13	7440-70-2	
Chromium	**11.0**	mg/kg	0.59	1	09/20/17 09:53	09/21/17 03:45	7440-47-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: INTERIOR WALL GRAB **Lab ID: 7030143003** Collected: 09/15/17 09:10 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B							
Cobalt	**4.1**	mg/kg	2.9	1	09/20/17 09:53	09/21/17 03:45	7440-48-4	
Copper	**190**	mg/kg	1.5	1	09/20/17 09:53	09/21/17 03:45	7440-50-8	
Iron	**15000**	mg/kg	5.9	1	09/20/17 09:53	09/21/17 03:45	7439-89-6	
Lead	**299**	mg/kg	0.29	1	09/20/17 09:53	09/21/17 03:45	7439-92-1	
Magnesium	**7460**	mg/kg	58.8	1	09/20/17 09:53	09/21/17 03:45	7439-95-4	
Manganese	**332**	mg/kg	0.88	1	09/20/17 09:53	09/21/17 03:45	7439-96-5	
Nickel	**10.0**	mg/kg	2.4	1	09/20/17 09:53	09/21/17 03:45	7440-02-0	
Potassium	**1090**	mg/kg	294	1	09/20/17 09:53	09/21/17 03:45	7440-09-7	
Selenium	**<0.59**	mg/kg	0.59	1	09/20/17 09:53	09/21/17 03:45	7782-49-2	
Silver	**<0.59**	mg/kg	0.59	1	09/20/17 09:53	09/21/17 03:45	7440-22-4	
Sodium	**872**	mg/kg	294	1	09/20/17 09:53	09/21/17 03:45	7440-23-5	
Thallium	**<0.59**	mg/kg	0.59	1	09/20/17 09:53	09/21/17 03:45	7440-28-0	
Vanadium	**13.1**	mg/kg	2.9	1	09/20/17 09:53	09/21/17 03:45	7440-62-2	
Zinc	**393**	mg/kg	1.2	1	09/20/17 09:53	09/21/17 03:45	7440-66-6	
7471 Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B							
Mercury	**0.059**	mg/kg	0.040	1	09/21/17 12:13	09/21/17 15:46	7439-97-6	
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3545A							
1,2,4-Trichlorobenzene	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	120-82-1	
2,2'-Oxybis(1-chloropropane)	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	108-60-1	
2,4,5-Trichlorophenol	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	95-95-4	
2,4,6-Trichlorophenol	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	88-06-2	
2,4-Dichlorophenol	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	120-83-2	
2,4-Dimethylphenol	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	105-67-9	CL
2,4-Dinitrophenol	**<3700**	ug/kg	3700	5	09/20/17 10:30	09/25/17 16:01	51-28-5	CL
2,4-Dinitrotoluene	**<1820**	ug/kg	1820	5	09/20/17 10:30	09/25/17 16:01	121-14-2	
2,6-Dinitrotoluene	**<1820**	ug/kg	1820	5	09/20/17 10:30	09/25/17 16:01	606-20-2	
2-Chloronaphthalene	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	91-58-7	
2-Chlorophenol	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	95-57-8	
2-Methylnaphthalene	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	91-57-6	
2-Methylphenol(o-Cresol)	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	95-48-7	
2-Nitroaniline	**<1820**	ug/kg	1820	5	09/20/17 10:30	09/25/17 16:01	88-74-4	CL
2-Nitrophenol	**<1820**	ug/kg	1820	5	09/20/17 10:30	09/25/17 16:01	88-75-5	
3&4-Methylphenol(m&p Cresol)	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01		
3,3'-Dichlorobenzidine	**<1820**	ug/kg	1820	5	09/20/17 10:30	09/25/17 16:01	91-94-1	
3-Nitroaniline	**<1820**	ug/kg	1820	5	09/20/17 10:30	09/25/17 16:01	99-09-2	
4,6-Dinitro-2-methylphenol	**<3700**	ug/kg	3700	5	09/20/17 10:30	09/25/17 16:01	534-52-1	CL
4-Bromophenylphenyl ether	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	101-55-3	
4-Chloro-3-methylphenol	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	59-50-7	
4-Chloroaniline	**<1820**	ug/kg	1820	5	09/20/17 10:30	09/25/17 16:01	106-47-8	
4-Chlorophenylphenyl ether	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	7005-72-3	
4-Nitroaniline	**<1820**	ug/kg	1820	5	09/20/17 10:30	09/25/17 16:01	100-01-6	
4-Nitrophenol	**<3700**	ug/kg	3700	5	09/20/17 10:30	09/25/17 16:01	100-02-7	
Acenaphthene	**633**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	83-32-9	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: INTERIOR WALL GRAB **Lab ID: 7030143003** Collected: 09/15/17 09:10 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3545A							
Acenaphthylene	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	208-96-8	
Acetophenone	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	98-86-2	
Anthracene	**2250**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	120-12-7	
Atrazine	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	1912-24-9	
Benzaldehyde	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	100-52-7	CL,IC,IL, L2
Benzo(a)anthracene	**6650**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	56-55-3	
Benzo(a)pyrene	**5880**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	50-32-8	
Benzo(b)fluoranthene	**6990**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	205-99-2	
Benzo(g,h,i)perylene	**3820**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	191-24-2	
Benzo(k)fluoranthene	**3140**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	207-08-9	
Biphenyl (Diphenyl)	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	92-52-4	
Butylbenzylphthalate	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	85-68-7	
Caprolactam	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	105-60-2	
Carbazole	**1300**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	86-74-8	
Chrysene	**6290**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	218-01-9	
Di-n-butylphthalate	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	84-74-2	
Di-n-octylphthalate	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	117-84-0	
Dibenz(a,h)anthracene	**1080**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	53-70-3	
Dibenzofuran	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	132-64-9	
Diethylphthalate	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	84-66-2	
Dimethylphthalate	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	131-11-3	
Fluoranthene	**14100**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	206-44-0	
Fluorene	**535**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	86-73-7	
Hexachloro-1,3-butadiene	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	87-68-3	CL
Hexachlorobenzene	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	118-74-1	
Hexachlorocyclopentadiene	**<1820**	ug/kg	1820	5	09/20/17 10:30	09/25/17 16:01	77-47-4	CL
Hexachloroethane	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	67-72-1	
Indeno(1,2,3-cd)pyrene	**4290**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	193-39-5	
Isophorone	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	78-59-1	
N-Nitroso-di-n-propylamine	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	621-64-7	
N-Nitrosodiphenylamine	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	86-30-6	
Naphthalene	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	91-20-3	
Nitrobenzene	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	98-95-3	
Pentachlorophenol	**<3700**	ug/kg	3700	5	09/20/17 10:30	09/25/17 16:01	87-86-5	CL,L2
Phenanthrene	**8720**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	85-01-8	
Phenol	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	108-95-2	
Pyrene	**11600**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	129-00-0	
bis(2-Chloroethoxy)methane	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	111-91-1	CL
bis(2-Chloroethyl) ether	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	111-44-4	CL
bis(2-Ethylhexyl)phthalate	**<370**	ug/kg	370	5	09/20/17 10:30	09/25/17 16:01	117-81-7	
Surrogates								
Nitrobenzene-d5 (S)	54	%.	23-120	5	09/20/17 10:30	09/25/17 16:01	4165-60-0	
2-Fluorobiphenyl (S)	58	%.	30-115	5	09/20/17 10:30	09/25/17 16:01	321-60-8	
p-Terphenyl-d14 (S)	66	%.	18-137	5	09/20/17 10:30	09/25/17 16:01	1718-51-0	
Phenol-d5 (S)	53	%.	24-113	5	09/20/17 10:30	09/25/17 16:01	4165-62-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: INTERIOR WALL GRAB **Lab ID: 7030143003** Collected: 09/15/17 09:10 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3545A							
Surrogates								
2-Fluorophenol (S)	49	%.	25-121	5	09/20/17 10:30	09/25/17 16:01	367-12-4	
2,4,6-Tribromophenol (S)	59	%.	19-122	5	09/20/17 10:30	09/25/17 16:01	118-79-6	
2-Chlorophenol-d4 (S)	57	%.	20-130	5	09/20/17 10:30	09/25/17 16:01	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	52	%.	20-130	5	09/20/17 10:30	09/25/17 16:01	2199-69-1	
8260C MSV 5035A-L Low Level	Analytical Method: EPA 8260C Preparation Method: EPA 5035A-L							
1,1,1-Trichloroethane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	71-55-6	
1,1,2,2-Tetrachloroethane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	79-34-5	
1,1,2-Trichloroethane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	79-00-5	
1,1,2-Trichlorotrifluoroethane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	76-13-1	
1,1-Dichloroethane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	75-34-3	
1,1-Dichloroethene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	75-35-4	
1,2,4-Trichlorobenzene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	120-82-1	
1,2-Dibromo-3-chloropropane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	96-12-8	
1,2-Dibromoethane (EDB)	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	106-93-4	
1,2-Dichlorobenzene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	95-50-1	
1,2-Dichloroethane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	107-06-2	
1,2-Dichloropropane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	78-87-5	
1,3-Dichlorobenzene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	541-73-1	
1,4-Dichlorobenzene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	106-46-7	
2-Butanone (MEK)	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	78-93-3	
2-Hexanone	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	591-78-6	
4-Methyl-2-pentanone (MIBK)	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	108-10-1	
Acetone	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	67-64-1	
Benzene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	71-43-2	
Bromodichloromethane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	75-27-4	
Bromoform	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	75-25-2	
Bromomethane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	74-83-9	CL
Carbon disulfide	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	75-15-0	
Carbon tetrachloride	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	56-23-5	
Chlorobenzene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	108-90-7	
Chloroethane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	75-00-3	
Chloroform	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	67-66-3	
Chloromethane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	74-87-3	CL
Cyclohexane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	110-82-7	
Dibromochloromethane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	124-48-1	
Dichlorodifluoromethane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	75-71-8	CL
Ethylbenzene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	100-41-4	
Isopropylbenzene (Cumene)	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	98-82-8	
Methyl acetate	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	79-20-9	
Methyl-tert-butyl ether	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	1634-04-4	
Methylcyclohexane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	108-87-2	
Methylene Chloride	**3.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	75-09-2	
Styrene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	100-42-5	
Tetrachloroethene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: INTERIOR WALL GRAB **Lab ID: 7030143003** Collected: 09/15/17 09:10 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV 5035A-L Low Level	Analytical Method: EPA 8260C Preparation Method: EPA 5035A-L							
Toluene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	108-88-3	
Trichloroethene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	79-01-6	
Trichlorofluoromethane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	75-69-4	
Vinyl chloride	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	75-01-4	CL
Xylene (Total)	**<4.9**	ug/kg	4.9	1	09/24/17 16:03	09/24/17 20:26	1330-20-7	
cis-1,2-Dichloroethene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	156-59-2	
cis-1,3-Dichloropropene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	10061-01-5	
trans-1,2-Dichloroethene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	156-60-5	
trans-1,3-Dichloropropene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 20:26	10061-02-6	
Surrogates								
Toluene-d8 (S)	113	%.	43-157	1	09/24/17 16:03	09/24/17 20:26	2037-26-5	
4-Bromofluorobenzene (S)	81	%.	34-145	1	09/24/17 16:03	09/24/17 20:26	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%.	33-150	1	09/24/17 16:03	09/24/17 20:26	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2216-92M							
Percent Moisture	**9.8**	%	0.10	1		09/21/17 00:14		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: FLOOR COMPOSITE **Lab ID: 7030143004** Collected: 09/15/17 09:30 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides	Analytical Method: EPA 8081B Preparation Method: EPA 3545A							
Aldrin	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/06/17 09:28	309-00-2	
alpha-BHC	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/06/17 09:28	319-84-6	
beta-BHC	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/06/17 09:28	319-85-7	
delta-BHC	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/06/17 09:28	319-86-8	
gamma-BHC (Lindane)	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/06/17 09:28	58-89-9	
alpha-Chlordane	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/06/17 09:28	5103-71-9	
gamma-Chlordane	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/06/17 09:28	5103-74-2	L1
4,4'-DDD	**<3.6**	ug/kg	3.6	1	09/24/17 16:06	10/06/17 09:28	72-54-8	
4,4'-DDE	**<3.6**	ug/kg	3.6	1	09/24/17 16:06	10/06/17 09:28	72-55-9	L1
4,4'-DDT	**<3.6**	ug/kg	3.6	1	09/24/17 16:06	10/06/17 09:28	50-29-3	
Dieldrin	**<3.6**	ug/kg	3.6	1	09/24/17 16:06	10/06/17 09:28	60-57-1	
Endosulfan I	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/06/17 09:28	959-98-8	
Endosulfan II	**<3.6**	ug/kg	3.6	1	09/24/17 16:06	10/06/17 09:28	33213-65-9	L1
Endosulfan sulfate	**<3.6**	ug/kg	3.6	1	09/24/17 16:06	10/06/17 09:28	1031-07-8	
Endrin	**<3.6**	ug/kg	3.6	1	09/24/17 16:06	10/06/17 09:28	72-20-8	
Endrin aldehyde	**<3.6**	ug/kg	3.6	1	09/24/17 16:06	10/06/17 09:28	7421-93-4	
Endrin ketone	**<3.6**	ug/kg	3.6	1	09/24/17 16:06	10/06/17 09:28	53494-70-5	
Heptachlor	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/06/17 09:28	76-44-8	
Heptachlor epoxide	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/06/17 09:28	1024-57-3	
Methoxychlor	**<18.7**	ug/kg	18.7	1	09/24/17 16:06	10/06/17 09:28	72-43-5	
Toxaphene	**<187**	ug/kg	187	1	09/24/17 16:06	10/06/17 09:28	8001-35-2	
Surrogates								
Decachlorobiphenyl (S)	94	%.	30-150	1	09/24/17 16:06	10/06/17 09:28	2051-24-3	
8082 GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3545A							
PCB-1016 (Aroclor 1016)	**<36.4**	ug/kg	36.4	1	09/22/17 10:00	10/11/17 23:05	12674-11-2	
PCB-1221 (Aroclor 1221)	**<74.0**	ug/kg	74.0	1	09/22/17 10:00	10/11/17 23:05	11104-28-2	
PCB-1232 (Aroclor 1232)	**<36.4**	ug/kg	36.4	1	09/22/17 10:00	10/11/17 23:05	11141-16-5	
PCB-1242 (Aroclor 1242)	**153**	ug/kg	36.4	1	09/22/17 10:00	10/11/17 23:05	53469-21-9	
PCB-1248 (Aroclor 1248)	**<36.4**	ug/kg	36.4	1	09/22/17 10:00	10/11/17 23:05	12672-29-6	
PCB-1254 (Aroclor 1254)	**<36.4**	ug/kg	36.4	1	09/22/17 10:00	10/11/17 23:05	11097-69-1	
PCB-1260 (Aroclor 1260)	**<36.4**	ug/kg	36.4	1	09/22/17 10:00	10/11/17 23:05	11096-82-5	
Surrogates								
Tetrachloro-m-xylene (S)	81	%.	30-150	1	09/22/17 10:00	10/11/17 23:05	877-09-8	
Decachlorobiphenyl (S)	103	%.	30-150	1	09/22/17 10:00	10/11/17 23:05	2051-24-3	
6010 MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B							
Aluminum	**5410**	mg/kg	11.6	1	09/20/17 09:53	09/21/17 03:50	7429-90-5	
Antimony	**<3.5**	mg/kg	3.5	1	09/20/17 09:53	09/21/17 03:50	7440-36-0	
Arsenic	**2.9**	mg/kg	0.58	1	09/20/17 09:53	09/21/17 03:50	7440-38-2	
Barium	**27.1**	mg/kg	11.6	1	09/20/17 09:53	09/21/17 03:50	7440-39-3	
Beryllium	**<0.29**	mg/kg	0.29	1	09/20/17 09:53	09/21/17 03:50	7440-41-7	
Cadmium	**0.46**	mg/kg	0.14	1	09/20/17 09:53	09/21/17 03:50	7440-43-9	
Calcium	**82300**	mg/kg	580	10	09/20/17 09:53	09/21/17 12:18	7440-70-2	
Chromium	**5.0**	mg/kg	0.58	1	09/20/17 09:53	09/21/17 03:50	7440-47-3	
Cobalt	**4.0**	mg/kg	2.9	1	09/20/17 09:53	09/21/17 03:50	7440-48-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: FLOOR COMPOSITE **Lab ID: 7030143004** Collected: 09/15/17 09:30 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B							
Copper	**8.9**	mg/kg	1.4	1	09/20/17 09:53	09/21/17 03:50	7440-50-8	
Iron	**10300**	mg/kg	5.8	1	09/20/17 09:53	09/21/17 03:50	7439-89-6	
Lead	**6.5**	mg/kg	0.29	1	09/20/17 09:53	09/21/17 03:50	7439-92-1	
Magnesium	**12500**	mg/kg	58.0	1	09/20/17 09:53	09/21/17 03:50	7439-95-4	
Manganese	**250**	mg/kg	0.87	1	09/20/17 09:53	09/21/17 03:50	7439-96-5	
Nickel	**9.0**	mg/kg	2.3	1	09/20/17 09:53	09/21/17 03:50	7440-02-0	
Potassium	**867**	mg/kg	290	1	09/20/17 09:53	09/21/17 03:50	7440-09-7	
Selenium	**<0.58**	mg/kg	0.58	1	09/20/17 09:53	09/21/17 03:50	7782-49-2	
Silver	**<0.58**	mg/kg	0.58	1	09/20/17 09:53	09/21/17 03:50	7440-22-4	
Sodium	**1020**	mg/kg	290	1	09/20/17 09:53	09/21/17 03:50	7440-23-5	
Thallium	**<0.58**	mg/kg	0.58	1	09/20/17 09:53	09/21/17 03:50	7440-28-0	
Vanadium	**12.6**	mg/kg	2.9	1	09/20/17 09:53	09/21/17 03:50	7440-62-2	
Zinc	**39.9**	mg/kg	1.2	1	09/20/17 09:53	09/21/17 03:50	7440-66-6	
7471 Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B							
Mercury	**<0.045**	mg/kg	0.045	1	09/21/17 12:13	09/21/17 15:49	7439-97-6	
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3545A							
1,2,4-Trichlorobenzene	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	120-82-1	
2,2'-Oxybis(1-chloropropane)	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	108-60-1	
2,4,5-Trichlorophenol	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	95-95-4	
2,4,6-Trichlorophenol	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	88-06-2	
2,4-Dichlorophenol	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	120-83-2	
2,4-Dimethylphenol	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	105-67-9	
2,4-Dinitrophenol	**<736**	ug/kg	736	1	09/20/17 10:30	09/22/17 15:11	51-28-5	CL
2,4-Dinitrotoluene	**<362**	ug/kg	362	1	09/20/17 10:30	09/22/17 15:11	121-14-2	
2,6-Dinitrotoluene	**<362**	ug/kg	362	1	09/20/17 10:30	09/22/17 15:11	606-20-2	
2-Chloronaphthalene	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	91-58-7	
2-Chlorophenol	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	95-57-8	
2-Methylnaphthalene	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	91-57-6	
2-Methylphenol(o-Cresol)	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	95-48-7	
2-Nitroaniline	**<362**	ug/kg	362	1	09/20/17 10:30	09/22/17 15:11	88-74-4	
2-Nitrophenol	**<362**	ug/kg	362	1	09/20/17 10:30	09/22/17 15:11	88-75-5	
3&4-Methylphenol(m&p Cresol)	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11		
3,3'-Dichlorobenzidine	**<362**	ug/kg	362	1	09/20/17 10:30	09/22/17 15:11	91-94-1	
3-Nitroaniline	**<362**	ug/kg	362	1	09/20/17 10:30	09/22/17 15:11	99-09-2	
4,6-Dinitro-2-methylphenol	**<736**	ug/kg	736	1	09/20/17 10:30	09/22/17 15:11	534-52-1	
4-Bromophenylphenyl ether	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	101-55-3	
4-Chloro-3-methylphenol	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	59-50-7	
4-Chloroaniline	**<362**	ug/kg	362	1	09/20/17 10:30	09/22/17 15:11	106-47-8	
4-Chlorophenylphenyl ether	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	7005-72-3	
4-Nitroaniline	**<362**	ug/kg	362	1	09/20/17 10:30	09/22/17 15:11	100-01-6	
4-Nitrophenol	**<736**	ug/kg	736	1	09/20/17 10:30	09/22/17 15:11	100-02-7	
Acenaphthene	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	83-32-9	
Acenaphthylene	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	208-96-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: FLOOR COMPOSITE **Lab ID: 7030143004** Collected: 09/15/17 09:30 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3545A							
Acetophenone	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	98-86-2	
Anthracene	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	120-12-7	
Atrazine	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	1912-24-9	
Benzaldehyde	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	100-52-7	CL,IC,IL, L2
Benzo(a)anthracene	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	56-55-3	
Benzo(a)pyrene	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	50-32-8	
Benzo(b)fluoranthene	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	205-99-2	
Benzo(g,h,i)perylene	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	191-24-2	
Benzo(k)fluoranthene	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	207-08-9	
Biphenyl (Diphenyl)	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	92-52-4	
Butylbenzylphthalate	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	85-68-7	
Caprolactam	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	105-60-2	
Carbazole	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	86-74-8	
Chrysene	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	218-01-9	
Di-n-butylphthalate	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	84-74-2	
Di-n-octylphthalate	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	117-84-0	
Dibenz(a,h)anthracene	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	53-70-3	
Dibenzofuran	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	132-64-9	
Diethylphthalate	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	84-66-2	
Dimethylphthalate	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	131-11-3	
Fluoranthene	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	206-44-0	
Fluorene	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	86-73-7	
Hexachloro-1,3-butadiene	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	87-68-3	
Hexachlorobenzene	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	118-74-1	
Hexachlorocyclopentadiene	**<362**	ug/kg	362	1	09/20/17 10:30	09/22/17 15:11	77-47-4	CL
Hexachloroethane	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	67-72-1	
Indeno(1,2,3-cd)pyrene	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	193-39-5	
Isophorone	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	78-59-1	
N-Nitroso-di-n-propylamine	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	621-64-7	
N-Nitrosodiphenylamine	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	86-30-6	
Naphthalene	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	91-20-3	
Nitrobenzene	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	98-95-3	
Pentachlorophenol	**<736**	ug/kg	736	1	09/20/17 10:30	09/22/17 15:11	87-86-5	CL,L2
Phenanthrene	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	85-01-8	
Phenol	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	108-95-2	
Pyrene	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	129-00-0	
bis(2-Chloroethoxy)methane	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	111-91-1	
bis(2-Chloroethyl) ether	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	111-44-4	
bis(2-Ethylhexyl)phthalate	**<73.6**	ug/kg	73.6	1	09/20/17 10:30	09/22/17 15:11	117-81-7	
Surrogates								
Nitrobenzene-d5 (S)	48	%.	23-120	1	09/20/17 10:30	09/22/17 15:11	4165-60-0	
2-Fluorobiphenyl (S)	48	%.	30-115	1	09/20/17 10:30	09/22/17 15:11	321-60-8	
p-Terphenyl-d14 (S)	68	%.	18-137	1	09/20/17 10:30	09/22/17 15:11	1718-51-0	
Phenol-d5 (S)	45	%.	24-113	1	09/20/17 10:30	09/22/17 15:11	4165-62-2	
2-Fluorophenol (S)	40	%.	25-121	1	09/20/17 10:30	09/22/17 15:11	367-12-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: FLOOR COMPOSITE **Lab ID: 7030143004** Collected: 09/15/17 09:30 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3545A							
Surrogates								
2,4,6-Tribromophenol (S)	39	%.	19-122	1	09/20/17 10:30	09/22/17 15:11	118-79-6	
2-Chlorophenol-d4 (S)	39	%.	20-130	1	09/20/17 10:30	09/22/17 15:11	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	26	%.	20-130	1	09/20/17 10:30	09/22/17 15:11	2199-69-1	
8260C MSV 5035A-L Low Level	Analytical Method: EPA 8260C Preparation Method: EPA 5035A-L							
1,1,1-Trichloroethane	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	71-55-6	
1,1,2,2-Tetrachloroethane	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	79-34-5	
1,1,2-Trichloroethane	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	79-00-5	
1,1,2-Trichlorotrifluoroethane	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	76-13-1	
1,1-Dichloroethane	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	75-34-3	
1,1-Dichloroethene	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	75-35-4	
1,2,4-Trichlorobenzene	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	120-82-1	
1,2-Dibromo-3-chloropropane	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	96-12-8	
1,2-Dibromoethane (EDB)	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	106-93-4	
1,2-Dichlorobenzene	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	95-50-1	
1,2-Dichloroethane	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	107-06-2	
1,2-Dichloropropane	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	78-87-5	
1,3-Dichlorobenzene	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	541-73-1	
1,4-Dichlorobenzene	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	106-46-7	
2-Butanone (MEK)	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	78-93-3	
2-Hexanone	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	591-78-6	
4-Methyl-2-pentanone (MIBK)	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	108-10-1	
Acetone	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	67-64-1	
Benzene	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	71-43-2	
Bromodichloromethane	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	75-27-4	
Bromoform	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	75-25-2	
Bromomethane	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	74-83-9	CL
Carbon disulfide	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	75-15-0	
Carbon tetrachloride	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	56-23-5	
Chlorobenzene	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	108-90-7	
Chloroethane	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	75-00-3	
Chloroform	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	67-66-3	
Chloromethane	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	74-87-3	CL
Cyclohexane	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	110-82-7	
Dibromochloromethane	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	124-48-1	
Dichlorodifluoromethane	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	75-71-8	CL
Ethylbenzene	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	100-41-4	
Isopropylbenzene (Cumene)	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	98-82-8	
Methyl acetate	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	79-20-9	
Methyl-tert-butyl ether	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	1634-04-4	
Methylcyclohexane	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	108-87-2	
Methylene Chloride	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	75-09-2	
Styrene	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	100-42-5	
Tetrachloroethene	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	127-18-4	
Toluene	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: FLOOR COMPOSITE **Lab ID: 7030143004** Collected: 09/15/17 09:30 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV 5035A-L Low Level	Analytical Method: EPA 8260C Preparation Method: EPA 5035A-L							
Trichloroethene	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	79-01-6	
Trichlorofluoromethane	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	75-69-4	
Vinyl chloride	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	75-01-4	CL
Xylene (Total)	**<4.5**	ug/kg	4.5	1	09/24/17 16:03	09/24/17 20:46	1330-20-7	
cis-1,2-Dichloroethene	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	156-59-2	
cis-1,3-Dichloropropene	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	10061-01-5	
trans-1,2-Dichloroethene	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	156-60-5	
trans-1,3-Dichloropropene	**<2.3**	ug/kg	2.3	1	09/24/17 16:03	09/24/17 20:46	10061-02-6	
Surrogates								
Toluene-d8 (S)	101	%.	43-157	1	09/24/17 16:03	09/24/17 20:46	2037-26-5	
4-Bromofluorobenzene (S)	96	%.	34-145	1	09/24/17 16:03	09/24/17 20:46	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%.	33-150	1	09/24/17 16:03	09/24/17 20:46	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2216-92M							
Percent Moisture	**9.4**	%	0.10	1		09/21/17 00:14		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: EXTERIOR WALL COMPOSITE **Lab ID: 7030143005** Collected: 09/15/17 09:50 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides	Analytical Method: EPA 8081B Preparation Method: EPA 3545A							
Aldrin	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 22:24	309-00-2	
alpha-BHC	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 22:24	319-84-6	
beta-BHC	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 22:24	319-85-7	
delta-BHC	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 22:24	319-86-8	
gamma-BHC (Lindane)	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 22:24	58-89-9	
alpha-Chlordane	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 22:24	5103-71-9	
gamma-Chlordane	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 22:24	5103-74-2	L1
4,4'-DDD	**<3.7**	ug/kg	3.7	1	09/24/17 16:06	10/11/17 22:24	72-54-8	
4,4'-DDE	**3.9**	ug/kg	3.7	1	09/24/17 16:06	10/11/17 22:24	72-55-9	L1
4,4'-DDT	**3.9**	ug/kg	3.7	1	09/24/17 16:06	10/11/17 22:24	50-29-3	
Dieldrin	**<3.7**	ug/kg	3.7	1	09/24/17 16:06	10/11/17 22:24	60-57-1	
Endosulfan I	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 22:24	959-98-8	
Endosulfan II	**<3.7**	ug/kg	3.7	1	09/24/17 16:06	10/11/17 22:24	33213-65-9	L1
Endosulfan sulfate	**<3.7**	ug/kg	3.7	1	09/24/17 16:06	10/11/17 22:24	1031-07-8	
Endrin	**<3.7**	ug/kg	3.7	1	09/24/17 16:06	10/11/17 22:24	72-20-8	
Endrin aldehyde	**<3.7**	ug/kg	3.7	1	09/24/17 16:06	10/11/17 22:24	7421-93-4	
Endrin ketone	**<3.7**	ug/kg	3.7	1	09/24/17 16:06	10/11/17 22:24	53494-70-5	
Heptachlor	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 22:24	76-44-8	
Heptachlor epoxide	**<1.9**	ug/kg	1.9	1	09/24/17 16:06	10/11/17 22:24	1024-57-3	
Methoxychlor	**<19.3**	ug/kg	19.3	1	09/24/17 16:06	10/11/17 22:24	72-43-5	
Toxaphene	**<193**	ug/kg	193	1	09/24/17 16:06	10/11/17 22:24	8001-35-2	
Surrogates								
Tetrachloro-m-xylene (S)	87	%.	30-150	1	09/24/17 16:06	10/11/17 22:24	877-09-8	
Decachlorobiphenyl (S)	85	%.	30-150	1	09/24/17 16:06	10/11/17 22:24	2051-24-3	
8082 GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3545A							
PCB-1016 (Aroclor 1016)	**<37.5**	ug/kg	37.5	1	09/22/17 10:00	10/11/17 23:18	12674-11-2	
PCB-1221 (Aroclor 1221)	**<76.1**	ug/kg	76.1	1	09/22/17 10:00	10/11/17 23:18	11104-28-2	
PCB-1232 (Aroclor 1232)	**<37.5**	ug/kg	37.5	1	09/22/17 10:00	10/11/17 23:18	11141-16-5	
PCB-1242 (Aroclor 1242)	**95.5**	ug/kg	37.5	1	09/22/17 10:00	10/11/17 23:18	53469-21-9	
PCB-1248 (Aroclor 1248)	**<37.5**	ug/kg	37.5	1	09/22/17 10:00	10/11/17 23:18	12672-29-6	
PCB-1254 (Aroclor 1254)	**178**	ug/kg	37.5	1	09/22/17 10:00	10/11/17 23:18	11097-69-1	
PCB-1260 (Aroclor 1260)	**<37.5**	ug/kg	37.5	1	09/22/17 10:00	10/11/17 23:18	11096-82-5	
Surrogates								
Tetrachloro-m-xylene (S)	80	%.	30-150	1	09/22/17 10:00	10/11/17 23:18	877-09-8	
Decachlorobiphenyl (S)	111	%.	30-150	1	09/22/17 10:00	10/11/17 23:18	2051-24-3	
6010 MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B							
Aluminum	**7830**	mg/kg	11.6	1	09/20/17 09:53	09/21/17 03:55	7429-90-5	
Antimony	**<3.5**	mg/kg	3.5	1	09/20/17 09:53	09/21/17 03:55	7440-36-0	
Arsenic	**6.2**	mg/kg	0.58	1	09/20/17 09:53	09/21/17 03:55	7440-38-2	
Barium	**57.6**	mg/kg	11.6	1	09/20/17 09:53	09/21/17 03:55	7440-39-3	
Beryllium	**<0.29**	mg/kg	0.29	1	09/20/17 09:53	09/21/17 03:55	7440-41-7	
Cadmium	**1.7**	mg/kg	0.14	1	09/20/17 09:53	09/21/17 03:55	7440-43-9	
Calcium	**51500**	mg/kg	57.9	1	09/20/17 09:53	09/21/17 03:55	7440-70-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: EXTERIOR WALL COMPOSITE **Lab ID: 7030143005** Collected: 09/15/17 09:50 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B							
Chromium	**16.0**	mg/kg	0.58	1	09/20/17 09:53	09/21/17 03:55	7440-47-3	
Cobalt	**4.2**	mg/kg	2.9	1	09/20/17 09:53	09/21/17 03:55	7440-48-4	
Copper	**21.1**	mg/kg	1.4	1	09/20/17 09:53	09/21/17 03:55	7440-50-8	
Iron	**17800**	mg/kg	5.8	1	09/20/17 09:53	09/21/17 03:55	7439-89-6	
Lead	**104**	mg/kg	0.29	1	09/20/17 09:53	09/21/17 03:55	7439-92-1	
Magnesium	**10600**	mg/kg	57.9	1	09/20/17 09:53	09/21/17 03:55	7439-95-4	
Manganese	**454**	mg/kg	0.87	1	09/20/17 09:53	09/21/17 03:55	7439-96-5	
Nickel	**11.1**	mg/kg	2.3	1	09/20/17 09:53	09/21/17 03:55	7440-02-0	
Potassium	**951**	mg/kg	290	1	09/20/17 09:53	09/21/17 03:55	7440-09-7	
Selenium	**<0.58**	mg/kg	0.58	1	09/20/17 09:53	09/21/17 03:55	7782-49-2	
Silver	**<0.58**	mg/kg	0.58	1	09/20/17 09:53	09/21/17 03:55	7440-22-4	
Sodium	**476**	mg/kg	290	1	09/20/17 09:53	09/21/17 03:55	7440-23-5	
Thallium	**<0.58**	mg/kg	0.58	1	09/20/17 09:53	09/21/17 03:55	7440-28-0	
Vanadium	**17.0**	mg/kg	2.9	1	09/20/17 09:53	09/21/17 03:55	7440-62-2	
Zinc	**250**	mg/kg	1.2	1	09/20/17 09:53	09/21/17 03:55	7440-66-6	
7471 Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B							
Mercury	**0.094**	mg/kg	0.045	1	09/21/17 12:13	09/21/17 15:51	7439-97-6	
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3545A							
1,2,4-Trichlorobenzene	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	120-82-1	
2,2'-Oxybis(1-chloropropane)	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	108-60-1	
2,4,5-Trichlorophenol	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	95-95-4	
2,4,6-Trichlorophenol	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	88-06-2	
2,4-Dichlorophenol	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	120-83-2	
2,4-Dimethylphenol	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	105-67-9	
2,4-Dinitrophenol	**<758**	ug/kg	758	1	09/20/17 10:30	09/22/17 16:06	51-28-5	CL
2,4-Dinitrotoluene	**<373**	ug/kg	373	1	09/20/17 10:30	09/22/17 16:06	121-14-2	
2,6-Dinitrotoluene	**<373**	ug/kg	373	1	09/20/17 10:30	09/22/17 16:06	606-20-2	
2-Chloronaphthalene	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	91-58-7	
2-Chlorophenol	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	95-57-8	
2-Methylnaphthalene	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	91-57-6	
2-Methylphenol(o-Cresol)	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	95-48-7	
2-Nitroaniline	**<373**	ug/kg	373	1	09/20/17 10:30	09/22/17 16:06	88-74-4	
2-Nitrophenol	**<373**	ug/kg	373	1	09/20/17 10:30	09/22/17 16:06	88-75-5	
3&4-Methylphenol(m&p Cresol)	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06		
3,3'-Dichlorobenzidine	**<373**	ug/kg	373	1	09/20/17 10:30	09/22/17 16:06	91-94-1	
3-Nitroaniline	**<373**	ug/kg	373	1	09/20/17 10:30	09/22/17 16:06	99-09-2	
4,6-Dinitro-2-methylphenol	**<758**	ug/kg	758	1	09/20/17 10:30	09/22/17 16:06	534-52-1	
4-Bromophenylphenyl ether	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	101-55-3	
4-Chloro-3-methylphenol	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	59-50-7	
4-Chloroaniline	**<373**	ug/kg	373	1	09/20/17 10:30	09/22/17 16:06	106-47-8	
4-Chlorophenylphenyl ether	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	7005-72-3	
4-Nitroaniline	**<373**	ug/kg	373	1	09/20/17 10:30	09/22/17 16:06	100-01-6	
4-Nitrophenol	**<758**	ug/kg	758	1	09/20/17 10:30	09/22/17 16:06	100-02-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: EXTERIOR WALL COMPOSITE **Lab ID: 7030143005** Collected: 09/15/17 09:50 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3545A							
Acenaphthene	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	83-32-9	
Acenaphthylene	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	208-96-8	
Acetophenone	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	98-86-2	
Anthracene	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	120-12-7	
Atrazine	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	1912-24-9	
Benzaldehyde	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	100-52-7	CL,IC,IL, L2
Benzo(a)anthracene	**170**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	56-55-3	
Benzo(a)pyrene	**146**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	50-32-8	
Benzo(b)fluoranthene	**202**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	205-99-2	
Benzo(g,h,i)perylene	**112**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	191-24-2	
Benzo(k)fluoranthene	**91.3**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	207-08-9	
Biphenyl (Diphenyl)	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	92-52-4	
Butylbenzylphthalate	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	85-68-7	
Caprolactam	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	105-60-2	
Carbazole	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	86-74-8	
Chrysene	**205**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	218-01-9	
Di-n-butylphthalate	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	84-74-2	
Di-n-octylphthalate	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	117-84-0	
Dibenz(a,h)anthracene	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	53-70-3	
Dibenzofuran	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	132-64-9	
Diethylphthalate	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	84-66-2	
Dimethylphthalate	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	131-11-3	
Fluoranthene	**336**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	206-44-0	
Fluorene	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	86-73-7	
Hexachloro-1,3-butadiene	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	87-68-3	
Hexachlorobenzene	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	118-74-1	
Hexachlorocyclopentadiene	**<373**	ug/kg	373	1	09/20/17 10:30	09/22/17 16:06	77-47-4	CL
Hexachloroethane	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	67-72-1	
Indeno(1,2,3-cd)pyrene	**112**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	193-39-5	
Isophorone	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	78-59-1	
N-Nitroso-di-n-propylamine	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	621-64-7	
N-Nitrosodiphenylamine	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	86-30-6	
Naphthalene	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	91-20-3	
Nitrobenzene	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	98-95-3	
Pentachlorophenol	**<758**	ug/kg	758	1	09/20/17 10:30	09/22/17 16:06	87-86-5	CL,L2
Phenanthrene	**200**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	85-01-8	
Phenol	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	108-95-2	
Pyrene	**315**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	129-00-0	
bis(2-Chloroethoxy)methane	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	111-91-1	
bis(2-Chloroethyl) ether	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	111-44-4	
bis(2-Ethylhexyl)phthalate	**<75.8**	ug/kg	75.8	1	09/20/17 10:30	09/22/17 16:06	117-81-7	
Surrogates								
Nitrobenzene-d5 (S)	58	%.	23-120	1	09/20/17 10:30	09/22/17 16:06	4165-60-0	
2-Fluorobiphenyl (S)	55	%.	30-115	1	09/20/17 10:30	09/22/17 16:06	321-60-8	
p-Terphenyl-d14 (S)	73	%.	18-137	1	09/20/17 10:30	09/22/17 16:06	1718-51-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: EXTERIOR WALL COMPOSITE **Lab ID: 7030143005** Collected: 09/15/17 09:50 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3545A							
Surrogates								
Phenol-d5 (S)	44	%.	24-113	1	09/20/17 10:30	09/22/17 16:06	4165-62-2	
2-Fluorophenol (S)	30	%.	25-121	1	09/20/17 10:30	09/22/17 16:06	367-12-4	
2,4,6-Tribromophenol (S)	41	%.	19-122	1	09/20/17 10:30	09/22/17 16:06	118-79-6	
2-Chlorophenol-d4 (S)	38	%.	20-130	1	09/20/17 10:30	09/22/17 16:06	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	42	%.	20-130	1	09/20/17 10:30	09/22/17 16:06	2199-69-1	
8260C MSV 5035A-L Low Level	Analytical Method: EPA 8260C Preparation Method: EPA 5035A-L							
1,1,1-Trichloroethane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	71-55-6	
1,1,2,2-Tetrachloroethane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	79-34-5	
1,1,2-Trichloroethane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	79-00-5	
1,1,2-Trichlorotrifluoroethane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	76-13-1	
1,1-Dichloroethane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	75-34-3	
1,1-Dichloroethene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	75-35-4	
1,2,4-Trichlorobenzene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	120-82-1	
1,2-Dibromo-3-chloropropane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	96-12-8	
1,2-Dibromoethane (EDB)	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	106-93-4	
1,2-Dichlorobenzene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	95-50-1	
1,2-Dichloroethane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	107-06-2	
1,2-Dichloropropane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	78-87-5	
1,3-Dichlorobenzene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	541-73-1	
1,4-Dichlorobenzene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	106-46-7	
2-Butanone (MEK)	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	78-93-3	
2-Hexanone	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	591-78-6	
4-Methyl-2-pentanone (MIBK)	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	108-10-1	
Acetone	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	67-64-1	
Benzene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	71-43-2	
Bromodichloromethane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	75-27-4	
Bromoform	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	75-25-2	
Bromomethane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	74-83-9	CL
Carbon disulfide	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	75-15-0	
Carbon tetrachloride	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	56-23-5	
Chlorobenzene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	108-90-7	
Chloroethane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	75-00-3	
Chloroform	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	67-66-3	
Chloromethane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	74-87-3	CL
Cyclohexane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	110-82-7	
Dibromochloromethane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	124-48-1	
Dichlorodifluoromethane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	75-71-8	CL
Ethylbenzene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	100-41-4	
Isopropylbenzene (Cumene)	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	98-82-8	
Methyl acetate	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	79-20-9	
Methyl-tert-butyl ether	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	1634-04-4	
Methylcyclohexane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	108-87-2	
Methylene Chloride	**2.5**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	75-09-2	

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: EXTERIOR WALL COMPOSITE **Lab ID: 7030143005** Collected: 09/15/17 09:50 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV 5035A-L Low Level	Analytical Method: EPA 8260C Preparation Method: EPA 5035A-L							
Styrene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	100-42-5	
Tetrachloroethene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	127-18-4	
Toluene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	108-88-3	
Trichloroethene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	79-01-6	
Trichlorofluoromethane	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	75-69-4	
Vinyl chloride	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	75-01-4	CL
Xylene (Total)	**<4.8**	ug/kg	4.8	1	09/24/17 16:03	09/24/17 21:06	1330-20-7	
cis-1,2-Dichloroethene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	156-59-2	
cis-1,3-Dichloropropene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	10061-01-5	
trans-1,2-Dichloroethene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	156-60-5	
trans-1,3-Dichloropropene	**<2.4**	ug/kg	2.4	1	09/24/17 16:03	09/24/17 21:06	10061-02-6	
Surrogates								
Toluene-d8 (S)	108	%.	43-157	1	09/24/17 16:03	09/24/17 21:06	2037-26-5	
4-Bromofluorobenzene (S)	86	%.	34-145	1	09/24/17 16:03	09/24/17 21:06	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%.	33-150	1	09/24/17 16:03	09/24/17 21:06	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2216-92M							
Percent Moisture	**11.9**	%	0.10	1		09/21/17 00:14		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: INTERIOR WALL COMPOSITE **Lab ID: 7030143006** Collected: 09/15/17 10:00 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides	Analytical Method: EPA 8081B Preparation Method: EPA 3545A							
Aldrin	**<2.0**	ug/kg	2.0	1	09/24/17 16:06	10/11/17 22:39	309-00-2	
alpha-BHC	**<2.0**	ug/kg	2.0	1	09/24/17 16:06	10/11/17 22:39	319-84-6	
beta-BHC	**<2.0**	ug/kg	2.0	1	09/24/17 16:06	10/11/17 22:39	319-85-7	
delta-BHC	**<2.0**	ug/kg	2.0	1	09/24/17 16:06	10/11/17 22:39	319-86-8	
gamma-BHC (Lindane)	**<2.0**	ug/kg	2.0	1	09/24/17 16:06	10/11/17 22:39	58-89-9	
alpha-Chlordane	**<2.0**	ug/kg	2.0	1	09/24/17 16:06	10/11/17 22:39	5103-71-9	
gamma-Chlordane	**<2.0**	ug/kg	2.0	1	09/24/17 16:06	10/11/17 22:39	5103-74-2	L1
4,4'-DDD	**<3.9**	ug/kg	3.9	1	09/24/17 16:06	10/11/17 22:39	72-54-8	
4,4'-DDE	**<3.9**	ug/kg	3.9	1	09/24/17 16:06	10/11/17 22:39	72-55-9	L1
4,4'-DDT	**6.2**	ug/kg	3.9	1	09/24/17 16:06	10/11/17 22:39	50-29-3	
Dieldrin	**<3.9**	ug/kg	3.9	1	09/24/17 16:06	10/11/17 22:39	60-57-1	
Endosulfan I	**<2.0**	ug/kg	2.0	1	09/24/17 16:06	10/11/17 22:39	959-98-8	
Endosulfan II	**<3.9**	ug/kg	3.9	1	09/24/17 16:06	10/11/17 22:39	33213-65-9	L1
Endosulfan sulfate	**<3.9**	ug/kg	3.9	1	09/24/17 16:06	10/11/17 22:39	1031-07-8	
Endrin	**<3.9**	ug/kg	3.9	1	09/24/17 16:06	10/11/17 22:39	72-20-8	
Endrin aldehyde	**<3.9**	ug/kg	3.9	1	09/24/17 16:06	10/11/17 22:39	7421-93-4	
Endrin ketone	**<3.9**	ug/kg	3.9	1	09/24/17 16:06	10/11/17 22:39	53494-70-5	
Heptachlor	**<2.0**	ug/kg	2.0	1	09/24/17 16:06	10/11/17 22:39	76-44-8	
Heptachlor epoxide	**<2.0**	ug/kg	2.0	1	09/24/17 16:06	10/11/17 22:39	1024-57-3	
Methoxychlor	**<19.9**	ug/kg	19.9	1	09/24/17 16:06	10/11/17 22:39	72-43-5	
Toxaphene	**<199**	ug/kg	199	1	09/24/17 16:06	10/11/17 22:39	8001-35-2	
Surrogates								
Tetrachloro-m-xylene (S)	99	%.	30-150	1	09/24/17 16:06	10/11/17 22:39	877-09-8	
Decachlorobiphenyl (S)	88	%.	30-150	1	09/24/17 16:06	10/11/17 22:39	2051-24-3	
8082 GCS PCB	Analytical Method: EPA 8082A Preparation Method: EPA 3545A							
PCB-1016 (Aroclor 1016)	**<38.6**	ug/kg	38.6	1	09/22/17 10:00	10/11/17 23:31	12674-11-2	R1
PCB-1221 (Aroclor 1221)	**<78.4**	ug/kg	78.4	1	09/22/17 10:00	10/11/17 23:31	11104-28-2	
PCB-1232 (Aroclor 1232)	**<38.6**	ug/kg	38.6	1	09/22/17 10:00	10/11/17 23:31	11141-16-5	
PCB-1242 (Aroclor 1242)	**67.2**	ug/kg	38.6	1	09/22/17 10:00	10/11/17 23:31	53469-21-9	
PCB-1248 (Aroclor 1248)	**<38.6**	ug/kg	38.6	1	09/22/17 10:00	10/11/17 23:31	12672-29-6	
PCB-1254 (Aroclor 1254)	**194**	ug/kg	38.6	1	09/22/17 10:00	10/11/17 23:31	11097-69-1	
PCB-1260 (Aroclor 1260)	**<38.6**	ug/kg	38.6	1	09/22/17 10:00	10/11/17 23:31	11096-82-5	M1,R1
Surrogates								
Tetrachloro-m-xylene (S)	72	%.	30-150	1	09/22/17 10:00	10/11/17 23:31	877-09-8	
Decachlorobiphenyl (S)	102	%.	30-150	1	09/22/17 10:00	10/11/17 23:31	2051-24-3	
6010 MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B							
Aluminum	**7520**	mg/kg	12.4	1	09/20/17 09:53	09/21/17 04:11	7429-90-5	
Antimony	**<3.7**	mg/kg	3.7	1	09/20/17 09:53	09/21/17 04:11	7440-36-0	
Arsenic	**8.5**	mg/kg	0.62	1	09/20/17 09:53	09/21/17 04:11	7440-38-2	
Barium	**83.7**	mg/kg	12.4	1	09/20/17 09:53	09/21/17 04:11	7440-39-3	
Beryllium	**<0.31**	mg/kg	0.31	1	09/20/17 09:53	09/21/17 04:11	7440-41-7	
Cadmium	**2.5**	mg/kg	0.15	1	09/20/17 09:53	09/21/17 04:11	7440-43-9	
Calcium	**57900**	mg/kg	61.9	1	09/20/17 09:53	09/21/17 04:11	7440-70-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: INTERIOR WALL COMPOSITE **Lab ID: 7030143006** Collected: 09/15/17 10:00 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B							
Chromium	**19.9**	mg/kg	0.62	1	09/20/17 09:53	09/21/17 04:11	7440-47-3	
Cobalt	**3.9**	mg/kg	3.1	1	09/20/17 09:53	09/21/17 04:11	7440-48-4	
Copper	**29.0**	mg/kg	1.5	1	09/20/17 09:53	09/21/17 04:11	7440-50-8	
Iron	**16700**	mg/kg	6.2	1	09/20/17 09:53	09/21/17 04:11	7439-89-6	
Lead	**183**	mg/kg	0.31	1	09/20/17 09:53	09/21/17 04:11	7439-92-1	
Magnesium	**10900**	mg/kg	61.9	1	09/20/17 09:53	09/21/17 04:11	7439-95-4	
Manganese	**435**	mg/kg	0.93	1	09/20/17 09:53	09/21/17 04:11	7439-96-5	
Nickel	**10.8**	mg/kg	2.5	1	09/20/17 09:53	09/21/17 04:11	7440-02-0	
Potassium	**1050**	mg/kg	310	1	09/20/17 09:53	09/21/17 04:11	7440-09-7	
Selenium	**<0.62**	mg/kg	0.62	1	09/20/17 09:53	09/21/17 04:11	7782-49-2	
Silver	**<0.62**	mg/kg	0.62	1	09/20/17 09:53	09/21/17 04:11	7440-22-4	
Sodium	**710**	mg/kg	310	1	09/20/17 09:53	09/21/17 04:11	7440-23-5	
Thallium	**<0.62**	mg/kg	0.62	1	09/20/17 09:53	09/21/17 04:11	7440-28-0	
Vanadium	**16.4**	mg/kg	3.1	1	09/20/17 09:53	09/21/17 04:11	7440-62-2	
Zinc	**423**	mg/kg	1.2	1	09/20/17 09:53	09/21/17 04:11	7440-66-6	
7471 Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B							
Mercury	**0.15**	mg/kg	0.053	1	09/21/17 12:13	09/21/17 16:00	7439-97-6	
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3545A							
1,2,4-Trichlorobenzene	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	120-82-1	
2,2'-Oxybis(1-chloropropane)	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	108-60-1	
2,4,5-Trichlorophenol	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	95-95-4	
2,4,6-Trichlorophenol	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	88-06-2	
2,4-Dichlorophenol	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	120-83-2	
2,4-Dimethylphenol	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	105-67-9	
2,4-Dinitrophenol	**<784**	ug/kg	784	1	09/20/17 10:30	09/22/17 17:01	51-28-5	CL
2,4-Dinitrotoluene	**<386**	ug/kg	386	1	09/20/17 10:30	09/22/17 17:01	121-14-2	
2,6-Dinitrotoluene	**<386**	ug/kg	386	1	09/20/17 10:30	09/22/17 17:01	606-20-2	
2-Chloronaphthalene	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	91-58-7	
2-Chlorophenol	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	95-57-8	
2-Methylnaphthalene	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	91-57-6	
2-Methylphenol(o-Cresol)	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	95-48-7	
2-Nitroaniline	**<386**	ug/kg	386	1	09/20/17 10:30	09/22/17 17:01	88-74-4	
2-Nitrophenol	**<386**	ug/kg	386	1	09/20/17 10:30	09/22/17 17:01	88-75-5	
3&4-Methylphenol(m&p Cresol)	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01		
3,3'-Dichlorobenzidine	**<386**	ug/kg	386	1	09/20/17 10:30	09/22/17 17:01	91-94-1	
3-Nitroaniline	**<386**	ug/kg	386	1	09/20/17 10:30	09/22/17 17:01	99-09-2	
4,6-Dinitro-2-methylphenol	**<784**	ug/kg	784	1	09/20/17 10:30	09/22/17 17:01	534-52-1	
4-Bromophenylphenyl ether	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	101-55-3	
4-Chloro-3-methylphenol	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	59-50-7	
4-Chloroaniline	**<386**	ug/kg	386	1	09/20/17 10:30	09/22/17 17:01	106-47-8	
4-Chlorophenylphenyl ether	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	7005-72-3	
4-Nitroaniline	**<386**	ug/kg	386	1	09/20/17 10:30	09/22/17 17:01	100-01-6	
4-Nitrophenol	**<784**	ug/kg	784	1	09/20/17 10:30	09/22/17 17:01	100-02-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: INTERIOR WALL COMPOSITE **Lab ID: 7030143006** Collected: 09/15/17 10:00 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3545A							
Acenaphthene	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	83-32-9	
Acenaphthylene	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	208-96-8	
Acetophenone	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	98-86-2	
Anthracene	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	120-12-7	
Atrazine	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	1912-24-9	
Benzaldehyde	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	100-52-7	CL,IC,IL, L2
Benzo(a)anthracene	**209**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	56-55-3	
Benzo(a)pyrene	**196**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	50-32-8	
Benzo(b)fluoranthene	**243**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	205-99-2	
Benzo(g,h,i)perylene	**114**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	191-24-2	
Benzo(k)fluoranthene	**138**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	207-08-9	
Biphenyl (Diphenyl)	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	92-52-4	
Butylbenzylphthalate	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	85-68-7	
Caprolactam	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	105-60-2	
Carbazole	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	86-74-8	
Chrysene	**244**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	218-01-9	
Di-n-butylphthalate	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	84-74-2	
Di-n-octylphthalate	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	117-84-0	
Dibenz(a,h)anthracene	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	53-70-3	
Dibenzofuran	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	132-64-9	
Diethylphthalate	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	84-66-2	
Dimethylphthalate	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	131-11-3	
Fluoranthene	**434**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	206-44-0	
Fluorene	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	86-73-7	
Hexachloro-1,3-butadiene	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	87-68-3	
Hexachlorobenzene	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	118-74-1	
Hexachlorocyclopentadiene	**<386**	ug/kg	386	1	09/20/17 10:30	09/22/17 17:01	77-47-4	CL
Hexachloroethane	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	67-72-1	
Indeno(1,2,3-cd)pyrene	**128**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	193-39-5	
Isophorone	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	78-59-1	
N-Nitroso-di-n-propylamine	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	621-64-7	
N-Nitrosodiphenylamine	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	86-30-6	
Naphthalene	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	91-20-3	
Nitrobenzene	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	98-95-3	
Pentachlorophenol	**<784**	ug/kg	784	1	09/20/17 10:30	09/22/17 17:01	87-86-5	CL,L2
Phenanthrene	**261**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	85-01-8	
Phenol	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	108-95-2	
Pyrene	**389**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	129-00-0	
bis(2-Chloroethoxy)methane	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	111-91-1	
bis(2-Chloroethyl) ether	**<78.4**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	111-44-4	
bis(2-Ethylhexyl)phthalate	**83.1**	ug/kg	78.4	1	09/20/17 10:30	09/22/17 17:01	117-81-7	
Surrogates								
Nitrobenzene-d5 (S)	45	%.	23-120	1	09/20/17 10:30	09/22/17 17:01	4165-60-0	
2-Fluorobiphenyl (S)	45	%.	30-115	1	09/20/17 10:30	09/22/17 17:01	321-60-8	
p-Terphenyl-d14 (S)	63	%.	18-137	1	09/20/17 10:30	09/22/17 17:01	1718-51-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: INTERIOR WALL COMPOSITE **Lab ID: 7030143006** Collected: 09/15/17 10:00 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3545A							
Surrogates								
Phenol-d5 (S)	35	%.	24-113	1	09/20/17 10:30	09/22/17 17:01	4165-62-2	
2-Fluorophenol (S)	21	%.	25-121	1	09/20/17 10:30	09/22/17 17:01	367-12-4	S0
2,4,6-Tribromophenol (S)	41	%.	19-122	1	09/20/17 10:30	09/22/17 17:01	118-79-6	
2-Chlorophenol-d4 (S)	28	%.	20-130	1	09/20/17 10:30	09/22/17 17:01	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	31	%.	20-130	1	09/20/17 10:30	09/22/17 17:01	2199-69-1	
8260C MSV 5035A-L Low Level	Analytical Method: EPA 8260C Preparation Method: EPA 5035A-L							
1,1,1-Trichloroethane	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	71-55-6	
1,1,2,2-Tetrachloroethane	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	79-34-5	
1,1,2-Trichloroethane	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	79-00-5	
1,1,2-Trichlorotrifluoroethane	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	76-13-1	
1,1-Dichloroethane	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	75-34-3	
1,1-Dichloroethene	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	75-35-4	
1,2,4-Trichlorobenzene	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	120-82-1	M1
1,2-Dibromo-3-chloropropane	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	96-12-8	
1,2-Dibromoethane (EDB)	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	106-93-4	M1
1,2-Dichlorobenzene	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	95-50-1	
1,2-Dichloroethane	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	107-06-2	
1,2-Dichloropropane	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	78-87-5	
1,3-Dichlorobenzene	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	541-73-1	
1,4-Dichlorobenzene	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	106-46-7	
2-Butanone (MEK)	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	78-93-3	
2-Hexanone	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	591-78-6	M1
4-Methyl-2-pentanone (MIBK)	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	108-10-1	
Acetone	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	67-64-1	M1
Benzene	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	71-43-2	
Bromodichloromethane	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	75-27-4	
Bromoform	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	75-25-2	
Bromomethane	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	74-83-9	CL
Carbon disulfide	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	75-15-0	
Carbon tetrachloride	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	56-23-5	
Chlorobenzene	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	108-90-7	
Chloroethane	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	75-00-3	
Chloroform	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	67-66-3	
Chloromethane	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	74-87-3	CL
Cyclohexane	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	110-82-7	
Dibromochloromethane	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	124-48-1	
Dichlorodifluoromethane	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	75-71-8	CL
Ethylbenzene	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	100-41-4	
Isopropylbenzene (Cumene)	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	98-82-8	
Methyl acetate	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	79-20-9	
Methyl-tert-butyl ether	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	1634-04-4	
Methylcyclohexane	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	108-87-2	
Methylene Chloride	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	75-09-2	

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: 9/18
Pace Project No.: 7030143

Sample: INTERIOR WALL COMPOSITE **Lab ID: 7030143006** Collected: 09/15/17 10:00 Received: 09/16/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV 5035A-L Low Level	Analytical Method: EPA 8260C Preparation Method: EPA 5035A-L							
Styrene	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	100-42-5	M1
Tetrachloroethene	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	127-18-4	
Toluene	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	108-88-3	
Trichloroethene	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	79-01-6	
Trichlorofluoromethane	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	75-69-4	
Vinyl chloride	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	75-01-4	CL
Xylene (Total)	**<5.6**	ug/kg	5.6	1	09/24/17 16:03	09/24/17 21:26	1330-20-7	
cis-1,2-Dichloroethene	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	156-59-2	M1
cis-1,3-Dichloropropene	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	10061-01-5	M1
trans-1,2-Dichloroethene	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	156-60-5	
trans-1,3-Dichloropropene	**<2.8**	ug/kg	2.8	1	09/24/17 16:03	09/24/17 21:26	10061-02-6	M1
Surrogates								
Toluene-d8 (S)	114	%.	43-157	1	09/24/17 16:03	09/24/17 21:26	2037-26-5	
4-Bromofluorobenzene (S)	85	%.	34-145	1	09/24/17 16:03	09/24/17 21:26	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%.	33-150	1	09/24/17 16:03	09/24/17 21:26	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2216-92M							
Percent Moisture	**14.6**	%	0.10	1		09/21/17 00:14		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: 9/18
Pace Project No.: 7030143

QC Batch: 39986 Analysis Method: EPA 7471B
QC Batch Method: EPA 7471B Analysis Description: 7471 Mercury
Associated Lab Samples: 7030143001, 7030143002, 7030143003, 7030143004, 7030143005, 7030143006

METHOD BLANK: 186068 Matrix: Solid
Associated Lab Samples: 7030143001, 7030143002, 7030143003, 7030143004, 7030143005, 7030143006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/kg	<0.033	0.033	09/21/17 15:30	

LABORATORY CONTROL SAMPLE: 186069

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	.17	0.17	102	80-120	

MATRIX SPIKE SAMPLE: 186070

Parameter	Units	7030143001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	<0.044	.2	0.23	108	80-120	

SAMPLE DUPLICATE: 186071

Parameter	Units	7030143001 Result	Dup Result	RPD	Qualifiers
Mercury	mg/kg	<0.044	<0.037		

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: 9/18
Pace Project No.: 7030143

QC Batch: 39735 Analysis Method: EPA 6010C
QC Batch Method: EPA 3050B Analysis Description: 6010 MET
Associated Lab Samples: 7030143001, 7030143002, 7030143003, 7030143004, 7030143005, 7030143006

METHOD BLANK: 185065 Matrix: Solid
Associated Lab Samples: 7030143001, 7030143002, 7030143003, 7030143004, 7030143005, 7030143006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	mg/kg	<10.0	10.0	09/21/17 03:19	
Antimony	mg/kg	<3.0	3.0	09/21/17 03:19	
Arsenic	mg/kg	<0.50	0.50	09/21/17 03:19	
Barium	mg/kg	<10.0	10.0	09/21/17 03:19	
Beryllium	mg/kg	<0.25	0.25	09/21/17 03:19	
Cadmium	mg/kg	<0.12	0.12	09/21/17 03:19	
Calcium	mg/kg	<50.0	50.0	09/21/17 03:19	
Chromium	mg/kg	<0.50	0.50	09/21/17 03:19	
Cobalt	mg/kg	<2.5	2.5	09/21/17 03:19	
Copper	mg/kg	<1.2	1.2	09/21/17 03:19	
Iron	mg/kg	<5.0	5.0	09/21/17 03:19	
Lead	mg/kg	<0.25	0.25	09/21/17 03:19	
Magnesium	mg/kg	<50.0	50.0	09/21/17 03:19	
Manganese	mg/kg	<0.75	0.75	09/21/17 03:19	
Nickel	mg/kg	<2.0	2.0	09/21/17 03:19	
Potassium	mg/kg	<250	250	09/21/17 03:19	
Selenium	mg/kg	<0.50	0.50	09/21/17 03:19	
Silver	mg/kg	<0.50	0.50	09/21/17 03:19	
Sodium	mg/kg	<250	250	09/21/17 03:19	
Thallium	mg/kg	<0.50	0.50	09/21/17 03:19	
Vanadium	mg/kg	<2.5	2.5	09/21/17 03:19	
Zinc	mg/kg	<1.0	1.0	09/21/17 03:19	

LABORATORY CONTROL SAMPLE: 185066

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	mg/kg	8770	7560	86	55-146	
Antimony	mg/kg	117	109	93	1-204	
Arsenic	mg/kg	29.6	30.7	104	80-120	
Barium	mg/kg	198	210	106	80-120	
Beryllium	mg/kg	92	102	111	80-120	
Cadmium	mg/kg	71.5	83.6	117	80-120	
Calcium	mg/kg	6310	6920	110	80-120	
Chromium	mg/kg	102	109	107	80-120	
Cobalt	mg/kg	51.4	60.2	117	80-120	
Copper	mg/kg	153	167	109	80-120	
Iron	mg/kg	15200	13700	90	47-153	
Lead	mg/kg	139	141	102	80-120	
Magnesium	mg/kg	2760	2590	94	80-120	
Manganese	mg/kg	270	260	96	80-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: 9/18
Pace Project No.: 7030143

LABORATORY CONTROL SAMPLE: 185066

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nickel	mg/kg	129	151	117	80-120	
Potassium	mg/kg	2420	2320	96	71-129	
Selenium	mg/kg	60.6	64.2	106	80-120	
Silver	mg/kg	36.4	39.0	107	80-120	
Sodium	mg/kg	819	897	110	72-128	
Thallium	mg/kg	101	117	116	80-120	
Vanadium	mg/kg	81.3	83.6	103	80-120	
Zinc	mg/kg	223	245	110	80-120	

MATRIX SPIKE SAMPLE: 185068

Parameter	Units	7030314001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	mg/kg	1670	422	4470	665	75-125	M1
Antimony	mg/kg	<5.6	63.2	57.4	91	75-125	
Arsenic	mg/kg	<0.93	42.2	39.2	93	75-125	
Barium	mg/kg	30.7	42.2	69.7	92	75-125	
Beryllium	mg/kg	<0.46	4.2	3.7	86	75-125	
Cadmium	mg/kg	0.25	4.2	4.0	90	75-125	
Calcium	mg/kg	17100	2110	18200	55	75-125	M1
Chromium	mg/kg	19.3	21.1	30.3	52	75-125	M1
Cobalt	mg/kg	<4.6	42.2	40.1	93	75-125	
Copper	mg/kg	20.2	21.1	38.5	87	75-125	
Iron	mg/kg	864	169	918	32	75-125	M1
Lead	mg/kg	6.1	42.2	46.5	96	75-125	
Magnesium	mg/kg	671	2110	2640	93	75-125	
Manganese	mg/kg	53.9	21.1	70.1	77	75-125	
Nickel	mg/kg	<3.7	21.1	20.8	90	75-125	
Potassium	mg/kg	<464	4220	3840	86	75-125	
Selenium	mg/kg	<0.93	63.2	62.5	98	75-125	
Silver	mg/kg	<0.93	21.1	18.4	86	75-125	
Sodium	mg/kg	1450	4220	5420	94	75-125	
Thallium	mg/kg	<0.93	63.2	57.9	92	75-125	
Vanadium	mg/kg	<4.6	42.2	42.8	97	75-125	
Zinc	mg/kg	43.7	84.3	121	92	75-125	

SAMPLE DUPLICATE: 185067

Parameter	Units	7030314001 Result	Dup Result	RPD	Qualifiers
Aluminum	mg/kg	1670	1480	12	
Antimony	mg/kg	<5.6	<5.4		
Arsenic	mg/kg	<0.93	<0.90		
Barium	mg/kg	30.7	27.9	10	
Beryllium	mg/kg	<0.46	<0.45		
Cadmium	mg/kg	0.25	<0.23		

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: 9/18
Pace Project No.: 7030143

SAMPLE DUPLICATE: 185067

Parameter	Units	7030314001 Result	Dup Result	RPD	Qualifiers
Calcium	mg/kg	17100	15200	11	
Chromium	mg/kg	19.3	12.8	40	D6
Cobalt	mg/kg	<4.6	<4.5		
Copper	mg/kg	20.2	18.4	10	
Iron	mg/kg	864	744	15	
Lead	mg/kg	6.1	5.6	9	
Magnesium	mg/kg	671	606	10	
Manganese	mg/kg	53.9	48.0	12	
Nickel	mg/kg	<3.7	<3.6		
Potassium	mg/kg	<464	<451		
Selenium	mg/kg	<0.93	<0.90		
Silver	mg/kg	<0.93	<0.90		
Sodium	mg/kg	1450	1550	7	
Thallium	mg/kg	<0.93	<0.90		
Vanadium	mg/kg	<4.6	<4.5		
Zinc	mg/kg	43.7	40.6	7	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: 9/18
Pace Project No.: 7030143

QC Batch: 40339 Analysis Method: EPA 8260C
QC Batch Method: EPA 5035A-L Analysis Description: 8260 MSV 5035A-L Low Level
Associated Lab Samples: 7030143001, 7030143003, 7030143004, 7030143005, 7030143006

METHOD BLANK: 187794 Matrix: Solid
Associated Lab Samples: 7030143001, 7030143003, 7030143004, 7030143005, 7030143006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/kg	<1.9	1.9	09/24/17 18:28	
1,1,2,2-Tetrachloroethane	ug/kg	<1.9	1.9	09/24/17 18:28	
1,1,2-Trichloroethane	ug/kg	<1.9	1.9	09/24/17 18:28	
1,1,2-Trichlorotrifluoroethane	ug/kg	<1.9	1.9	09/24/17 18:28	
1,1-Dichloroethane	ug/kg	<1.9	1.9	09/24/17 18:28	
1,1-Dichloroethene	ug/kg	<1.9	1.9	09/24/17 18:28	
1,2,4-Trichlorobenzene	ug/kg	<1.9	1.9	09/24/17 18:28	
1,2-Dibromo-3-chloropropane	ug/kg	<1.9	1.9	09/24/17 18:28	
1,2-Dibromoethane (EDB)	ug/kg	<1.9	1.9	09/24/17 18:28	
1,2-Dichlorobenzene	ug/kg	<1.9	1.9	09/24/17 18:28	
1,2-Dichloroethane	ug/kg	<1.9	1.9	09/24/17 18:28	
1,2-Dichloropropane	ug/kg	<1.9	1.9	09/24/17 18:28	
1,3-Dichlorobenzene	ug/kg	<1.9	1.9	09/24/17 18:28	
1,4-Dichlorobenzene	ug/kg	<1.9	1.9	09/24/17 18:28	
2-Butanone (MEK)	ug/kg	<1.9	1.9	09/24/17 18:28	
2-Hexanone	ug/kg	<1.9	1.9	09/24/17 18:28	
4-Methyl-2-pentanone (MIBK)	ug/kg	<1.9	1.9	09/24/17 18:28	
Acetone	ug/kg	<1.9	1.9	09/24/17 18:28	
Benzene	ug/kg	<1.9	1.9	09/24/17 18:28	
Bromodichloromethane	ug/kg	<1.9	1.9	09/24/17 18:28	
Bromoform	ug/kg	<1.9	1.9	09/24/17 18:28	
Bromomethane	ug/kg	<1.9	1.9	09/24/17 18:28	CL
Carbon disulfide	ug/kg	<1.9	1.9	09/24/17 18:28	
Carbon tetrachloride	ug/kg	<1.9	1.9	09/24/17 18:28	
Chlorobenzene	ug/kg	<1.9	1.9	09/24/17 18:28	
Chloroethane	ug/kg	<1.9	1.9	09/24/17 18:28	
Chloroform	ug/kg	<1.9	1.9	09/24/17 18:28	
Chloromethane	ug/kg	<1.9	1.9	09/24/17 18:28	CL
cis-1,2-Dichloroethene	ug/kg	<1.9	1.9	09/24/17 18:28	
cis-1,3-Dichloropropene	ug/kg	<1.9	1.9	09/24/17 18:28	
Cyclohexane	ug/kg	<1.9	1.9	09/24/17 18:28	
Dibromochloromethane	ug/kg	<1.9	1.9	09/24/17 18:28	
Dichlorodifluoromethane	ug/kg	<1.9	1.9	09/24/17 18:28	CL
Ethylbenzene	ug/kg	<1.9	1.9	09/24/17 18:28	
Isopropylbenzene (Cumene)	ug/kg	<1.9	1.9	09/24/17 18:28	
Methyl acetate	ug/kg	<1.9	1.9	09/24/17 18:28	
Methyl-tert-butyl ether	ug/kg	<1.9	1.9	09/24/17 18:28	
Methylcyclohexane	ug/kg	<1.9	1.9	09/24/17 18:28	
Methylene Chloride	ug/kg	<1.9	1.9	09/24/17 18:28	
Styrene	ug/kg	<1.9	1.9	09/24/17 18:28	
Tetrachloroethene	ug/kg	<1.9	1.9	09/24/17 18:28	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: 9/18
Pace Project No.: 7030143

METHOD BLANK: 187794 Matrix: Solid
Associated Lab Samples: 7030143001, 7030143003, 7030143004, 7030143005, 7030143006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Toluene	ug/kg	<1.9	1.9	09/24/17 18:28	
trans-1,2-Dichloroethene	ug/kg	<1.9	1.9	09/24/17 18:28	
trans-1,3-Dichloropropene	ug/kg	<1.9	1.9	09/24/17 18:28	
Trichloroethene	ug/kg	<1.9	1.9	09/24/17 18:28	
Trichlorofluoromethane	ug/kg	<1.9	1.9	09/24/17 18:28	
Vinyl chloride	ug/kg	<1.9	1.9	09/24/17 18:28	CL
Xylene (Total)	ug/kg	<3.9	3.9	09/24/17 18:28	
1,2-Dichloroethane-d4 (S)	%.	92	33-150	09/24/17 18:28	
4-Bromofluorobenzene (S)	%.	94	34-145	09/24/17 18:28	
Toluene-d8 (S)	%.	100	43-157	09/24/17 18:28	

LABORATORY CONTROL SAMPLE: 187795

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	50.6	49.2	97	59-134	
1,1,2,2-Tetrachloroethane	ug/kg	50.6	43.6	86	69-132	
1,1,2-Trichloroethane	ug/kg	50.6	47.5	94	73-135	
1,1,2-Trichlorotrifluoroethane	ug/kg	50.6	46.4	92	45-156	
1,1-Dichloroethane	ug/kg	50.6	45.2	89	53-160	IH
1,1-Dichloroethene	ug/kg	50.6	43.8	87	47-152	
1,2,4-Trichlorobenzene	ug/kg	50.6	51.0	101	52-140	
1,2-Dibromo-3-chloropropane	ug/kg	50.6	38.5	76	57-140	
1,2-Dibromoethane (EDB)	ug/kg	50.6	45.1	89	76-138	
1,2-Dichlorobenzene	ug/kg	50.6	52.9	105	67-125	
1,2-Dichloroethane	ug/kg	50.6	45.2	89	65-143	
1,2-Dichloropropane	ug/kg	50.6	48.3	96	72-131	
1,3-Dichlorobenzene	ug/kg	50.6	54.4	108	64-124	
1,4-Dichlorobenzene	ug/kg	50.6	53.3	105	61-127	
2-Butanone (MEK)	ug/kg	50.6	32.4	64	52-164	
2-Hexanone	ug/kg	50.6	44.0	87	66-151	
4-Methyl-2-pentanone (MIBK)	ug/kg	50.6	41.1	81	63-154	
Acetone	ug/kg	50.6	34.8	69	23-196	
Benzene	ug/kg	50.6	49.6	98	65-129	
Bromodichloromethane	ug/kg	50.6	46.7	92	74-141	
Bromoform	ug/kg	50.6	41.3	82	59-136	
Bromomethane	ug/kg	50.6	36.3	72	32-182	CL
Carbon disulfide	ug/kg	50.6	37.9	75	26-160	
Carbon tetrachloride	ug/kg	50.6	55.4	110	57-135	
Chlorobenzene	ug/kg	50.6	54.1	107	62-136	
Chloroethane	ug/kg	50.6	36.5	72	50-159	
Chloroform	ug/kg	50.6	45.9	91	71-135	
Chloromethane	ug/kg	50.6	26.6	53	44-139	CL
cis-1,2-Dichloroethene	ug/kg	50.6	45.7	90	75-130	
cis-1,3-Dichloropropene	ug/kg	50.6	48.0	95	74-140	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: 9/18
Pace Project No.: 7030143

LABORATORY CONTROL SAMPLE: 187795

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyclohexane	ug/kg	50.6	41.7	82	21-139	
Dibromochloromethane	ug/kg	50.6	47.4	94	71-133	
Dichlorodifluoromethane	ug/kg	50.6	14.5	29	10-155	CL
Ethylbenzene	ug/kg	50.6	55.8	110	59-135	
Isopropylbenzene (Cumene)	ug/kg	50.6	55.2	109	56-129	
Methyl acetate	ug/kg	50.6	39.1	77	33-176	IH
Methyl-tert-butyl ether	ug/kg	50.6	40.0	79	25-171	
Methylcyclohexane	ug/kg	50.6	53.0	105	24-141	
Methylene Chloride	ug/kg	50.6	42.1	83	50-164	
Styrene	ug/kg	50.6	53.0	105	73-133	
Tetrachloroethene	ug/kg	50.6	59.3	117	10-176	CH
Toluene	ug/kg	50.6	52.1	103	66-131	
trans-1,2-Dichloroethene	ug/kg	50.6	46.0	91	53-157	
trans-1,3-Dichloropropene	ug/kg	50.6	45.8	90	66-144	
Trichloroethene	ug/kg	50.6	51.4	102	62-130	
Trichlorofluoromethane	ug/kg	50.6	37.1	73	38-166	
Vinyl chloride	ug/kg	50.6	30.6	61	45-137	CL
Xylene (Total)	ug/kg	152	166	109	62-135	
1,2-Dichloroethane-d4 (S)	%.			87	33-150	
4-Bromofluorobenzene (S)	%.			98	34-145	
Toluene-d8 (S)	%.			103	43-157	

MATRIX SPIKE SAMPLE: 187797

Parameter	Units	7030143006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	<2.8	58.8	48.6	83	59-134	
1,1,2,2-Tetrachloroethane	ug/kg	<2.8	58.8	53.6	91	69-132	
1,1,2-Trichloroethane	ug/kg	<2.8	58.8	45.3	77	73-135	
1,1,2-Trichlorotrifluoroethane	ug/kg	<2.8	58.8	42.9	73	45-156	
1,1-Dichloroethane	ug/kg	<2.8	58.8	46.7	79	53-160	IH
1,1-Dichloroethene	ug/kg	<2.8	58.8	39.6	67	47-152	
1,2,4-Trichlorobenzene	ug/kg	<2.8	58.8	22.9	39	52-140	M1
1,2-Dibromo-3-chloropropane	ug/kg	<2.8	58.8	40.1	68	57-140	
1,2-Dibromoethane (EDB)	ug/kg	<2.8	58.8	40.0	68	76-138	M1
1,2-Dichlorobenzene	ug/kg	<2.8	58.8	42.2	72	67-125	
1,2-Dichloroethane	ug/kg	<2.8	58.8	45.9	78	65-143	
1,2-Dichloropropane	ug/kg	<2.8	58.8	48.6	83	72-131	
1,3-Dichlorobenzene	ug/kg	<2.8	58.8	42.3	72	64-124	
1,4-Dichlorobenzene	ug/kg	<2.8	58.8	41.9	71	61-127	
2-Butanone (MEK)	ug/kg	<2.8	58.8	30.9	53	52-164	
2-Hexanone	ug/kg	<2.8	58.8	38.5	65	66-151	M1
4-Methyl-2-pentanone (MIBK)	ug/kg	<2.8	58.8	41.9	71	63-154	
Acetone	ug/kg	<2.8	58.8	166	283	23-196	M1
Benzene	ug/kg	<2.8	58.8	48.8	83	65-129	
Bromodichloromethane	ug/kg	<2.8	58.8	47.0	80	74-141	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: 9/18
Pace Project No.: 7030143

MATRIX SPIKE SAMPLE: 187797

Parameter	Units	7030143006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/kg	<2.8	58.8	42.1	72	59-136	
Bromomethane	ug/kg	<2.8	58.8	32.5	55	32-182	CL
Carbon disulfide	ug/kg	<2.8	58.8	29.7	51	26-160	
Carbon tetrachloride	ug/kg	<2.8	58.8	52.1	89	57-135	
Chlorobenzene	ug/kg	<2.8	58.8	46.4	79	62-136	
Chloroethane	ug/kg	<2.8	58.8	37.0	63	50-159	
Chloroform	ug/kg	<2.8	58.8	47.5	81	71-135	
Chloromethane	ug/kg	<2.8	58.8	27.0	46	44-139	CL
cis-1,2-Dichloroethene	ug/kg	<2.8	58.8	43.2	74	75-130	M1
cis-1,3-Dichloropropene	ug/kg	<2.8	58.8	41.0	70	74-140	M1
Cyclohexane	ug/kg	<2.8	58.8	35.3	60	21-139	
Dibromochloromethane	ug/kg	<2.8	58.8	48.7	83	71-133	
Dichlorodifluoromethane	ug/kg	<2.8	58.8	14.6	25	10-155	CL
Ethylbenzene	ug/kg	<2.8	58.8	49.0	83	59-135	
Isopropylbenzene (Cumene)	ug/kg	<2.8	58.8	60.2	102	56-129	
Methyl acetate	ug/kg	<2.8	58.8	33.2	56	33-176	IH
Methyl-tert-butyl ether	ug/kg	<2.8	58.8	42.8	73	25-171	
Methylcyclohexane	ug/kg	<2.8	58.8	37.7	64	24-141	
Methylene Chloride	ug/kg	<2.8	58.8	44.2	71	50-164	
Styrene	ug/kg	<2.8	58.8	41.2	70	73-133	M1
Tetrachloroethene	ug/kg	<2.8	58.8	64.4	110	10-176	CH
Toluene	ug/kg	<2.8	58.8	46.9	80	66-131	
trans-1,2-Dichloroethene	ug/kg	<2.8	58.8	38.9	66	53-157	
trans-1,3-Dichloropropene	ug/kg	<2.8	58.8	37.7	64	66-144	M1
Trichloroethene	ug/kg	<2.8	58.8	42.5	72	62-130	
Trichlorofluoromethane	ug/kg	<2.8	58.8	38.8	66	38-166	
Vinyl chloride	ug/kg	<2.8	58.8	28.7	49	45-137	CL
Xylene (Total)	ug/kg	<5.6	177	145	82	62-135	
1,2-Dichloroethane-d4 (S)	%.				87	33-150	
4-Bromofluorobenzene (S)	%.				85	34-145	
Toluene-d8 (S)	%.				107	43-157	

SAMPLE DUPLICATE: 187796

Parameter	Units	7030143001 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/kg	<2.2	<2.4		
1,1,2,2-Tetrachloroethane	ug/kg	<2.2	<2.4		
1,1,2-Trichloroethane	ug/kg	<2.2	<2.4		
1,1,2-Trichlorotrifluoroethane	ug/kg	<2.2	<2.4		
1,1-Dichloroethane	ug/kg	<2.2	<2.4		
1,1-Dichloroethene	ug/kg	<2.2	<2.4		
1,2,4-Trichlorobenzene	ug/kg	<2.2	<2.4		
1,2-Dibromo-3-chloropropane	ug/kg	<2.2	<2.4		
1,2-Dibromoethane (EDB)	ug/kg	<2.2	<2.4		
1,2-Dichlorobenzene	ug/kg	<2.2	<2.4		

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: 9/18
Pace Project No.: 7030143

SAMPLE DUPLICATE: 187796

Parameter	Units	7030143001 Result	Dup Result	RPD	Qualifiers
1,2-Dichloroethane	ug/kg	<2.2	<2.4		
1,2-Dichloropropane	ug/kg	<2.2	<2.4		
1,3-Dichlorobenzene	ug/kg	<2.2	<2.4		
1,4-Dichlorobenzene	ug/kg	<2.2	<2.4		
2-Butanone (MEK)	ug/kg	<2.2	<2.4		
2-Hexanone	ug/kg	<2.2	<2.4		
4-Methyl-2-pentanone (MIBK)	ug/kg	<2.2	<2.4		
Acetone	ug/kg	<2.2	<2.4		
Benzene	ug/kg	<2.2	<2.4		
Bromodichloromethane	ug/kg	<2.2	<2.4		
Bromoform	ug/kg	<2.2	<2.4		
Bromomethane	ug/kg	<2.2	<2.4		CL
Carbon disulfide	ug/kg	<2.2	<2.4		
Carbon tetrachloride	ug/kg	<2.2	<2.4		
Chlorobenzene	ug/kg	<2.2	<2.4		
Chloroethane	ug/kg	<2.2	<2.4		
Chloroform	ug/kg	<2.2	<2.4		
Chloromethane	ug/kg	<2.2	<2.4		CL
cis-1,2-Dichloroethene	ug/kg	<2.2	<2.4		
cis-1,3-Dichloropropene	ug/kg	<2.2	<2.4		
Cyclohexane	ug/kg	<2.2	<2.4		
Dibromochloromethane	ug/kg	<2.2	<2.4		
Dichlorodifluoromethane	ug/kg	<2.2	<2.4		CL
Ethylbenzene	ug/kg	<2.2	<2.4		
Isopropylbenzene (Cumene)	ug/kg	<2.2	<2.4		
Methyl acetate	ug/kg	<2.2	<2.4		
Methyl-tert-butyl ether	ug/kg	<2.2	<2.4		
Methylcyclohexane	ug/kg	<2.2	<2.4		
Methylene Chloride	ug/kg	<2.2	<2.4		
Styrene	ug/kg	<2.2	<2.4		
Tetrachloroethene	ug/kg	<2.2	<2.4		
Toluene	ug/kg	<2.2	<2.4		
trans-1,2-Dichloroethene	ug/kg	<2.2	<2.4		
trans-1,3-Dichloropropene	ug/kg	<2.2	<2.4		
Trichloroethene	ug/kg	<2.2	<2.4		
Trichlorofluoromethane	ug/kg	<2.2	<2.4		
Vinyl chloride	ug/kg	<2.2	<2.4		CL
Xylene (Total)	ug/kg	<4.5	<4.8		
1,2-Dichloroethane-d4 (S)	%.	91	92	8	
4-Bromofluorobenzene (S)	%.	92	97	13	
Toluene-d8 (S)	%.	101	104	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: 9/18
Pace Project No.: 7030143

QC Batch: 40101 Analysis Method: EPA 8081B
QC Batch Method: EPA 3545A Analysis Description: 8081 GCS Pesticides
Associated Lab Samples: 7030143001, 7030143002, 7030143003, 7030143004, 7030143005, 7030143006

METHOD BLANK: 186731 Matrix: Solid
Associated Lab Samples: 7030143001, 7030143002, 7030143003, 7030143004, 7030143005, 7030143006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
4,4'-DDD	ug/kg	<3.3	3.3	10/06/17 07:46	
4,4'-DDE	ug/kg	<3.3	3.3	10/06/17 07:46	
4,4'-DDT	ug/kg	<3.3	3.3	10/06/17 07:46	
Aldrin	ug/kg	<1.7	1.7	10/06/17 07:46	
alpha-BHC	ug/kg	<1.7	1.7	10/06/17 07:46	
alpha-Chlordane	ug/kg	<1.7	1.7	10/06/17 07:46	
beta-BHC	ug/kg	<1.7	1.7	10/06/17 07:46	
delta-BHC	ug/kg	<1.7	1.7	10/06/17 07:46	
Dieldrin	ug/kg	<3.3	3.3	10/06/17 07:46	
Endosulfan I	ug/kg	<1.7	1.7	10/06/17 07:46	
Endosulfan II	ug/kg	<3.3	3.3	10/06/17 07:46	
Endosulfan sulfate	ug/kg	<3.3	3.3	10/06/17 07:46	
Endrin	ug/kg	<3.3	3.3	10/06/17 07:46	
Endrin aldehyde	ug/kg	<3.3	3.3	10/06/17 07:46	
Endrin ketone	ug/kg	<3.3	3.3	10/06/17 07:46	
gamma-BHC (Lindane)	ug/kg	<1.7	1.7	10/06/17 07:46	
gamma-Chlordane	ug/kg	<1.7	1.7	10/06/17 07:46	
Heptachlor	ug/kg	<1.7	1.7	10/06/17 07:46	
Heptachlor epoxide	ug/kg	<1.7	1.7	10/06/17 07:46	
Methoxychlor	ug/kg	<17.0	17.0	10/06/17 07:46	
Toxaphene	ug/kg	<170	170	10/06/17 07:46	
Decachlorobiphenyl (S)	%.	139	30-150	10/06/17 07:46	CH
Tetrachloro-m-xylene (S)	%.	108	30-150	10/06/17 07:46	

LABORATORY CONTROL SAMPLE: 186732

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toxaphene	ug/kg	667	593	89	45-146	
Decachlorobiphenyl (S)	%.			133	30-150	CH
Tetrachloro-m-xylene (S)	%.			101	30-150	

LABORATORY CONTROL SAMPLE: 186733

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4,4'-DDD	ug/kg	13.3	19.8	148	57-156	
4,4'-DDE	ug/kg	13.3	19.4	146	52-135	L1
4,4'-DDT	ug/kg	13.3	16.4	123	54-163	
Aldrin	ug/kg	13.3	13.3	100	49-129	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: 9/18
Pace Project No.: 7030143

LABORATORY CONTROL SAMPLE: 186733

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
alpha-BHC	ug/kg	13.3	13.6	102	41-135	
alpha-Chlordane	ug/kg	13.3	10.3	77	43-128	
beta-BHC	ug/kg	13.3	16.6	124	42-158	
delta-BHC	ug/kg	13.3	16.1	121	48-142	CH
Dieldrin	ug/kg	13.3	14.4	108	57-147	
Endosulfan I	ug/kg	13.3	17.0	127	54-145	
Endosulfan II	ug/kg	13.3	18.7	140	61-137	L1
Endosulfan sulfate	ug/kg	13.3	17.3	129	51-154	CH
Endrin	ug/kg	13.3	17.4	130	50-160	
Endrin aldehyde	ug/kg	13.3	14.6	109	31-159	
Endrin ketone	ug/kg	13.3	16.8	126	43-171	
gamma-BHC (Lindane)	ug/kg	13.3	13.6	102	39-146	
gamma-Chlordane	ug/kg	13.3	21.0	157	43-134	L1
Heptachlor	ug/kg	13.3	11.5	86	52-142	
Heptachlor epoxide	ug/kg	13.3	10.7	80	49-128	
Methoxychlor	ug/kg	13.3	18.3	137	41-188	CH
Decachlorobiphenyl (S)	%.			123	30-150	CH
Tetrachloro-m-xylene (S)	%.			97	30-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 186784 186785

Parameter	Units	7030143004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
4,4'-DDD	ug/kg	<3.6			<3.6	<3.6					
4,4'-DDE	ug/kg	<3.6			<3.6	<3.6					
4,4'-DDT	ug/kg	<3.6			<3.6	<3.6					
Aldrin	ug/kg	<1.9			<1.9	<1.9					
alpha-BHC	ug/kg	<1.9			<1.9	<1.9					
alpha-Chlordane	ug/kg	<1.9			<1.9	<1.9					
beta-BHC	ug/kg	<1.9			<1.9	<1.9					
delta-BHC	ug/kg	<1.9			<1.9	<1.9					
Dieldrin	ug/kg	<3.6			<3.6	<3.6					
Endosulfan I	ug/kg	<1.9			<1.9	<1.9					
Endosulfan II	ug/kg	<3.6			<3.6	<3.6					
Endosulfan sulfate	ug/kg	<3.6			<3.6	<3.6					
Endrin	ug/kg	<3.6			<3.6	<3.6					
Endrin aldehyde	ug/kg	<3.6			<3.6	<3.6					
Endrin ketone	ug/kg	<3.6			<3.6	<3.6					
gamma-BHC (Lindane)	ug/kg	<1.9			<1.9	<1.9					
gamma-Chlordane	ug/kg	<1.9			<1.9	<1.9					
Heptachlor	ug/kg	<1.9			<1.9	<1.9					
Heptachlor epoxide	ug/kg	<1.9			<1.9	<1.9					
Methoxychlor	ug/kg	<18.7			<18.7	<18.7					
Toxaphene	ug/kg	<187	733	735	456	508	62	69	45-146	11	
Decachlorobiphenyl (S)	%.						115	133	30-150		

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: 9/18
Pace Project No.: 7030143

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 186784 186785

Parameter	Units	7030143004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Tetrachloro-m-xylene (S)	%.						89	102	30-150		

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(631)694-3040

QUALITY CONTROL DATA

Project: 9/18
Pace Project No.: 7030143

QC Batch: 40103 Analysis Method: EPA 8082A
QC Batch Method: EPA 3545A Analysis Description: 8082 GCS PCB
Associated Lab Samples: 7030143001, 7030143002, 7030143003, 7030143004, 7030143005, 7030143006

METHOD BLANK: 186738 Matrix: Solid
Associated Lab Samples: 7030143001, 7030143002, 7030143003, 7030143004, 7030143005, 7030143006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<33.0	33.0	10/11/17 22:01	
PCB-1221 (Aroclor 1221)	ug/kg	<67.0	67.0	10/11/17 22:01	
PCB-1232 (Aroclor 1232)	ug/kg	<33.0	33.0	10/11/17 22:01	
PCB-1242 (Aroclor 1242)	ug/kg	<33.0	33.0	10/11/17 22:01	
PCB-1248 (Aroclor 1248)	ug/kg	<33.0	33.0	10/11/17 22:01	
PCB-1254 (Aroclor 1254)	ug/kg	<33.0	33.0	10/11/17 22:01	
PCB-1260 (Aroclor 1260)	ug/kg	<33.0	33.0	10/11/17 22:01	
Decachlorobiphenyl (S)	%.	105	30-150	10/11/17 22:01	
Tetrachloro-m-xylene (S)	%.	86	30-150	10/11/17 22:01	

LABORATORY CONTROL SAMPLE: 186739

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	167	111	66	50-136	
PCB-1260 (Aroclor 1260)	ug/kg	167	129	77	45-154	
Decachlorobiphenyl (S)	%.			73	30-150	
Tetrachloro-m-xylene (S)	%.			63	30-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 186811 186812

Parameter	Units	7030143006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
PCB-1016 (Aroclor 1016)	ug/kg	<38.6	196	196	126	181	65	93	28-173	36	R1
PCB-1221 (Aroclor 1221)	ug/kg	<78.4			<78.4	<78.4					
PCB-1232 (Aroclor 1232)	ug/kg	<38.6			<38.6	<38.6					
PCB-1242 (Aroclor 1242)	ug/kg	67.2			139	207				39	
PCB-1248 (Aroclor 1248)	ug/kg	<38.6			<38.6	<38.6					
PCB-1254 (Aroclor 1254)	ug/kg	194			135	300				76	
PCB-1260 (Aroclor 1260)	ug/kg	<38.6	196	196	104	275	53	141	43-138	90	M1,R1
Decachlorobiphenyl (S)	%.						54	121	30-150		
Tetrachloro-m-xylene (S)	%.						32	77	30-150		

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: 9/18
Pace Project No.: 7030143

QC Batch: 39751 Analysis Method: EPA 8270D
QC Batch Method: EPA 3545A Analysis Description: 8270 Solid MSSV
Associated Lab Samples: 7030143001, 7030143002, 7030143003, 7030143004, 7030143005, 7030143006

METHOD BLANK: 185092 Matrix: Solid
Associated Lab Samples: 7030143001, 7030143002, 7030143003, 7030143004, 7030143005, 7030143006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/kg	<67.0	67.0	09/22/17 11:34	
2,2'-Oxybis(1-chloropropane)	ug/kg	<67.0	67.0	09/22/17 11:34	
2,4,5-Trichlorophenol	ug/kg	<67.0	67.0	09/22/17 11:34	
2,4,6-Trichlorophenol	ug/kg	<67.0	67.0	09/22/17 11:34	
2,4-Dichlorophenol	ug/kg	<67.0	67.0	09/22/17 11:34	
2,4-Dimethylphenol	ug/kg	<67.0	67.0	09/22/17 11:34	
2,4-Dinitrophenol	ug/kg	<670	670	09/22/17 11:34	CL
2,4-Dinitrotoluene	ug/kg	<330	330	09/22/17 11:34	
2,6-Dinitrotoluene	ug/kg	<330	330	09/22/17 11:34	
2-Chloronaphthalene	ug/kg	<67.0	67.0	09/22/17 11:34	
2-Chlorophenol	ug/kg	<67.0	67.0	09/22/17 11:34	
2-Methylnaphthalene	ug/kg	<67.0	67.0	09/22/17 11:34	
2-Methylphenol(o-Cresol)	ug/kg	<67.0	67.0	09/22/17 11:34	
2-Nitroaniline	ug/kg	<330	330	09/22/17 11:34	
2-Nitrophenol	ug/kg	<330	330	09/22/17 11:34	
3&4-Methylphenol(m&p Cresol)	ug/kg	<67.0	67.0	09/22/17 11:34	
3,3'-Dichlorobenzidine	ug/kg	<330	330	09/22/17 11:34	
3-Nitroaniline	ug/kg	<330	330	09/22/17 11:34	
4,6-Dinitro-2-methylphenol	ug/kg	<670	670	09/22/17 11:34	
4-Bromophenylphenyl ether	ug/kg	<67.0	67.0	09/22/17 11:34	
4-Chloro-3-methylphenol	ug/kg	<67.0	67.0	09/22/17 11:34	
4-Chloroaniline	ug/kg	<330	330	09/22/17 11:34	
4-Chlorophenylphenyl ether	ug/kg	<67.0	67.0	09/22/17 11:34	
4-Nitroaniline	ug/kg	<330	330	09/22/17 11:34	
4-Nitrophenol	ug/kg	<670	670	09/22/17 11:34	
Acenaphthene	ug/kg	<67.0	67.0	09/22/17 11:34	
Acenaphthylene	ug/kg	<67.0	67.0	09/22/17 11:34	
Acetophenone	ug/kg	<67.0	67.0	09/22/17 11:34	
Anthracene	ug/kg	<67.0	67.0	09/22/17 11:34	
Atrazine	ug/kg	<67.0	67.0	09/22/17 11:34	
Benzaldehyde	ug/kg	<67.0	67.0	09/22/17 11:34	CL,IC,IL
Benzo(a)anthracene	ug/kg	<67.0	67.0	09/22/17 11:34	
Benzo(a)pyrene	ug/kg	<67.0	67.0	09/22/17 11:34	
Benzo(b)fluoranthene	ug/kg	<67.0	67.0	09/22/17 11:34	
Benzo(g,h,i)perylene	ug/kg	<67.0	67.0	09/22/17 11:34	
Benzo(k)fluoranthene	ug/kg	<67.0	67.0	09/22/17 11:34	
Biphenyl (Diphenyl)	ug/kg	<67.0	67.0	09/22/17 11:34	
bis(2-Chloroethoxy)methane	ug/kg	<67.0	67.0	09/22/17 11:34	
bis(2-Chloroethyl) ether	ug/kg	<67.0	67.0	09/22/17 11:34	
bis(2-Ethylhexyl)phthalate	ug/kg	<67.0	67.0	09/22/17 11:34	
Butylbenzylphthalate	ug/kg	<67.0	67.0	09/22/17 11:34	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: 9/18
Pace Project No.: 7030143

METHOD BLANK: 185092 Matrix: Solid
Associated Lab Samples: 7030143001, 7030143002, 7030143003, 7030143004, 7030143005, 7030143006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Caprolactam	ug/kg	<67.0	67.0	09/22/17 11:34	
Carbazole	ug/kg	<67.0	67.0	09/22/17 11:34	
Chrysene	ug/kg	<67.0	67.0	09/22/17 11:34	
Di-n-butylphthalate	ug/kg	<67.0	67.0	09/22/17 11:34	
Di-n-octylphthalate	ug/kg	<67.0	67.0	09/22/17 11:34	
Dibenz(a,h)anthracene	ug/kg	<67.0	67.0	09/22/17 11:34	
Dibenzofuran	ug/kg	<67.0	67.0	09/22/17 11:34	
Diethylphthalate	ug/kg	<67.0	67.0	09/22/17 11:34	
Dimethylphthalate	ug/kg	<67.0	67.0	09/22/17 11:34	
Fluoranthene	ug/kg	<67.0	67.0	09/22/17 11:34	
Fluorene	ug/kg	<67.0	67.0	09/22/17 11:34	
Hexachloro-1,3-butadiene	ug/kg	<67.0	67.0	09/22/17 11:34	
Hexachlorobenzene	ug/kg	<67.0	67.0	09/22/17 11:34	
Hexachlorocyclopentadiene	ug/kg	<330	330	09/22/17 11:34	CL
Hexachloroethane	ug/kg	<67.0	67.0	09/22/17 11:34	
Indeno(1,2,3-cd)pyrene	ug/kg	<67.0	67.0	09/22/17 11:34	
Isophorone	ug/kg	<67.0	67.0	09/22/17 11:34	
N-Nitroso-di-n-propylamine	ug/kg	<67.0	67.0	09/22/17 11:34	
N-Nitrosodiphenylamine	ug/kg	<67.0	67.0	09/22/17 11:34	
Naphthalene	ug/kg	<67.0	67.0	09/22/17 11:34	
Nitrobenzene	ug/kg	<67.0	67.0	09/22/17 11:34	
Pentachlorophenol	ug/kg	<670	670	09/22/17 11:34	CL
Phenanthrene	ug/kg	<67.0	67.0	09/22/17 11:34	
Phenol	ug/kg	<67.0	67.0	09/22/17 11:34	
Pyrene	ug/kg	<67.0	67.0	09/22/17 11:34	
1,2-Dichlorobenzene-d4 (S)	%.	63	20-130	09/22/17 11:34	
2,4,6-Tribromophenol (S)	%.	61	19-122	09/22/17 11:34	
2-Chlorophenol-d4 (S)	%.	67	20-130	09/22/17 11:34	
2-Fluorobiphenyl (S)	%.	68	30-115	09/22/17 11:34	
2-Fluorophenol (S)	%.	65	25-121	09/22/17 11:34	
Nitrobenzene-d5 (S)	%.	73	23-120	09/22/17 11:34	
p-Terphenyl-d14 (S)	%.	73	18-137	09/22/17 11:34	
Phenol-d5 (S)	%.	67	24-113	09/22/17 11:34	

LABORATORY CONTROL SAMPLE: 185096

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/kg	1670	1110	66	35-110	
2,2'-Oxybis(1-chloropropane)	ug/kg	1670	1370	82	33-116	
2,4,5-Trichlorophenol	ug/kg	1670	1040	63	45-111	
2,4,6-Trichlorophenol	ug/kg	1670	1060	63	45-110	
2,4-Dichlorophenol	ug/kg	1670	1120	67	41-117	
2,4-Dimethylphenol	ug/kg	1670	913	55	24-96	
2,4-Dinitrophenol	ug/kg	1670	<670	16	10-80	CL

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: 9/18
Pace Project No.: 7030143

LABORATORY CONTROL SAMPLE: 185096

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4-Dinitrotoluene	ug/kg	1670	1200	72	49-112	
2,6-Dinitrotoluene	ug/kg	1670	1230	74	50-109	
2-Chloronaphthalene	ug/kg	1670	1010	60	35-107	
2-Chlorophenol	ug/kg	1670	1080	65	36-109	
2-Methylnaphthalene	ug/kg	1670	1140	69	31-135	
2-Methylphenol(o-Cresol)	ug/kg	1670	1200	72	36-104	
2-Nitroaniline	ug/kg	1670	1060	64	42-118	
2-Nitrophenol	ug/kg	1670	1210	72	36-117	
3&4-Methylphenol(m&p Cresol)	ug/kg	1670	1090	66	37-137	
3,3'-Dichlorobenzidine	ug/kg	1670	1070	64	41-116	
3-Nitroaniline	ug/kg	1670	866	52	40-95	
4,6-Dinitro-2-methylphenol	ug/kg	1670	<670	38	16-104	
4-Bromophenylphenyl ether	ug/kg	1670	1210	73	50-116	
4-Chloro-3-methylphenol	ug/kg	1670	1230	74	45-118	
4-Chloroaniline	ug/kg	1670	576	35	29-88	
4-Chlorophenylphenyl ether	ug/kg	1670	1100	66	48-111	
4-Nitroaniline	ug/kg	1670	964	58	46-110	
4-Nitrophenol	ug/kg	1670	1250	75	26-118	
Acenaphthene	ug/kg	1670	1150	69	45-109	
Acenaphthylene	ug/kg	1670	1140	68	43-107	
Acetophenone	ug/kg	1670	1080	65	10-132	
Anthracene	ug/kg	1670	1280	77	50-117	
Atrazine	ug/kg	1670	1730	104	40-120	
Benzaldehyde	ug/kg	1670	536	32	40-140	CL,IC,IL,L2
Benzo(a)anthracene	ug/kg	1670	1260	76	52-116	
Benzo(a)pyrene	ug/kg	1670	1230	74	56-119	
Benzo(b)fluoranthene	ug/kg	1670	1180	71	45-122	
Benzo(g,h,i)perylene	ug/kg	1670	1440	87	30-107	
Benzo(k)fluoranthene	ug/kg	1670	1210	72	54-124	
Biphenyl (Diphenyl)	ug/kg	1670	1120	67	40-120	
bis(2-Chloroethoxy)methane	ug/kg	1670	1020	61	29-112	
bis(2-Chloroethyl) ether	ug/kg	1670	1080	65	32-116	
bis(2-Ethylhexyl)phthalate	ug/kg	1670	1370	82	60-127	
Butylbenzylphthalate	ug/kg	1670	1310	78	54-130	
Caprolactam	ug/kg	1670	1220	73	40-120	
Carbazole	ug/kg	1670	1340	80	40-120	
Chrysene	ug/kg	1670	1300	78	48-121	
Di-n-butylphthalate	ug/kg	1670	1440	86	53-124	
Di-n-octylphthalate	ug/kg	1670	1280	77	46-141	
Dibenz(a,h)anthracene	ug/kg	1670	1320	79	52-109	
Dibenzofuran	ug/kg	1670	1140	69	48-112	
Diethylphthalate	ug/kg	1670	1200	72	51-114	
Dimethylphthalate	ug/kg	1670	1150	69	49-112	
Fluoranthene	ug/kg	1670	1320	79	45-126	
Fluorene	ug/kg	1670	1140	68	47-108	
Hexachloro-1,3-butadiene	ug/kg	1670	1070	64	36-118	
Hexachlorobenzene	ug/kg	1670	1290	78	51-110	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: 9/18
Pace Project No.: 7030143

LABORATORY CONTROL SAMPLE: 185096

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Hexachlorocyclopentadiene	ug/kg	1670	618	37	10-97	CL
Hexachloroethane	ug/kg	1670	1080	65	34-105	
Indeno(1,2,3-cd)pyrene	ug/kg	1670	1380	83	50-108	
Isophorone	ug/kg	1670	1200	72	14-129	
N-Nitroso-di-n-propylamine	ug/kg	1670	1200	72	33-109	
N-Nitrosodiphenylamine	ug/kg	1670	1270	76	39-90	
Naphthalene	ug/kg	1670	1180	71	18-142	
Nitrobenzene	ug/kg	1670	1240	74	36-119	
Pentachlorophenol	ug/kg	1670	<670	15	22-115	CL,L2
Phenanthrene	ug/kg	1670	1290	77	47-124	
Phenol	ug/kg	1670	1150	69	38-104	
Pyrene	ug/kg	1670	1330	80	49-132	
1,2-Dichlorobenzene-d4 (S)	%.			61	20-130	
2,4,6-Tribromophenol (S)	%.			70	19-122	
2-Chlorophenol-d4 (S)	%.			68	20-130	
2-Fluorobiphenyl (S)	%.			65	30-115	
2-Fluorophenol (S)	%.			67	25-121	
Nitrobenzene-d5 (S)	%.			71	23-120	
p-Terphenyl-d14 (S)	%.			75	18-137	
Phenol-d5 (S)	%.			70	24-113	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 185259 185260

Parameter	Units	7030143001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,2,4-Trichlorobenzene	ug/kg	<73.9	1830	1830	989	1170	54	64	35-110	17	
2,2'-Oxybis(1-chloropropane)	ug/kg	<73.9	1830	1830	1310	1620	71	88	33-116	21	
2,4,5-Trichlorophenol	ug/kg	<73.9	1830	1830	1320	1360	72	74	45-111	3	
2,4,6-Trichlorophenol	ug/kg	<73.9	1830	1830	985	919	54	50	45-110	7	
2,4-Dichlorophenol	ug/kg	<73.9	1830	1830	1130	1240	61	67	41-117	9	
2,4-Dimethylphenol	ug/kg	<73.9	1830	1830	333	204	18	11	24-96	48	M1,R1
2,4-Dinitrophenol	ug/kg	<739	1830	1830	<738	<736	22	24	10-80		CL
2,4-Dinitrotoluene	ug/kg	<364	1830	1830	1420	1410	77	77	49-112	0	
2,6-Dinitrotoluene	ug/kg	<364	1830	1830	1360	1390	74	76	50-109	2	
2-Chloronaphthalene	ug/kg	<73.9	1830	1830	1040	1160	57	63	35-107	11	
2-Chlorophenol	ug/kg	<73.9	1830	1830	953	1160	52	63	36-109	20	
2-Methylnaphthalene	ug/kg	<73.9	1830	1830	1130	1280	61	70	31-135	13	
2-Methylphenol(o-Cresol)	ug/kg	<73.9	1830	1830	910	974	50	53	36-104	7	
2-Nitroaniline	ug/kg	<364	1830	1830	1230	1290	67	70	42-118	5	
2-Nitrophenol	ug/kg	<364	1830	1830	1160	1350	63	74	36-117	15	
3&4-Methylphenol(m&p Cresol)	ug/kg	<73.9	1830	1830	1110	1230	60	67	37-137	10	
3,3'-Dichlorobenzidine	ug/kg	<364	1830	1830	1170	838	64	46	41-116	33	R1
3-Nitroaniline	ug/kg	<364	1830	1830	1140	845	62	46	40-95	30	
4,6-Dinitro-2-methylphenol	ug/kg	<739	1830	1830	965	1010	53	55	16-104	4	

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REPORT OF LABORATORY ANALYSIS

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: 9/18
Pace Project No.: 7030143

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 185259 185260

Parameter	Units	7030143001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
4-Bromophenylphenyl ether	ug/kg	<73.9	1830	1830	1380	1380	75	76	50-116	1	
4-Chloro-3-methylphenol	ug/kg	<73.9	1830	1830	1340	1350	73	74	45-118	1	
4-Chloroaniline	ug/kg	<364	1830	1830	495	<363	27	11	29-88		M1
4-Chlorophenylphenyl ether	ug/kg	<73.9	1830	1830	1220	1250	67	68	48-111	2	
4-Nitroaniline	ug/kg	<364	1830	1830	1390	1250	75	68	46-110	10	
4-Nitrophenol	ug/kg	<739	1830	1830	1040	<736	57	11	26-118		M1
Acenaphthene	ug/kg	<73.9	1830	1830	1240	1310	67	72	45-109	6	
Acenaphthylene	ug/kg	<73.9	1830	1830	1170	1290	64	71	43-107	10	
Acetophenone	ug/kg	<73.9	1830	1830	1010	1250	55	68	10-132	21	
Anthracene	ug/kg	<73.9	1830	1830	1530	1530	83	83	50-117	0	
Atrazine	ug/kg	<73.9	1830	1830	2110	2060	115	112	40-120	3	
Benzaldehyde	ug/kg	<73.9	1830	1830	1160	1430	63	78	40-140	21	CL,IC,IL
Benzo(a)anthracene	ug/kg	<73.9	1830	1830	1600	1540	87	84	52-116	4	
Benzo(a)pyrene	ug/kg	<73.9	1830	1830	1500	1470	82	80	56-119	2	
Benzo(b)fluoranthene	ug/kg	<73.9	1830	1830	1400	1460	76	80	45-122	4	
Benzo(g,h,i)perylene	ug/kg	<73.9	1830	1830	1810	1750	99	96	30-107	3	
Benzo(k)fluoranthene	ug/kg	<73.9	1830	1830	1570	1440	86	79	54-124	9	
Biphenyl (Diphenyl)	ug/kg	<73.9	1830	1830	1160	1280	63	70	40-120	10	
bis(2-Chloroethoxy)methane	ug/kg	<73.9	1830	1830	1010	1170	55	64	29-112	15	
bis(2-Chloroethyl) ether	ug/kg	<73.9	1830	1830	986	1200	54	65	32-116	19	
bis(2-Ethylhexyl)phthalate	ug/kg	<73.9	1830	1830	1730	1690	94	92	60-127	2	
Butylbenzylphthalate	ug/kg	<73.9	1830	1830	1640	1580	89	86	54-130	3	
Caprolactam	ug/kg	<73.9	1830	1830	1340	1420	73	77	40-120	5	
Carbazole	ug/kg	<73.9	1830	1830	1570	1560	86	85	40-120	1	
Chrysene	ug/kg	<73.9	1830	1830	1640	1550	89	84	48-121	6	
Di-n-butylphthalate	ug/kg	<73.9	1830	1830	1740	1700	95	93	53-124	2	
Di-n-octylphthalate	ug/kg	<73.9	1830	1830	1620	1580	88	86	46-141	3	
Dibenz(a,h)anthracene	ug/kg	<73.9	1830	1830	1680	1620	92	89	52-109	4	
Dibenzofuran	ug/kg	<73.9	1830	1830	1270	1330	69	73	48-112	5	
Diethylphthalate	ug/kg	<73.9	1830	1830	1400	1400	76	77	51-114	0	
Dimethylphthalate	ug/kg	<73.9	1830	1830	1300	1330	71	73	49-112	2	
Fluoranthene	ug/kg	<73.9	1830	1830	1610	1590	88	87	45-126	1	
Fluorene	ug/kg	<73.9	1830	1830	1270	1320	69	72	47-108	3	
Hexachloro-1,3-butadiene	ug/kg	<73.9	1830	1830	898	1080	49	59	36-118	19	
Hexachlorobenzene	ug/kg	<73.9	1830	1830	1460	1470	80	80	51-110	0	
Hexachlorocyclopentadiene	ug/kg	<364	1830	1830	370	504	20	28	10-97	31	CL,R1
Hexachloroethane	ug/kg	<73.9	1830	1830	761	994	41	54	34-105	27	
Indeno(1,2,3-cd)pyrene	ug/kg	<73.9	1830	1830	1690	1710	92	93	50-108	1	
Isophorone	ug/kg	<73.9	1830	1830	1220	1400	67	76	14-129	13	
N-Nitroso-di-n-propylamine	ug/kg	<73.9	1830	1830	1160	1400	63	77	33-109	19	
N-Nitrosodiphenylamine	ug/kg	<73.9	1830	1830	952	927	52	51	39-90	3	
Naphthalene	ug/kg	<73.9	1830	1830	1100	1300	60	71	18-142	17	
Nitrobenzene	ug/kg	<73.9	1830	1830	1200	1370	65	75	36-119	14	
Pentachlorophenol	ug/kg	<739	1830	1830	<738	<736	11	10	22-115		CL,M0
Phenanthrene	ug/kg	<73.9	1830	1830	1520	1520	83	83	47-124	0	
Phenol	ug/kg	<73.9	1830	1830	922	1070	50	58	38-104	15	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: 9/18
Pace Project No.: 7030143

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 185259 185260

Parameter	Units	7030143001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Pyrene	ug/kg	<73.9	1830	1830	1650	1590	90	87	49-132	3	
1,2-Dichlorobenzene-d4 (S)	%.						36	45	20-130		
2,4,6-Tribromophenol (S)	%.						56	49	19-122		
2-Chlorophenol-d4 (S)	%.						51	61	20-130		
2-Fluorobiphenyl (S)	%.						57	64	30-115		
2-Fluorophenol (S)	%.						51	62	25-121		
Nitrobenzene-d5 (S)	%.						59	69	23-120		
p-Terphenyl-d14 (S)	%.						79	76	18-137		
Phenol-d5 (S)	%.						55	64	24-113		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: 9/18
Pace Project No.: 7030143

QC Batch: 39858 Analysis Method: ASTM D2216-92M
QC Batch Method: ASTM D2216-92M Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 7030143001, 7030143002, 7030143003, 7030143004, 7030143005, 7030143006

SAMPLE DUPLICATE: 185509

Parameter	Units	7030376001 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	10.6	8.7	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALIFIERS

Project: 9/18
Pace Project No.: 7030143

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

SAMPLE QUALIFIERS

Sample: 7030143001
[1] Sample not collected according to EPA Method 5035A low level specifications. Results may be biased low.

Sample: 7030143003
[1] Sample not collected according to EPA Method 5035A low level specifications. Results may be biased low.

Sample: 7030143004
[1] Sample not collected according to EPA Method 5035A low level specifications. Results may be biased low.

Sample: 7030143005
[1] Sample not collected according to EPA Method 5035A low level specifications. Results may be biased low.

Sample: 7030143006
[1] Sample not collected according to EPA Method 5035A low level specifications. Results may be biased low.

Sample: 187796
[1] Sample not collected according to EPA Method 5035A low level specifications. Results may be biased low.

Sample: 187797
[1] Sample not collected according to EPA Method 5035A low level specifications. Results may be biased low.

ANALYTE QUALIFIERS

CH The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

CL The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALIFIERS

Project: 9/18
Pace Project No.: 7030143

ANALYTE QUALIFIERS

D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
IC	The initial calibration for this compound was outside of method control limits. The result is estimated.
IH	This analyte exceeded secondary source verification criteria high for the initial calibration. The reported results should be considered an estimated value.
IL	This analyte exceeded secondary source verification criteria low for the initial calibration. The reported results should be considered an estimated value.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 9/18
Pace Project No.: 7030143

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
7030143001	FLOOR GRAB	EPA 3545A	40101	EPA 8081B	41313
7030143002	EXTERIOR WALL GRAB	EPA 3545A	40101	EPA 8081B	41313
7030143003	INTERIOR WALL GRAB	EPA 3545A	40101	EPA 8081B	41313
7030143004	FLOOR COMPOSITE	EPA 3545A	40101	EPA 8081B	41313
7030143005	EXTERIOR WALL COMPOSITE	EPA 3545A	40101	EPA 8081B	41313
7030143006	INTERIOR WALL COMPOSITE	EPA 3545A	40101	EPA 8081B	41313
7030143001	FLOOR GRAB	EPA 3545A	40103	EPA 8082A	41348
7030143002	EXTERIOR WALL GRAB	EPA 3545A	40103	EPA 8082A	41348
7030143003	INTERIOR WALL GRAB	EPA 3545A	40103	EPA 8082A	41348
7030143004	FLOOR COMPOSITE	EPA 3545A	40103	EPA 8082A	41348
7030143005	EXTERIOR WALL COMPOSITE	EPA 3545A	40103	EPA 8082A	41348
7030143006	INTERIOR WALL COMPOSITE	EPA 3545A	40103	EPA 8082A	41348
7030143001	FLOOR GRAB	EPA 3050B	39735	EPA 6010C	39793
7030143002	EXTERIOR WALL GRAB	EPA 3050B	39735	EPA 6010C	39793
7030143003	INTERIOR WALL GRAB	EPA 3050B	39735	EPA 6010C	39793
7030143004	FLOOR COMPOSITE	EPA 3050B	39735	EPA 6010C	39793
7030143005	EXTERIOR WALL COMPOSITE	EPA 3050B	39735	EPA 6010C	39793
7030143006	INTERIOR WALL COMPOSITE	EPA 3050B	39735	EPA 6010C	39793
7030143001	FLOOR GRAB	EPA 7471B	39986	EPA 7471B	40016
7030143002	EXTERIOR WALL GRAB	EPA 7471B	39986	EPA 7471B	40016
7030143003	INTERIOR WALL GRAB	EPA 7471B	39986	EPA 7471B	40016
7030143004	FLOOR COMPOSITE	EPA 7471B	39986	EPA 7471B	40016
7030143005	EXTERIOR WALL COMPOSITE	EPA 7471B	39986	EPA 7471B	40016
7030143006	INTERIOR WALL COMPOSITE	EPA 7471B	39986	EPA 7471B	40016
7030143001	FLOOR GRAB	EPA 3545A	39751	EPA 8270D	40052
7030143002	EXTERIOR WALL GRAB	EPA 3545A	39751	EPA 8270D	40052
7030143003	INTERIOR WALL GRAB	EPA 3545A	39751	EPA 8270D	40052
7030143004	FLOOR COMPOSITE	EPA 3545A	39751	EPA 8270D	40052
7030143005	EXTERIOR WALL COMPOSITE	EPA 3545A	39751	EPA 8270D	40052
7030143006	INTERIOR WALL COMPOSITE	EPA 3545A	39751	EPA 8270D	40052
7030143001	FLOOR GRAB	EPA 5035A-L	40339	EPA 8260C	40343
7030143002	EXTERIOR WALL GRAB	EPA 8260C	40372		
7030143003	INTERIOR WALL GRAB	EPA 5035A-L	40339	EPA 8260C	40343
7030143004	FLOOR COMPOSITE	EPA 5035A-L	40339	EPA 8260C	40343
7030143005	EXTERIOR WALL COMPOSITE	EPA 5035A-L	40339	EPA 8260C	40343
7030143006	INTERIOR WALL COMPOSITE	EPA 5035A-L	40339	EPA 8260C	40343
7030143001	FLOOR GRAB	ASTM D2216-92M	39858		
7030143002	EXTERIOR WALL GRAB	ASTM D2216-92M	39858		
7030143003	INTERIOR WALL GRAB	ASTM D2216-92M	39858		
7030143004	FLOOR COMPOSITE	ASTM D2216-92M	39858		
7030143005	EXTERIOR WALL COMPOSITE	ASTM D2216-92M	39858		
7030143006	INTERIOR WALL COMPOSITE	ASTM D2216-92M	39858		

WO#:7030143

7030143

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

Section A
Required Client Information:

Company:	TERRACON
Address:	15 MARWAY CIRCLE
	ROCHESTER, NY, 14624
Email To:	FRANK.MINNOLENA@TERRACON
Phone:	(716) 863-5591
Fax:	
Requested Due Date/TAT:	5 DAYS

Required Project Information:

Report to:	
Copy To:	
Purchase Order No.:	
Project Name:	
Project Number:	

Section C
Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☑ OTHER

SITE LOCATION: ☐ GA ☐ IL ☐ N ☐ MI ☐ NC ☐ OH ☐ SC ☐ WI ☐ OTHER NY

Section D
Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Na_2SO_4	Total Coliform	Fecal Coliform	Salmonella	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	FLOOR GRAB	SL	G	9/15/17	0900				2	X								X	X	X	X	001
2	EXTERIOR WALL GRAB		G		0905				2									X	X	X	X	002
3	INTERIOR WALL GRAB		G		0910				2									X	X	X	X	003
4																						
5	FLOOR COMPOSITE		C		0930				2									X	X	X	X	004
6	EXTERIOR WALL COMPOSITE		C		0950				2									X	X	X	X	005
7	INTERIOR WALL COMPOSITE		C		1000				2									X	X	X	X	006
8																						
9																						
10																						
11																						
12																						

Requested Analys: TCL VOCs; TCL SVOCs; PESTICIDES; METALS; PCBs

TOTAL 12 CONTAINERS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	F MINNOLENA / TERRACON	9/15/17	1130	PACE COURIER	9/15/17	1130	
		9/15/17	1700		9/16/17	10:00	0.8

SAMPLE CONDITIONS: Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: FRANK MINNOLENA

SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 9/15/17

Sample Condition Upon Receipt

Pace Analytical

Client Name: Pro

WO#:7030143

PM: CNP Due Date: 10/02/17

CLIENT: Terracon-NY

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Tracking #: 7702 7271 4488

Custody Seal on Cooler/Box Present: ☒ Yes ☐ No Seals intact: ☐ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ Ziploc ☐ None ☐ Other Type of Ice: (Wet) Blue None

Thermometer Used: TH092 Correction Factor: +0.1 0.9 ☐ Samples on ice, cooling process has begun

Cooler Temperature (°C): 0.8 Cooler Temperature Corrected (°C): 0.9 Date/Time 5035A kits placed in freezer _____

Temp should be above freezing to 6.0°C

USDA Regulated Soil (☒ N/A, water sample) Date and Initials of person examining contents: JK 9/26/17

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check map)? ☐ YES ☐ NO

Did samples orignate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☒ No

If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-010) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present:	☑ Yes	☐ No		1.
Chain of Custody Filled Out:	☑ Yes	☐ No		2.
Chain of Custody Relinquished:	☑ Yes	☐ No		3.
Sampler Name & Signature on COC:	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time:	☑ Yes	☐ No		5.
Short Hold Time Analysis (<72hr):	☐ Yes	☑ No		6.
Rush Turn Around Time Requested:	☐ Yes	☑ No		7.
Sufficient Volume: (Triple volume provided for MS/MSD)	☑ Yes	☐ No		8.
Correct Containers Used:	☑ Yes	☐ No		9.
-Pace Containers Used:	☑ Yes	☐ No		
Containers Intact:	☑ Yes	☐ No		10.
Filtered volume received for Dissolved tests	☐ Yes	☐ No	☑ N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels match COC:	☑ Yes	☐ No		12.
-Includes date/time/ID/Analysis Matrix: (SL) WT OIL				
All containers needing preservation have been checked	☐ Yes	☐ No	☑ N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl
pH paper Lot #				Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl, NaOH>9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water). Per Method, VOA pH is checked after analysis	☐ Yes	☐ No	☑ N/A	Initial when completed: / Lot # of added preservative: / Date/Time preservative added:
Samples checked for dechlorination:	☐ Yes	☐ No	☑ N/A	14. Positive for Res. Chlorine? Y N
Residual chlorine strips Lot #				
Headspace in VOA Vials (>6mm):	☐ Yes	☐ No	☑ N/A	15.
Trip Blank Present:	☐ Yes	☐ No	☑ N/A	16.
Trip Blank Custody Seals Present	☐ Yes	☐ No	☑ N/A	
Pace Trip Blank Lot # (if applicable):				

Field Data Required? Y / N

Client Notification/ Resolution: Date/Time:

Person Contacted:

Comments/ Resolution:

* PM (Project Manager) review is documented electronically in LIMS.

Appendix F – Disposal and Waste Approval Documents

EnSol, Inc.
Environmental Solutions
Professional Engineering · Business Consulting

661 Main Street
Niagara Falls, NY 14301
Ph (716) 285-3920 · Fx (716) 285-3928
E-Mail jbattaglia@ensolinc.com

Manifest Invoicing

Project No: 17-3232-54T

Customer Name:
Nature's Way Environmental

Address: 3553 Crittenden Road
City: Alden
State NY **Zip:** 14004

Generator Name:
Lackawanna FDS 715551, LLC

Address: 106 Foster Aven
City: Charlotte
State NC **Zip:** 28203

Location Name :
Six Vacant Lots/ NYSDEC Site#E915188

Address: 113-135 Ridge Road
City: Lackawa
State NY **Zip:** 1421

Manifest No	TicketDate	Trucker Ticket Number	Weight Ticket Number	TruckID	Actual Tonnage	Minimum Tonnage	Billable Tonnage:	Liners Used	Trucker Wait Time
443363	9/27/2017		112076	16	23.70	0	23.70	0	
443364	9/27/2017		112077	600	24.60	0	24.60	0	
443365	9/27/2017		112078	15	24.94	0	24.94	0	
443366	9/27/2017		112080	14	24.92	0	24.92	0	
443367	9/27/2017		112081	16	22.34	0	22.34	0	
443368	9/27/2017		112082	15	25.32	0	25.32	0	
443369	9/27/2017		112083	600	24.36	0	24.36	0	
443370	9/27/2017		112084	14	24.18	0	24.18	0	
443371	9/27/2017		112085	16	21.48	0	21.48	0	
443372	9/27/2017		112087	13	21.08	0	21.08	0	
443373	9/27/2017		112088	243	22.62	0	22.62	0	
443374	9/27/2017		112089	600	20.20	0	20.20	0	
443375	9/27/2017		112090	14	23.22	0	23.22	0	
443376	9/27/2017		112091	16	22.00	0	22.00	0	
443377	9/27/2017		112092	15	22.32	0	22.32	0	

EnSol, Inc.
Environmental Solutions
Professional Engineering · Business Consulting

661 Main Street
Niagara Falls, NY 14301
Ph (716) 285-3920 · Fx (716) 285-3928
E-Mail jbattaglia@ensolinc.com

Manifest Invoicing

Project No: 17-3232-54T

Customer Name:
Nature's Way Environmental
Address: 3553 Crittenden Road
City: Alden
State NY **Zip:** 14004

Generator Name:
Lackawanna FDS 715551, LLC
Address: 106 Foster Aven
City: Charlotte
State NC **Zip:** 28203

Location Name :
Six Vacant Lots/ NYSDEC Site#E915188
Address: 113-135 Ridge Road
City: Lackawa
State NY **Zip:** 1421

Manifest No	TicketDate	Trucker Ticket Number	Weight Ticket Number	TruckID	Actual Tonnage	Minimum Tonnage	Billable Tonnage:	Liners Used	Trucker Wait Time
443379	9/27/2017		112093	243	20.96	0	20.96	0	
443380	9/27/2017		112094	14	22.38	0	22.38	0	
443381	9/27/2017		112095	16	22.04	0	22.04	0	
443382	9/27/2017		112096	15	21.32	0	21.32	0	
443383	9/27/2017		112098	243	23.90	0	23.90	0	
443384	9/27/2017		112101	14	22.90	0	22.90	0	
443385	9/27/2017		112102	16	21.72	0	21.72	0	
443386	9/27/2017		112103	15	23.90	0	23.90	0	
443387	9/27/2017		112104	243	22.76	0	22.76	0	
443388	9/28/2017		112105	233	22.84	0	22.84	0	
443389	9/28/2017		112106	38	24.18	0	24.18	0	
443390	9/28/2017		112108	15	25.20	0	25.20	0	
443391	9/28/2017		112111	233	22.44	0	22.44	0	
443392	9/28/2017		112107	14	25.56	0	25.56	0	
443393	9/28/2017		112110	600	21.96	0	21.96	0	

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E-Mail jbattaglia@ensolinc.com

Manifest Invoicing

Project No: 17-3232-54T

Customer Name:
Nature's Way Environmental

Address: 3553 Crittenden Road
City: Alden
State NY **Zip:** 14004

Generator Name:
Lackawanna FDS 715551, LLC

Address: 106 Foster Aven
City: Charlotte
State NC **Zip:** 28203

Location Name :
Six Vacant Lots/ NYSDEC Site#E915188

Address: 113-135 Ridge Road
City: Lackawa
State NY **Zip:** 1421

Manifest No	TicketDate	Trucker Ticket Number	Weight Ticket Number	TruckID	Actual Tonnage	Minimum Tonnage	Billable Tonnage:	Liners Used	Trucker Wait Time
443394	9/28/2017		112112	38	23.24	0	23.24	0	
443395	9/28/2017		112114	14	24.60	0	24.60	0	
443396	9/28/2017		112115	15	24.10	0	24.10	0	
443397	9/28/2017		112117	600	22.54	0	22.54	0	
443398	9/28/2017		112118	109	21.16	0	21.16	0	
443399	9/28/2017		112120	233	22.60	0	22.60	0	
443400	9/28/2017		112119	38	23.66	0	23.66	0	
443401	9/28/2017		112121	14	23.66	0	23.66	0	
443402	9/28/2017		112123	15	25.38	0	25.38	0	
443403	9/28/2017		112125	600	21.08	0	21.08	0	
443404	9/28/2017		112127	109	21.30	0	21.30	0	
443405	9/28/2017		112128	38	23.06	0	23.06	0	
443406	9/28/2017		112129	233	20.44	0	20.44	0	
443407	9/28/2017		112130	14	25.24	0	25.24	0	
443408	9/28/2017		112131	15	25.42	0	25.42	0	

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State NC **Zip:** 28203

Location Name :
Six Vacant Lots/ NYSDEC Site#E915188
Address: 113-135 Ridge Road
City: Lackawa
State NY **Zip:** 1421

Manifest No	TicketDate	Trucker Ticket Number	Weight Ticket Number	TruckID	Actual Tonnage	Minimum Tonnage	Billable Tonnage:	Liners Used	Trucker Wait Time
443409	9/28/2017		112132	600	21.64	0	21.64	0	
443410	9/28/2017		112133	109	21.06	0	21.06	0	
443411	9/28/2017		112134	38	19.76	0	19.76	0	
443432	9/28/2017		112136	14	20.34	0	20.34	0	
443433	9/28/2017		112135	15	22.86	0	22.86	0	
443434	9/28/2017		112137	233	19.44	0	19.44	0	
443435	9/28/2017		112138	600	21.48	0	21.48	0	
443436	9/28/2017		112139	109	22.40	0	22.40	0	
443437	10/17/2017		112228	104	26.46	0	26.46	0	
443438	10/17/2017		112229	13	24.98	0	24.98	0	
443439	10/17/2017		112230	233	26.80	0	26.80	0	
443440	10/17/2017		112232	104	19.12	0	19.12	0	
443441	10/17/2017		112233	18	22.32	0	22.32	0	
443707	10/17/2017		112234	233	21.38	0	21.38	0	
443708	10/17/2017		112235	104	22.86	0	22.86	0	

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State NY **Zip:** 1421

Manifest No	TicketDate	Trucker Ticket Number	Weight Ticket Number	TruckID	Actual Tonnage	Minimum Tonnage	Billable Tonnage:	Liners Used	Trucker Wait Time
443709	10/17/2017		112236	13	25.46	0	25.46	0	
443710	10/17/2017		112237	233	23.94	0	23.94	0	
443711	10/17/2017		112239	104	23.10	0	23.10	0	
443712	10/17/2017		112240	13	23.40	0	23.40	0	
443713	10/17/2017		112241	233	23.92	0	23.92	0	
443714	10/17/2017		112243	104	21.42	0	21.42	0	
443715	10/17/2017		112244	13	21.94	0	21.94	0	
443716	10/17/2017		112245	233	21.44	0	21.44	0	
443717	10/17/2017		112246	104	23.84	0	23.84	0	
443718	10/17/2017		112247	13	23.88	0	23.88	0	
443719	10/17/2017		112248	233	23.62	0	23.62	0	
443720	10/18/2017		112250	233	23.38	0	23.38	0	
443721	10/18/2017		112252	98	21.74	0	21.74	0	
443722	10/18/2017		112253	94	20.18	0	20.18	0	
443723	10/18/2017		112254	233	21.06	0	21.06	0	

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Address: 113-135 Ridge Road
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State NY **Zip:** 1421

Manifest No	TicketDate	Trucker Ticket Number	Weight Ticket Number	TruckID	Actual Tonnage	Minimum Tonnage	Billable Tonnage:	Liners Used	Trucker Wait Time
443724	10/18/2017		112255	94	20.42	0	20.42	0	
443725	10/18/2017		112257	94	22.22	0	22.22	0	
443726	10/18/2017		112258	98	22.72	0	22.72	0	

Number of Mainfests: 78
Code 1: 4932
Date 1: 10/25/2017

Total Actual Tonnage:	1,779.40	Total Billable Tonnage:	1,779.40	Total Liners Used	0	Total Time (minutes)	

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Manifest No	TicketDate	Trucker Ticket Number	Weight Ticket Number	TruckID	Actual Tonnage	Minimum Tonnage	Billable Tonnage:	Liners Used	Trucker Wait Time
443727	10/27/2017		112352	233	21.36	0	21.36	0	
443728	10/27/2017		112353	319	23.74	0	23.74	0	
443729	10/27/2017		112356	03	22.53	0	22.53	0	
443730	10/27/2017		112354	600	22.04	0	22.04	0	
443731	10/27/2017		112358	07	23.82	0	23.82	0	
443732	10/27/2017		112359	67	20.42	0	20.42	0	
443733	10/27/2017		112360	233	24.48	0	24.48	0	
443734	10/27/2017		112361	19	25.04	0	25.04	0	
443735	10/27/2017		112363	03	25.12	0	25.12	0	
443736	10/27/2017		112364	600	21.50	0	21.50	0	
443737	10/27/2017		112366	07	22.52	0	22.52	0	
443738	10/27/2017		112365	67	17.64	0	17.64	0	
443739	10/27/2017		112369	233	23.88	0	23.88	0	
443740	10/27/2017		112370	19	23.64	0	23.64	0	
443741	10/27/2017		112372	03	19.42	0	19.42	0	

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Manifest No	TicketDate	Trucker Ticket Number	Weight Ticket Number	TruckID	Actual Tonnage	Minimum Tonnage	Billable Tonnage:	Liners Used	Trucker Wait Time
443742	10/27/2017		112373	600	19.60	0	19.60	0	
443743	10/27/2017		112374	07	20.18	0	20.18	0	
443744	10/27/2017		112375	67	17.72	0	17.72	0	
443745	10/27/2017		112376	19	20.22	0	20.22	0	
443746	10/27/2017		112377	233	18.76	0	18.76	0	
443747	10/27/2017		112378	03	22.50	0	22.50	0	
443748	10/27/2017		112379	600	22.02	0	22.02	0	
443749	10/27/2017		112380	03	23.24	0	23.24	0	
443750	10/27/2017		112381	67	19.92	0	19.92	0	
443751	10/27/2017		112382	19	23.80	0	23.80	0	
443752	10/27/2017		112383	233	22.40	0	22.40	0	
443753	10/27/2017		112384	03	22.72	0	22.72	0	
443754	10/27/2017		112386	19	23.70	0	23.70	0	
443755	10/27/2017		112388	233	25.50	0	25.50	0	

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State NY **Zip:** 1421

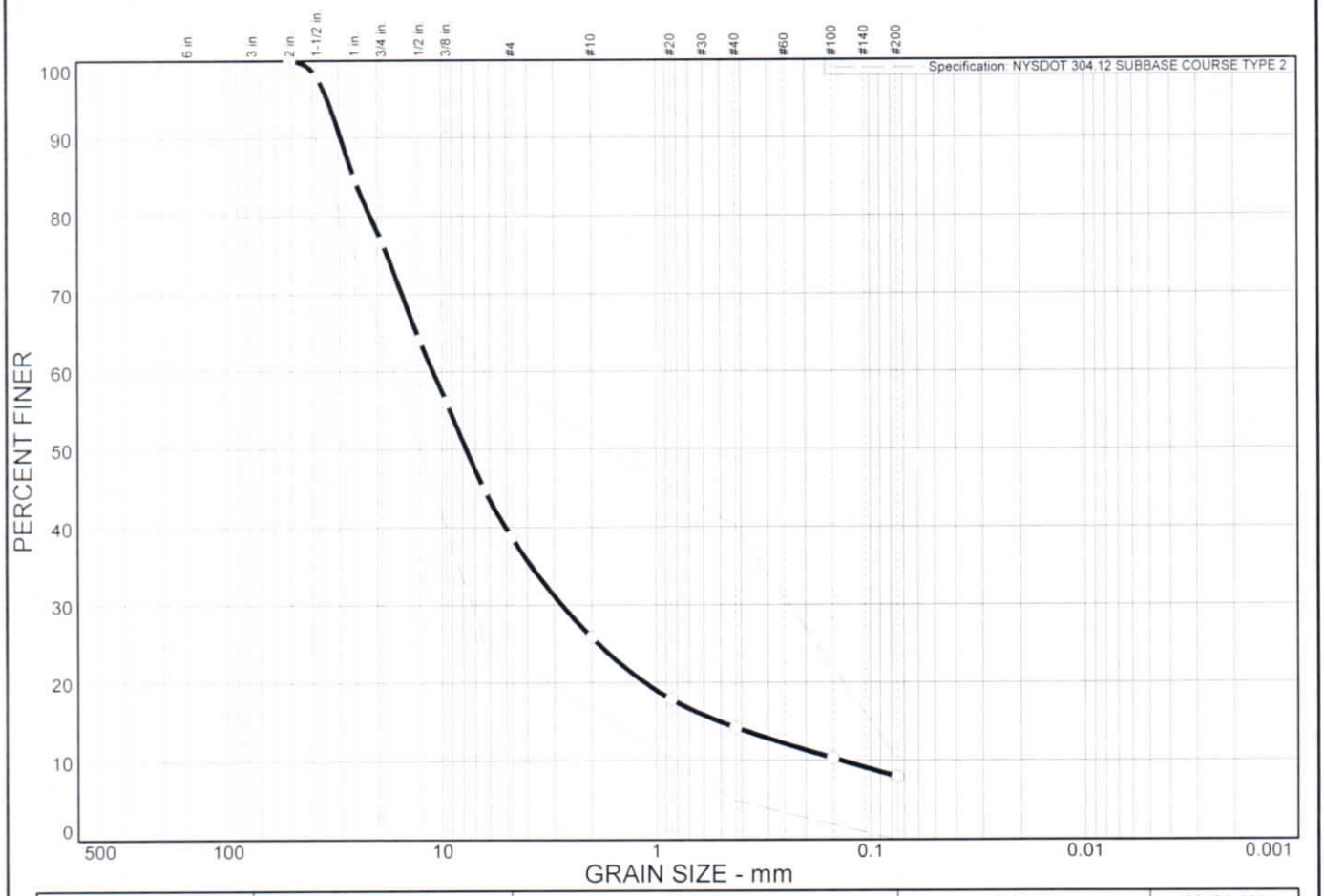
Manifest No	TicketDate	Trucker Ticket Number	Weight Ticket Number	TruckID	Actual Tonnage	Minimum Tonnage	Billable Tonnage:	Liners Used	Trucker Wait Time

Number of Mainfests: 29
Code 1: 4963
Date 1: 11/01/2017

Total Actual Tonnage:	**639.43**	**Total Billable Tonnage:**	**639.43**	**Total Liners Used**	**0**	**Total Time (minutes)**	

Appendix G – Imported Material Data (Grain-Size, Laboratory Analysis)

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	61.2	30.9	7.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2 in.	100.0	100 - 100	
1.5 in.	97.9		
1 in.	84.7		
.75 in.	76.7		
.5 in.	64.1		
.375 in.	56.0		
.25 in.	44.8	25 - 60	
#4	38.8		
#10	25.8		
#20	17.8		
#40	14.2	5 - 40	
#100	10.3		
#200	7.9	0 - 10	

* NYSDOT 304.12 SUBBASE COURSE TYPE 2

Soil Description

-2" CRUSHER RUN HARDHEADS

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 25.6 D_{60}= 11.0 D_{50}= 7.72
D_{30}= 2.76 D_{15}= 0.511 D_{10}= 0.138
C_u= 79.97 C_c= 5.02

Classification

USCS= AASHTO=

Remarks

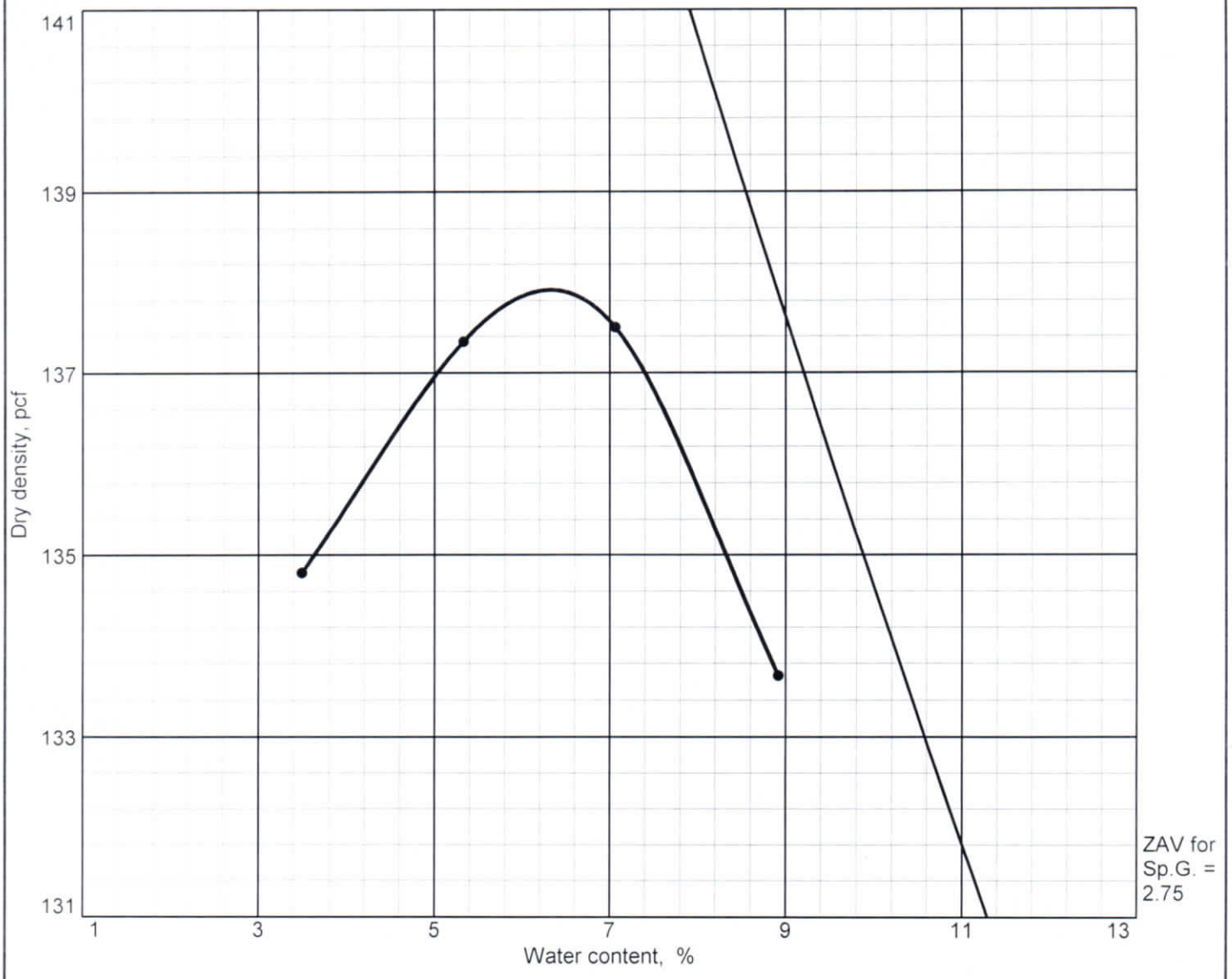
LTR-4 AMEMDED to relfect change in material description
SAMPLED BY: CLIENT
DATE RECEIVED: 2-28-2017

Sample No.: 17-130 **Source of Sample:** GERNATT ASPHALT PRODUCTS **Date:** 3-3-2017
Location: GABLE THOMAS PLANT **Elev./Depth:**

SJB SERVICES, INC.

Client: GERNATT ASPHALT PRODUCTS
Project: MATERIAL TESTING
GERNATT ASPHALT PRODUCTS
Project No: BT-17-003 **Plate**

COMPACTION TEST REPORT



Test specification: ASTM D 1557-12 Procedure C Modified
Oversize correction applied to each point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
				2.75			23.3	7.9

ROCK CORRECTED TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 137.9 pcf Optimum moisture = 6.3 %	-2" CRUSHER RUN HARDHEADS

Project No. BT-17-003 **Client:** GERNATT ASPHALT PRODUCTS
Project: MATERIAL TESTING
GERNATT ASPHALT PRODUCTS
• **Location:** GABLE THOMAS PLANT

Remarks:
LTR-4 AMENDED to reflex change in material description
SAMPLE NUMBER: 17-130

COMPACTION TEST REPORT

SJB SERVICES, INC.

Plate

PARADIGM

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Analytical Report For

Terracon Consultants-NY, Inc.

For Lab Project ID

181878

Referencing

Family Dollar Store, Lackawanna, NY

Prepared

Thursday, May 10, 2018

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 181878

Client: **Terracon Consultants-NY, Inc.**

Project Reference: Family Dollar Store, Lackawanna, NY

Sample Identifier:	Topsoil		
Lab Sample ID:	181878-01	**Date Sampled:**	5/4/2018
Matrix:	Soil	**Date Received:**	5/7/2018

Herbicides

Analyte	Result	Units	Qualifier	Date Analyzed
2,4,5-T	<196	ug/Kg		5/8/2018
2,4,5-TP (Silvex)	<196	ug/Kg		5/8/2018
2,4-D	<196	ug/Kg		5/8/2018

Method Reference(s): EPA 8151A
Subcontractor ELAP ID: 11148

Mercury

Analyte	Result	Units	Qualifier	Date Analyzed
Mercury	**0.0426**	mg/Kg		5/9/2018 12:09

Method Reference(s): EPA 7471B
Preparation Date: 5/9/2018
Data File: Hg180509A

TAL Metals (ICP)

Analyte	Result	Units	Qualifier	Date Analyzed
Aluminum	**11400**	mg/Kg		5/10/2018 11:01
Antimony	< 3.47	mg/Kg		5/10/2018 11:01
Arsenic	**7.90**	mg/Kg		5/10/2018 11:01
Barium	**64.5**	mg/Kg		5/10/2018 11:01
Beryllium	**0.415**	mg/Kg		5/10/2018 11:01
Cadmium	< 0.289	mg/Kg		5/10/2018 11:01
Calcium	**12800**	mg/Kg		5/10/2018 11:01
Chromium	**12.6**	mg/Kg		5/10/2018 11:01
Cobalt	**6.92**	mg/Kg		5/10/2018 11:01
Copper	**19.7**	mg/Kg		5/10/2018 11:01
Iron	**17700**	mg/Kg		5/10/2018 11:01
Lead	**14.9**	mg/Kg		5/10/2018 11:01
Magnesium	**6780**	mg/Kg		5/10/2018 11:01
Manganese	**914**	mg/Kg		5/10/2018 11:19
Nickel	**16.8**	mg/Kg		5/10/2018 11:01

Sample Identifier: Topsoil
Lab Sample ID: 181878-01 **Date Sampled:** 5/4/2018
Matrix: Soil **Date Received:** 5/7/2018

Potassium	**835**	mg/Kg		5/10/2018 11:01
Selenium	< 1.16	mg/Kg		5/10/2018 11:01
Silver	**1.83**	mg/Kg		5/10/2018 11:01
Sodium	< 145	mg/Kg		5/10/2018 11:01
Thallium	< 1.45	mg/Kg		5/10/2018 11:01
Vanadium	**17.4**	mg/Kg		5/10/2018 11:01
Zinc	**83.1**	mg/Kg		5/10/2018 11:01

Method Reference(s): EPA 6010C
EPA 3050B
Preparation Date: 5/8/2018
Data File: 180510B

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.0291	mg/Kg		5/10/2018 04:15
PCB-1221	< 0.0291	mg/Kg		5/10/2018 04:15
PCB-1232	< 0.0291	mg/Kg		5/10/2018 04:15
PCB-1242	< 0.0291	mg/Kg		5/10/2018 04:15
PCB-1248	< 0.0291	mg/Kg		5/10/2018 04:15
PCB-1254	< 0.0291	mg/Kg		5/10/2018 04:15
PCB-1260	< 0.0291	mg/Kg		5/10/2018 04:15
PCB-1262	< 0.0291	mg/Kg		5/10/2018 04:15
PCB-1268	< 0.0291	mg/Kg		5/10/2018 04:15

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl	**73.9**	10 - 132		5/10/2018 04:15
Tetrachloro-m-xylene	**47.6**	10 - 119		5/10/2018 04:15

Method Reference(s): EPA 8082A
EPA 3550C
Preparation Date: 5/8/2018

Chlorinated Pesticides

Analyte	Result	Units	Qualifier	Date Analyzed
4,4-DDD	< 2.91	ug/Kg		5/8/2018 15:20
4,4-DDE	**3.71**	ug/Kg		5/8/2018 15:20

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 181878

Client: **Terracon Consultants-NY, Inc.**

Project Reference: Family Dollar Store, Lackawanna, NY

Sample Identifier: Topsoil
Lab Sample ID: 181878-01 **Date Sampled:** 5/4/2018
Matrix: Soil **Date Received:** 5/7/2018

4,4-DDT	**4.59**	ug/Kg		5/8/2018 15:20
Aldrin	< 2.91	ug/Kg		5/8/2018 15:20
alpha-BHC	< 2.91	ug/Kg		5/8/2018 15:20
beta-BHC	< 2.91	ug/Kg		5/8/2018 15:20
cis-Chlordane	< 2.91	ug/Kg		5/8/2018 15:20
delta-BHC	< 2.91	ug/Kg		5/8/2018 15:20
Dieldrin	< 2.91	ug/Kg		5/8/2018 15:20
Endosulfan I	< 2.91	ug/Kg		5/8/2018 15:20
Endosulfan II	< 2.91	ug/Kg		5/8/2018 15:20
Endosulfan Sulfate	< 2.91	ug/Kg		5/8/2018 15:20
Endrin	< 2.91	ug/Kg		5/8/2018 15:20
Endrin Aldehyde	< 2.91	ug/Kg		5/8/2018 15:20
Endrin Ketone	< 2.91	ug/Kg		5/8/2018 15:20
gamma-BHC (Lindane)	< 2.91	ug/Kg		5/8/2018 15:20
Heptachlor	< 2.91	ug/Kg		5/8/2018 15:20
Heptachlor Epoxide	< 2.91	ug/Kg		5/8/2018 15:20
Methoxychlor	< 2.91	ug/Kg		5/8/2018 15:20
Toxaphene	< 29.1	ug/Kg		5/8/2018 15:20
trans-Chlordane	< 2.91	ug/Kg		5/8/2018 15:20

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl (1)	**66.5**	46.4 - 133		5/8/2018 15:20
Tetrachloro-m-xylene (1)	**71.2**	24 - 110		5/8/2018 15:20

Method Reference(s): EPA 8081B
EPA 3550C
Preparation Date: 5/8/2018

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed
1,1-Biphenyl	< 333	ug/Kg		5/8/2018 21:40
1,2,4,5-Tetrachlorobenzene	< 333	ug/Kg		5/8/2018 21:40
1,2,4-Trichlorobenzene	< 333	ug/Kg		5/8/2018 21:40
1,2-Dichlorobenzene	< 333	ug/Kg		5/8/2018 21:40
1,3-Dichlorobenzene	< 333	ug/Kg		5/8/2018 21:40

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 181878

Client: **Terracon Consultants-NY, Inc.**

Project Reference: Family Dollar Store, Lackawanna, NY

Sample Identifier:	Topsoil		
Lab Sample ID:	181878-01	**Date Sampled:**	5/4/2018
Matrix:	Soil	**Date Received:**	5/7/2018

1,4-Dichlorobenzene	< 333	ug/Kg	5/8/2018 21:40
2,2-Oxybis (1-chloropropane)	< 333	ug/Kg	5/8/2018 21:40
2,3,4,6-Tetrachlorophenol	< 333	ug/Kg	5/8/2018 21:40
2,4,5-Trichlorophenol	< 666	ug/Kg	5/8/2018 21:40
2,4,6-Trichlorophenol	< 333	ug/Kg	5/8/2018 21:40
2,4-Dichlorophenol	< 333	ug/Kg	5/8/2018 21:40
2,4-Dimethylphenol	< 333	ug/Kg	5/8/2018 21:40
2,4-Dinitrophenol	< 666	ug/Kg	5/8/2018 21:40
2,4-Dinitrotoluene	< 333	ug/Kg	5/8/2018 21:40
2,6-Dinitrotoluene	< 333	ug/Kg	5/8/2018 21:40
2-Chloronaphthalene	< 333	ug/Kg	5/8/2018 21:40
2-Chlorophenol	< 333	ug/Kg	5/8/2018 21:40
2-Methylnapthalene	< 333	ug/Kg	5/8/2018 21:40
2-Methylphenol	< 333	ug/Kg	5/8/2018 21:40
2-Nitroaniline	< 666	ug/Kg	5/8/2018 21:40
2-Nitrophenol	< 333	ug/Kg	5/8/2018 21:40
3&4-Methylphenol	< 333	ug/Kg	5/8/2018 21:40
3,3'-Dichlorobenzidine	< 333	ug/Kg	5/8/2018 21:40
3-Nitroaniline	< 666	ug/Kg	5/8/2018 21:40
4,6-Dinitro-2-methylphenol	< 666	ug/Kg	5/8/2018 21:40
4-Bromophenyl phenyl ether	< 333	ug/Kg	5/8/2018 21:40
4-Chloro-3-methylphenol	< 333	ug/Kg	5/8/2018 21:40
4-Chloroaniline	< 333	ug/Kg	5/8/2018 21:40
4-Chlorophenyl phenyl ether	< 333	ug/Kg	5/8/2018 21:40
4-Nitroaniline	< 666	ug/Kg	5/8/2018 21:40
4-Nitrophenol	< 666	ug/Kg	5/8/2018 21:40
Acenaphthene	< 333	ug/Kg	5/8/2018 21:40
Acenaphthylene	< 333	ug/Kg	5/8/2018 21:40
Acetophenone	< 333	ug/Kg	5/8/2018 21:40
Anthracene	< 333	ug/Kg	5/8/2018 21:40
Atrazine	< 333	ug/Kg	5/8/2018 21:40
Benzaldehyde	< 333	ug/Kg	5/8/2018 21:40

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 181878

Client: **Terracon Consultants-NY, Inc.**

Project Reference: Family Dollar Store, Lackawanna, NY

Sample Identifier:	Topsoil		
Lab Sample ID:	181878-01	**Date Sampled:**	5/4/2018
Matrix:	Soil	**Date Received:**	5/7/2018

Benzo (a) anthracene	< 333	ug/Kg	5/8/2018 21:40
Benzo (a) pyrene	< 333	ug/Kg	5/8/2018 21:40
Benzo (b) fluoranthene	< 333	ug/Kg	5/8/2018 21:40
Benzo (g,h,i) perylene	< 333	ug/Kg	5/8/2018 21:40
Benzo (k) fluoranthene	< 333	ug/Kg	5/8/2018 21:40
Bis (2-chloroethoxy) methane	< 333	ug/Kg	5/8/2018 21:40
Bis (2-chloroethyl) ether	< 333	ug/Kg	5/8/2018 21:40
Bis (2-ethylhexyl) phthalate	< 333	ug/Kg	5/8/2018 21:40
Butylbenzylphthalate	< 333	ug/Kg	5/8/2018 21:40
Caprolactam	< 333	ug/Kg	5/8/2018 21:40
Carbazole	< 333	ug/Kg	5/8/2018 21:40
Chrysene	< 333	ug/Kg	5/8/2018 21:40
Dibenz (a,h) anthracene	< 333	ug/Kg	5/8/2018 21:40
Dibenzofuran	< 333	ug/Kg	5/8/2018 21:40
Diethyl phthalate	< 333	ug/Kg	5/8/2018 21:40
Dimethyl phthalate	< 666	ug/Kg	5/8/2018 21:40
Di-n-butyl phthalate	< 333	ug/Kg	5/8/2018 21:40
Di-n-octylphthalate	< 333	ug/Kg	5/8/2018 21:40
Fluoranthene	< 333	ug/Kg	5/8/2018 21:40
Fluorene	< 333	ug/Kg	5/8/2018 21:40
Hexachlorobenzene	< 333	ug/Kg	5/8/2018 21:40
Hexachlorobutadiene	< 333	ug/Kg	5/8/2018 21:40
Hexachlorocyclopentadiene	< 333	ug/Kg	5/8/2018 21:40
Hexachloroethane	< 333	ug/Kg	5/8/2018 21:40
Indeno (1,2,3-cd) pyrene	< 333	ug/Kg	5/8/2018 21:40
Isophorone	< 333	ug/Kg	5/8/2018 21:40
Naphthalene	< 333	ug/Kg	5/8/2018 21:40
Nitrobenzene	< 333	ug/Kg	5/8/2018 21:40
N-Nitroso-di-n-propylamine	< 333	ug/Kg	5/8/2018 21:40
N-Nitrosodiphenylamine	< 333	ug/Kg	5/8/2018 21:40
Pentachlorophenol	< 666	ug/Kg	5/8/2018 21:40
Phenanthrene	< 333	ug/Kg	5/8/2018 21:40

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 181878

Client: **Terracon Consultants-NY, Inc.**

Project Reference: Family Dollar Store, Lackawanna, NY

Sample Identifier: Topsoil
Lab Sample ID: 181878-01 **Date Sampled:** 5/4/2018
Matrix: Soil **Date Received:** 5/7/2018

Phenol	< 333	ug/Kg			5/8/2018 21:40
Pyrene	< 333	ug/Kg			5/8/2018 21:40

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**70.7**	46 - 109		5/8/2018 21:40
2-Fluorobiphenyl	**55.4**	37.7 - 103		5/8/2018 21:40
2-Fluorophenol	**65.0**	39.9 - 92.7		5/8/2018 21:40
Nitrobenzene-d5	**56.4**	38.7 - 92.2		5/8/2018 21:40
Phenol-d5	**66.7**	42.2 - 96.1		5/8/2018 21:40
Terphenyl-d14	**68.9**	69.9 - 113	*	5/8/2018 21:40

Method Reference(s): EPA 8270D
EPA 3550C
Preparation Date: 5/8/2018
Data File: B27136.D

Total Cyanide

Analyte	Result	Units	Qualifier	Date Analyzed
Cyanide, Total	< 0.590	mg/Kg		5/10/2018

Method Reference(s): EPA 9014
Preparation Date: 5/9/2018

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 181878

Client: **Terracon Consultants-NY, Inc.**

Project Reference: Family Dollar Store, Lackawanna, NY

Sample Identifier:	Subsoil		
Lab Sample ID:	181878-02	**Date Sampled:**	5/4/2018
Matrix:	Soil	**Date Received:**	5/7/2018

Herbicides

Analyte	Result	Units	Qualifier	Date Analyzed
2,4,5-T	<198	ug/Kg		5/8/2018
2,4,5-TP (Silvex)	<198	ug/Kg		5/8/2018
2,4-D	<198	ug/Kg		5/8/2018

Method Reference(s): EPA 8151A
Subcontractor ELAP ID: 11148

Mercury

Analyte	Result	Units	Qualifier	Date Analyzed
Mercury	**0.0449**	mg/Kg		5/9/2018 12:12

Method Reference(s): EPA 7471B
Preparation Date: 5/9/2018
Data File: Hg180509A

TAL Metals (ICP)

Analyte	Result	Units	Qualifier	Date Analyzed
Aluminum	**12900**	mg/Kg		5/10/2018 11:14
Antimony	< 3.55	mg/Kg		5/10/2018 11:14
Arsenic	**8.44**	mg/Kg		5/10/2018 11:14
Barium	**65.8**	mg/Kg		5/10/2018 11:14
Beryllium	**0.419**	mg/Kg		5/10/2018 11:14
Cadmium	< 0.296	mg/Kg		5/10/2018 11:14
Calcium	**3740**	mg/Kg		5/10/2018 11:14
Chromium	**11.9**	mg/Kg		5/10/2018 11:14
Cobalt	**7.14**	mg/Kg		5/10/2018 11:14
Copper	**19.1**	mg/Kg		5/10/2018 11:14
Iron	**20400**	mg/Kg		5/10/2018 11:14
Lead	**17.8**	mg/Kg		5/10/2018 11:14
Magnesium	**2620**	mg/Kg		5/10/2018 11:14
Manganese	**844**	mg/Kg		5/10/2018 11:23
Nickel	**16.5**	mg/Kg		5/10/2018 11:14

Sample Identifier: Subsoil
Lab Sample ID: 181878-02 **Date Sampled:** 5/4/2018
Matrix: Soil **Date Received:** 5/7/2018

Potassium	**875**	mg/Kg		5/10/2018 11:14
Selenium	< 1.18	mg/Kg		5/10/2018 11:14
Silver	**2.67**	mg/Kg		5/10/2018 11:14
Sodium	< 148	mg/Kg		5/10/2018 11:14
Thallium	< 1.48	mg/Kg		5/10/2018 11:14
Vanadium	**19.8**	mg/Kg		5/10/2018 11:14
Zinc	**93.5**	mg/Kg		5/10/2018 11:14

Method Reference(s): EPA 6010C
EPA 3050B
Preparation Date: 5/8/2018
Data File: 180510B

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.0337	mg/Kg		5/10/2018 04:38
PCB-1221	< 0.0337	mg/Kg		5/10/2018 04:38
PCB-1232	< 0.0337	mg/Kg		5/10/2018 04:38
PCB-1242	< 0.0337	mg/Kg		5/10/2018 04:38
PCB-1248	< 0.0337	mg/Kg		5/10/2018 04:38
PCB-1254	< 0.0337	mg/Kg		5/10/2018 04:38
PCB-1260	< 0.0337	mg/Kg		5/10/2018 04:38
PCB-1262	< 0.0337	mg/Kg		5/10/2018 04:38
PCB-1268	< 0.0337	mg/Kg		5/10/2018 04:38

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl	**71.8**	10 - 132		5/10/2018 04:38
Tetrachloro-m-xylene	**35.4**	10 - 119		5/10/2018 04:38

Method Reference(s): EPA 8082A
EPA 3550C
Preparation Date: 5/8/2018

Chlorinated Pesticides

Analyte	Result	Units	Qualifier	Date Analyzed
4,4-DDD	< 3.37	ug/Kg		5/8/2018 15:36
4,4-DDE	**6.68**	ug/Kg	P	5/8/2018 15:36

Sample Identifier: Subsoil
Lab Sample ID: 181878-02 **Date Sampled:** 5/4/2018
Matrix: Soil **Date Received:** 5/7/2018

4,4-DDT	**5.99**	ug/Kg		5/8/2018 15:36
Aldrin	< 3.37	ug/Kg		5/8/2018 15:36
alpha-BHC	< 3.37	ug/Kg		5/8/2018 15:36
beta-BHC	< 3.37	ug/Kg		5/8/2018 15:36
cis-Chlordane	< 3.37	ug/Kg		5/8/2018 15:36
delta-BHC	< 3.37	ug/Kg		5/8/2018 15:36
Dieldrin	< 3.37	ug/Kg		5/8/2018 15:36
Endosulfan I	< 3.37	ug/Kg		5/8/2018 15:36
Endosulfan II	< 3.37	ug/Kg		5/8/2018 15:36
Endosulfan Sulfate	< 3.37	ug/Kg		5/8/2018 15:36
Endrin	< 3.37	ug/Kg		5/8/2018 15:36
Endrin Aldehyde	< 3.37	ug/Kg		5/8/2018 15:36
Endrin Ketone	< 3.37	ug/Kg		5/8/2018 15:36
gamma-BHC (Lindane)	< 3.37	ug/Kg		5/8/2018 15:36
Heptachlor	< 3.37	ug/Kg		5/8/2018 15:36
Heptachlor Epoxide	< 3.37	ug/Kg		5/8/2018 15:36
Methoxychlor	< 3.37	ug/Kg		5/8/2018 15:36
Toxaphene	< 33.7	ug/Kg		5/8/2018 15:36
trans-Chlordane	< 3.37	ug/Kg		5/8/2018 15:36

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl (1)	**80.2**	46.4 - 133		5/8/2018 15:36
Tetrachloro-m-xylene (1)	**59.0**	24 - 110		5/8/2018 15:36

Method Reference(s): EPA 8081B
EPA 3550C
Preparation Date: 5/8/2018

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed
1,1-Biphenyl	< 329	ug/Kg		5/8/2018 22:10
1,2,4,5-Tetrachlorobenzene	< 329	ug/Kg		5/8/2018 22:10
1,2,4-Trichlorobenzene	< 329	ug/Kg		5/8/2018 22:10
1,2-Dichlorobenzene	< 329	ug/Kg		5/8/2018 22:10
1,3-Dichlorobenzene	< 329	ug/Kg		5/8/2018 22:10

Sample Identifier:	Subsoil		
Lab Sample ID:	181878-02	**Date Sampled:**	5/4/2018
Matrix:	Soil	**Date Received:**	5/7/2018

1,4-Dichlorobenzene	< 329	ug/Kg	5/8/2018 22:10
2,2-Oxybis (1-chloropropane)	< 329	ug/Kg	5/8/2018 22:10
2,3,4,6-Tetrachlorophenol	< 329	ug/Kg	5/8/2018 22:10
2,4,5-Trichlorophenol	< 657	ug/Kg	5/8/2018 22:10
2,4,6-Trichlorophenol	< 329	ug/Kg	5/8/2018 22:10
2,4-Dichlorophenol	< 329	ug/Kg	5/8/2018 22:10
2,4-Dimethylphenol	< 329	ug/Kg	5/8/2018 22:10
2,4-Dinitrophenol	< 657	ug/Kg	5/8/2018 22:10
2,4-Dinitrotoluene	< 329	ug/Kg	5/8/2018 22:10
2,6-Dinitrotoluene	< 329	ug/Kg	5/8/2018 22:10
2-Chloronaphthalene	< 329	ug/Kg	5/8/2018 22:10
2-Chlorophenol	< 329	ug/Kg	5/8/2018 22:10
2-Methylnapthalene	< 329	ug/Kg	5/8/2018 22:10
2-Methylphenol	< 329	ug/Kg	5/8/2018 22:10
2-Nitroaniline	< 657	ug/Kg	5/8/2018 22:10
2-Nitrophenol	< 329	ug/Kg	5/8/2018 22:10
3&4-Methylphenol	< 329	ug/Kg	5/8/2018 22:10
3,3'-Dichlorobenzidine	< 329	ug/Kg	5/8/2018 22:10
3-Nitroaniline	< 657	ug/Kg	5/8/2018 22:10
4,6-Dinitro-2-methylphenol	< 657	ug/Kg	5/8/2018 22:10
4-Bromophenyl phenyl ether	< 329	ug/Kg	5/8/2018 22:10
4-Chloro-3-methylphenol	< 329	ug/Kg	5/8/2018 22:10
4-Chloroaniline	< 329	ug/Kg	5/8/2018 22:10
4-Chlorophenyl phenyl ether	< 329	ug/Kg	5/8/2018 22:10
4-Nitroaniline	< 657	ug/Kg	5/8/2018 22:10
4-Nitrophenol	< 657	ug/Kg	5/8/2018 22:10
Acenaphthene	< 329	ug/Kg	5/8/2018 22:10
Acenaphthylene	< 329	ug/Kg	5/8/2018 22:10
Acetophenone	< 329	ug/Kg	5/8/2018 22:10
Anthracene	< 329	ug/Kg	5/8/2018 22:10
Atrazine	< 329	ug/Kg	5/8/2018 22:10
Benzaldehyde	< 329	ug/Kg	5/8/2018 22:10

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 181878

Client: **Terracon Consultants-NY, Inc.**

Project Reference: Family Dollar Store, Lackawanna, NY

Sample Identifier:	Subsoil		
Lab Sample ID:	181878-02	**Date Sampled:**	5/4/2018
Matrix:	Soil	**Date Received:**	5/7/2018

Benzo (a) anthracene	< 329	ug/Kg	5/8/2018	22:10
Benzo (a) pyrene	< 329	ug/Kg	5/8/2018	22:10
Benzo (b) fluoranthene	< 329	ug/Kg	5/8/2018	22:10
Benzo (g,h,i) perylene	< 329	ug/Kg	5/8/2018	22:10
Benzo (k) fluoranthene	< 329	ug/Kg	5/8/2018	22:10
Bis (2-chloroethoxy) methane	< 329	ug/Kg	5/8/2018	22:10
Bis (2-chloroethyl) ether	< 329	ug/Kg	5/8/2018	22:10
Bis (2-ethylhexyl) phthalate	< 329	ug/Kg	5/8/2018	22:10
Butylbenzylphthalate	< 329	ug/Kg	5/8/2018	22:10
Caprolactam	< 329	ug/Kg	5/8/2018	22:10
Carbazole	< 329	ug/Kg	5/8/2018	22:10
Chrysene	< 329	ug/Kg	5/8/2018	22:10
Dibenz (a,h) anthracene	< 329	ug/Kg	5/8/2018	22:10
Dibenzofuran	< 329	ug/Kg	5/8/2018	22:10
Diethyl phthalate	< 329	ug/Kg	5/8/2018	22:10
Dimethyl phthalate	< 657	ug/Kg	5/8/2018	22:10
Di-n-butyl phthalate	< 329	ug/Kg	5/8/2018	22:10
Di-n-octylphthalate	< 329	ug/Kg	5/8/2018	22:10
Fluoranthene	< 329	ug/Kg	5/8/2018	22:10
Fluorene	< 329	ug/Kg	5/8/2018	22:10
Hexachlorobenzene	< 329	ug/Kg	5/8/2018	22:10
Hexachlorobutadiene	< 329	ug/Kg	5/8/2018	22:10
Hexachlorocyclopentadiene	< 329	ug/Kg	5/8/2018	22:10
Hexachloroethane	< 329	ug/Kg	5/8/2018	22:10
Indeno (1,2,3-cd) pyrene	< 329	ug/Kg	5/8/2018	22:10
Isophorone	< 329	ug/Kg	5/8/2018	22:10
Naphthalene	< 329	ug/Kg	5/8/2018	22:10
Nitrobenzene	< 329	ug/Kg	5/8/2018	22:10
N-Nitroso-di-n-propylamine	< 329	ug/Kg	5/8/2018	22:10
N-Nitrosodiphenylamine	< 329	ug/Kg	5/8/2018	22:10
Pentachlorophenol	< 657	ug/Kg	5/8/2018	22:10
Phenanthrene	< 329	ug/Kg	5/8/2018	22:10

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 181878

Client: **Terracon Consultants-NY, Inc.**

Project Reference: Family Dollar Store, Lackawanna, NY

Sample Identifier: Subsoil
Lab Sample ID: 181878-02 **Date Sampled:** 5/4/2018
Matrix: Soil **Date Received:** 5/7/2018

Phenol	< 329	ug/Kg			5/8/2018 22:10
Pyrene	< 329	ug/Kg			5/8/2018 22:10

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**75.9**	46 - 109		5/8/2018 22:10
2-Fluorobiphenyl	**63.1**	37.7 - 103		5/8/2018 22:10
2-Fluorophenol	**61.8**	39.9 - 92.7		5/8/2018 22:10
Nitrobenzene-d5	**58.2**	38.7 - 92.2		5/8/2018 22:10
Phenol-d5	**67.5**	42.2 - 96.1		5/8/2018 22:10
Terphenyl-d14	**62.6**	69.9 - 113	*	5/8/2018 22:10

Method Reference(s): EPA 8270D
EPA 3550C
Preparation Date: 5/8/2018
Data File: B27137.D

Total Cyanide

Analyte	Result	Units	Qualifier	Date Analyzed
Cyanide, Total	< 0.604	mg/Kg		5/10/2018

Method Reference(s): EPA 9014
Preparation Date: 5/9/2018

Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

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All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.
"E" = Result has been estimated, calibration limit exceeded.
"Z" = See case narrative.
"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.
"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.
"J" = Result estimated between the quantitation limit and half the quantitation limit.
"L" = Laboratory Control Sample recovery outside accepted QC limits.
"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.
"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.
"" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*
"(1)" = Indicates data from primary column used for QC calculation.
"A" = denotes a parameter for which ELAP does not offer approval as part of their laboratory certification program.
"F" = denotes a parameter for which Paradigm does not carry certification, the results for which should therefore only be used where ELAP certification is not required, such as personal exposure assessment.

GENERAL TERMS AND CONDITIONS
LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, tern or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

Warranty. Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

Scope and Compensation. LAB agrees to perform the services described in the chain of custody to which these terms and conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described. LAB wi use LAB default method for all tests unless specified otherwise on the Work Order.
Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1-1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sale, use or other taxes. Such taxes will be added to invoice prices when required.

Prices. Compensation for services performed will be based on the current Lab Analytical Fee Schedule or on quotations agreed to in writing by the parties. Turnaround time based charges are determined from the time of resolution of all work order questions. Testimony, court appearances or data compilation for legal action will be charged separately. Evaluation and reporting of initial screening runs may incur additional fees.

Limitations of Liability. In the event of any error, omission, or other professional negligence, the sole and exclusive responsibility of LAB shall be to re-perform the deficient work at its own expense and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services.
LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.
All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.
Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

Hazard Disclosure. Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

Sample Handling. Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises.
Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on th final report.
Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.
LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

Legal Responsibility. LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

Assignment. LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

Force Majeure. LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

Law. This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

PARADIGM
ENVIRONMENTAL SERVICES, INC

CHAIN OF CUSTODY

1 of 2

REPORT TO:		INVOICE TO:		
CLIENT: TERRACON CONSULTANTS		CLIENT: →		LAB PROJECT ID 181878
ADDRESS: 15 MARWAY CIRCLE, SUITE 2B		ADDRESS: →		
CITY: ROCHESTER	STATE: NY ZIP: 14624	CITY: →	STATE: ZIP:	Quotation #:
PHONE: 585 247-3471		PHONE: →		Email:
ATTN: CHUCK.GUZZETTA@TERRACON.com		ATTN: →		

PROJECT REFERENCE
FAMILY DOLLAR STORE
LACKAWANNA, NY

Matrix Codes:

AQ - Aqueous Liquid	WA - Water	DW - Drinking Water	SO - Soil (circled)	SD - Solid	WP - Wipe	OL - Oil
NQ - Non-Aqueous Liquid	WG - Groundwater	WW - Wastewater	SL - Sludge	PT - Paint	CK - Caulk	AR - Air

REQUESTED ANALYSIS

(Handwritten across analysis columns: CRC GG 5/7/18 1620 [signature])

DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	SVOCs TCL	PEST/HERB	PCBs	METALS TAL	Cyanide T.						REMARKS	PARADIGM LAB SAMPLE NUMBER
5/4/18	2100	X		TOPSOIL	SO	3	X	X	X	X	X							01
5/4/18	2115	X		SUBSOIL	SO	3	X	X	X	X	X							02

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	☐	None Required	☐	None Required	☐
10 day	☐	Batch QC	☐	Basic EDD	☐
Rush 3 day	☒	Category A	☐	NYSDEC EDD	☐
Rush 2 day	☐	Category B	☐		
Rush 1 day	☐				
Other please indicate date needed: ____	☐	Other please indicate package needed: ____	☐	Other EDD please indicate EDD needed: ____	☐

Sampled By: [signature] Date/Time: 5/4/18 / 2100/2115

Relinquished By: [signature] Date/Time: ↓ 1155

Received By: ~~ICE COOLER~~ [signature] Date/Time: 5/7/18 1155 on ice

Received @ Lab By: [signature] Date/Time: 5/7/18 14:04

Total Cost:

P.I.F.

2°C iced 5/7/18 1211

By signing this form, client agrees to Paradigm Terms and Conditions (reverse).

See additional page for sample conditions.

Chain of Custody Supplement

Client: Terracon Consultants **Completed by:** Glen Pezzulo

Lab Project ID: 18 1878 **Date:** 5/7/18

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition	NELAC compliance with the sample condition requirements upon receipt: Yes	No	N/A
Container Type	X		
Comments			
Transferred to method-compliant container			X
Headspace (<1 mL)			X
Comments			
Preservation			X
Comments			
Chlorine Absent (<0.10 ppm per test strip)			X
Comments			
Holding Time	X		
Comments			
Temperature	X		X metals
Comments	2°C iced		
Sufficient Sample Quantity	X		
Comments			

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

1 of 1

CHAIN OF CUSTODY

11148

L1816417

REPORT TO:		INVOICE TO:	
COMPANY:	Paradigm Environmental	COMPANY:	Same
ADDRESS:	179 Lake Avenue	ADDRESS:	
CITY:	Rochester STATE: NY ZIP: 14608	CITY:	STATE: ZIP:
PHONE:	FAX:	PHONE:	FAX:
ATTN:	Reporting	ATTN:	Accounts Payable
COMMENTS:	Please email results to reporting@paradigmenv.com		

LAB PROJECT #:

CLIENT PROJECT #:

PROJECT NAME/SITE NAME:

TURNAROUND TIME: (WORKING DAYS)

STD 1 2 3 5 OTHER

Date Due: 5/10/18 3PM

REQUESTED ANALYSIS

	DATE	TIME	COMPOSITE	GRAB	SAMPLE LOCATION/FIELD ID	MATRIX	NUMBER CONTAINERS	Herbicides	REMARKS	PARADIGM LAB SAMPLE NUMBER
1	5/4/18	21:00			181878-01	Soil	1	X		
2	↓	21:15			-02	↓	1	X		
3										
4										
5										
6										
7										
8										
9										
10										

LAB USE ONLY BELOW THIS LINE

Sample Condition: Per NELAC/ELAP 210/241/242/243/244

Receipt Parameter	NELAC Compliance	
Container Type:	Y ☐	N ☐
Comments:		
Preservation:	Y ☐	N ☐
Comments:		
Holding Time:	Y ☐	N ☐
Comments:		
Temperature:	Y ☐	N ☐
Comments: Temp 4.2°C 5/10/18 MS		

Client

Sampled By: [signature] Date/Time: 5/7/18 16:00

Relinquished By: Date/Time:

Received By: Date/Time:

Received By: Date/Time:

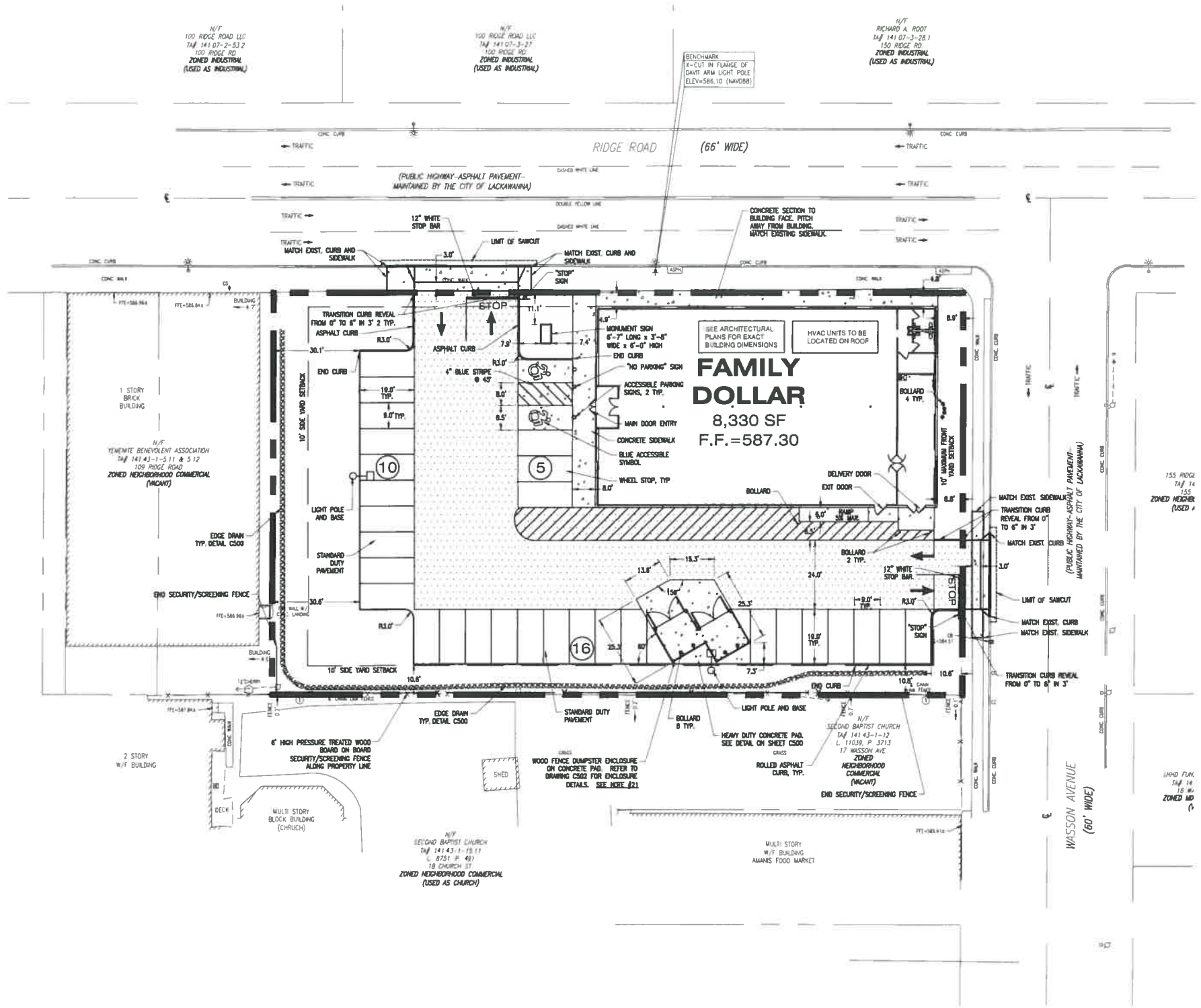
Received @ Lab By: [signature] Date/Time: 5/8/18 810

Total Cost:

P.I.F.

Appendix H – As Built Plans

WESTLAKE DEVELOPMENT, LLC
DATE: 2/27/18
"AS BUILT"



LEGEND

CONCRETE

HEAVY DUTY ASPHALT PAVEMENT

PROPOSED PROPERTY LINE

LIGHT POLE

SITE PLAN NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL PROPERTY CORNERS.
2. CONTRACTOR SHALL MATCH PROPOSED CURB, CONCRETE, CONCRETE GUTTER, AND PAVEMENT TO EXISTING IN GRADE AND ALIGNMENT.
3. CONTRACTOR SHALL REMOVE PAVEMENT & CONCRETE IN ACCORDANCE WITH SPECIFICATIONS OF THE CITY OF LACKAWANNA.
4. THE EARTHWORK FOR ALL BUILDING FOUNDATIONS AND SLABS SHALL BE IN ACCORDANCE WITH GEOTECHNICAL REPORT, ARCHITECTURAL BUILDING PLANS AND SPECIFICATIONS.
5. CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS FOR PRECISE BUILDING DIMENSIONS.
6. GENERAL CONTRACTOR IS TO COORDINATE WITH APPROPRIATE UTILITY COMPANIES PRIOR TO CONSTRUCTION, ADJUSTMENT, OR RELOCATION OF EXISTING UTILITIES AS DESIGNATED ON PLANS.
7. ALL WORK AND MATERIALS SHALL COMPLY WITH ALL CITY OF BUFFALO, ERIE COUNTY, AND NEW YORK STATE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS AND CODES AND O.S.H.A. STANDARDS.
8. CONTRACTOR IS RESPONSIBLE FOR REPAIRING THE DAMAGE DONE TO ANY EXISTING ITEM DURING CONSTRUCTION, SUCH AS, BUT NOT LIMITED TO, DRAINAGE, UTILITIES, STRUCTURES, PAVEMENT, STRIPING, CURB, ETC. REPAIRS SHALL BE EQUAL TO, OR BETTER THAN, EXISTING CONDITIONS. CONTRACTOR IS RESPONSIBLE TO DOCUMENT ALL EXISTING DAMAGE AND NOTIFY CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION START.
9. ALL CONCRETE TO HAVE A MINIMUM 28 DAY COMPRESSION STRENGTH OF 3,000 psi, OR AS NOTED.
10. ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATIONS SHALL RECEIVE TOPSOIL TO A COMPACTED DEPTH OF 4 INCHES, SEED, MULCH AND WATER.
11. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND FINAL CONNECTION OF SERVICES.
12. THE UNDERGROUND STRUCTURES AND UTILITIES SHOWN ON THIS MAP HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORD MAPS, THEY ARE NOT CERTIFIED TO THE ACCURACY OF THEIR LOCATION AND/OR COMPLETENESS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION AND EXTENT OF ALL UNDERGROUND STRUCTURES AND UTILITIES PRIOR TO ANY DIGGING OR CONSTRUCTION ACTIVITIES IN THEIR VICINITY. THE CONTRACTOR SHALL HAVE ALL EXISTING UTILITIES FIELD STAKED BEFORE STARTING WORK BY CALLING 1-800-962-7962.
13. HIGHWAY DRAINAGE ALONG ALL ROADS AND PRIVATE DRIVES SHALL BE KEPT CLEAN OF MUD, DEBRIS ETC. AT ALL TIMES.
15. THE CONTRACTOR SHALL CONSULT THE DESIGN ENGINEER BEFORE DEVIATING FROM THESE PLANS.
16. IF SUSPICIOUS AND/OR HAZARDOUS MATERIAL IS ENCOUNTERED DURING DEMOLITION/CONSTRUCTION, ALL WORK SHALL STOP AND THE DEPARTMENT OF HEALTH AND THE NEW YORK STATE DEPARTMENT OF CONSERVATION SHALL BE NOTIFIED IMMEDIATELY. WORK SHALL NOT RESUME UNTIL THE DEVELOPER HAS OUTLINED APPROPRIATE ACTION FOR DEALING WITH THE WASTE MATERIAL AND THE DEVELOPMENT PLANS ARE MODIFIED AS MAY BE NECESSARY.
17. EXCAVATED WASTE MATERIAL REMOVED FROM THE SITE SHALL BE PLACED AT A LOCATION ACCEPTABLE TO THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION.
18. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO MAINTAIN A MINIMUM OF 1' OF COVER OVER ALL EXISTING AND NEW STORM AND SANITARY PIPES DURING ALL CONSTRUCTION OPERATIONS.
19. ALL EXISTING SURFACE APPURTENANCES (I.E. WATER VALVES, CATCH BASIN FRAMES AND GRATES, MANHOLE COVERS) WITHIN THE PROJECT LIMITS SHALL BE ADJUSTED TO FINISHED GRADE. (NO SEPARATE PAYMENT).
20. ALL WORK WITHIN THE RIGHT OF WAY SHALL CONFORM TO THE CITY OF LACKAWANNA DESIGN STANDARDS AND SPECIFICATIONS.
21. THE CONTRACTOR SHALL USE CAUTION DURING THE INSTALLATION OF FENCE POST AND BOLLARDS OF THE DUMPSTER ENCLOSURE TO AVOID DAMAGING STORM SEWER. ANY DAMAGE SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER AT THE CONTRACTOR'S EXPENSE.
22. ALL REQUIRED PERMITS BY STATE OF NEW YORK, COUNTY OF ERIE, AND CITY OF LACKAWANNA ARE THE RESPONSIBILITY OF THE CONTRACTOR/DEVELOPER.

ZONING REQUIREMENTS:

EXISTING ZONING: NEIGHBORHOOD COMMERCIAL
PROPOSED ZONING: NEIGHBORHOOD COMMERCIAL
PROPOSED USE: RETAIL
TAX ACCOUNT NO.: 141.43-1-8, 141.43-1-7, 141.43-1-8, 141.43-1-9, 141.43-1-10, 141.43-1-11

ZONING REQUIREMENTS	REQUIRED	PROPOSED
LOT AREA	4,000 S.F.	33,847 ± S.F.
MIN. BLDG. HEIGHT	3 STORIES OR 30'	25' ±
MAX. FLOOR AREA	10,000 S.F.	8,247 S.F.
FRONT YARD SETBACK:	10' MAXIMUM	4.9' NORTH, 8.8' EAST
SIDE YARD SETBACK:	0' MINIMUM	30.1' WEST, 10.8' SOUTH
REAR YARD SETBACK:	10' MINIMUM	N/A
MAX. BUILDING COVERAGE:	50%	25%
MAX. LOT COVERAGE:	80%	73%
MINIMUM LANDSCAPE COVERAGE:	20%	27%

PARKING RATIO		
TOTAL AREA SQ. FT.	REQUIRED PARKING SPACES	PARKING SPACES PROVIDED
PROPOSED RETAIL = 8,330 NET SF	1/250 SF SALES AREA = 30	31

* PARKING STALL SIZE: 9'x18'

Family Dollar

113-135 RIDGE ROAD
LACKAWANNA, NY 14218

Prepared For:
FAMILY DOLLAR

FDS 715551, LLC
5500 Brooktree Road
Wexford, PA 15090

BERGMANN ASSOCIATES

Bergmann Associates, Architects, Engineers, Landscape Architects & Surveyors, D.P.C.
280 East Broad Street
Suite 200
Rochester, NY 14604
office: 585.232.5135
fax: 585.232.4652
www.bergmannpc.com

REVISIONS

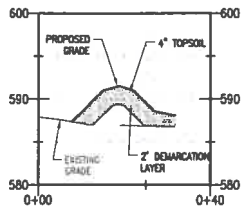
NO	DATE	DESCRIPTION	REV	CKD
1	02/28/17	ECDSM REVISIONS	PFD	JL
2	03/24/17	GRADING REVISIONS	DGC	JL

PROFESSIONAL CERTIFICATION: I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE OF NEW YORK. LICENSE NO. 095027 EXPIRATION DATE 4/30/18.

Project Manager: K. CHARLAND	Checked By: J. LAFFERRE, PE
Designed By: D. CHRISTOPHER	Drawn By: D. CHRISTOPHER
Date Issued: 12/16/16	Scale: 1" = 20'
Project Number: 012073.00	

SITE PLAN

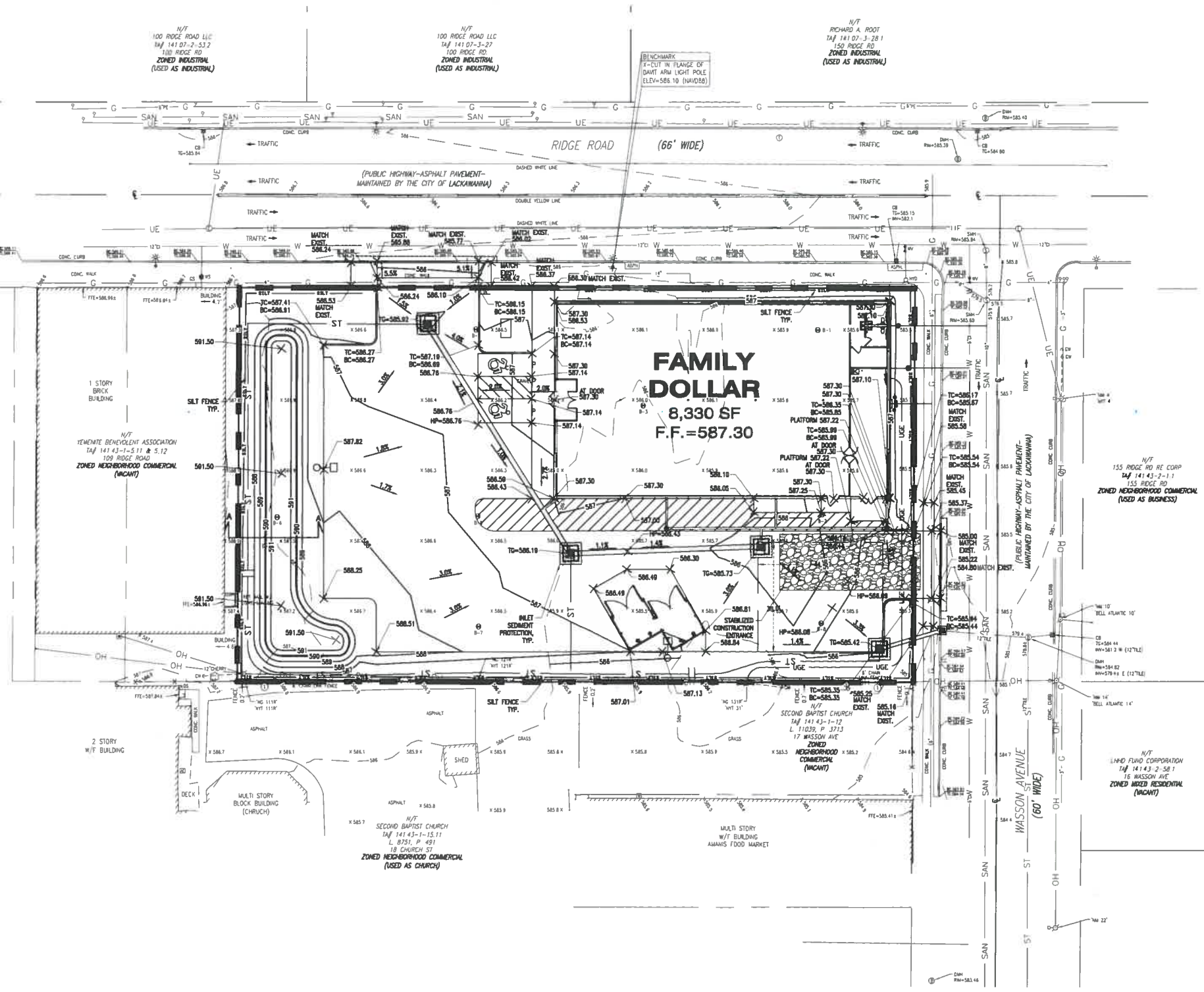
Drawing Number:
C100
4 of 12



SECTION A-A
1" = 10' VERTICAL
1" = 20' HORIZONTAL

LEGEND

1.0%	DRAINAGE FLOW ARROW
638	PROPOSED CONTOUR
638	EXISTING CONTOUR
TC 847.60 BC 847.10	TOP OF CURB ELEVATION TOP OF PAVEMENT ELEVATION
+ 847.10	SPOT ELEVATION
SILT	PROPOSED SILT FENCE
	INLET PROTECTION
	BORING LOCATION



GRADING NOTES:

1. REMOVE AND STOCKPILE TOPSOIL AS DIRECTED BY THE CONSTRUCTION MANAGER. REPLACE TOPSOIL TO A MINIMUM 6" DEPTH. ALL DISTURBED AREAS TO BE HYDROSEEDED AS DIRECTED BY THE CONSTRUCTION MANAGER.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REMOVAL OF TEMPORARY SEDIMENTATION CONTROLS, CHECK DAMS, FILTER BAGS AND SILT FENCE. EROSION CONTROL MEASURES SHALL NOT BE REMOVED BEFORE VEGETATION HAS OCCURRED COMPLETELY.
3. ALL SILT FENCE TO BE REPLACED WHENEVER THEY BECOME CLOGGED OR INOPERABLE AND SHALL BE REPLACED AT A MINIMUM OF EVERY 3 MONTHS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATION OF TOPSOIL TO ALL DISTURBED AREAS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN EROSION CONTROL MEASURES AT ALL TIMES.
5. EROSION CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH THE NEW YORK STATE GUIDELINES FOR URBAN EROSION SEDIMENT CONTROL MANUAL, HEALTH DEPARTMENT, THE CITY OF BUFFALO, AND THE TOWN OF CHEEKTOWAGA REQUIREMENTS.
6. ALL INLETS TO THE STORM SEWER SHALL HAVE STONE DROP INLET PROTECTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE BEST MANAGEMENT PRACTICES (BMP'S) UNTIL GROUND COVER IS ESTABLISHED.
7. SILT FENCE, JUTE MESH, AND/OR EROSION CONTROL BLANKETS WILL BE USED ON STEEP SLOPES AND WHEREVER NECESSARY TO CONTROL EROSION AND SILTATION OF EXISTING DRAINAGE SYSTEMS AS ORDERED BY THE ENGINEER OR SPECIFIED ON PLANS.
8. THE CONTRACTOR SHALL DESIGNATE A MEMBER OF HIS/HER FIRM TO BE RESPONSIBLE TO MONITOR EROSION CONTROL, EROSION CONTROL STRUCTURES, TREE PROTECTION AND PRESERVATION THROUGHOUT CONSTRUCTION.
9. ALL DISTURBED AREAS SHALL BE PROTECTED FROM EROSION EITHER BY MULCH OR TEMPORARY SEEDING WITHIN 2 WEEKS OF DISTURBANCE.
10. ANY SOIL ON THE PROPERTY MUST BE COVERED BY A DEMARCATION LAYER AND A BARRIER LAYER APPROVED BY NYSDEC SUCH AS CONCRETE, ASPHALT OR STRUCTURES OR MUST BE COVERED WITH A TWO FOOT LAYER OF CLEAN SOIL AND THIS DEMARCATION LAYER AND BARRIER LAYER MUST BE MAINTAINED.
11. ANY PROPOSED SOIL EXCAVATION ON THE PROPERTY BELOW THE TWO FOOT COVER OR BELOW THE DEMARCATION LAYER REQUIRES PRIOR NOTIFICATION AND PRIOR APPROVAL OF NYSDEC IN ACCORDANCE WITH THE SITE MANAGEMENT PLAN APPROVED BY NYSDEC FOR THIS CONTROLLED PROPERTY AND THE EXCAVATED SOIL MUST BE MANAGED, CHARACTERIZED, AND PROPERLY DISPOSED OF IN ACCORDANCE WITH NYSDEC REGULATIONS AND DIRECTIVES.

EROSION CONTROL NOTES:

1. ALL SITE WORK SHALL CONFORM TO THE CLEARING, STRIPPING AND EROSION CONTROL REQUIREMENTS OF THE NYSDEC AND THE CITY OF LACKAWANNA.
2. CONTRACTOR TO PROVIDE, INSTALL AND MAINTAIN ALL REQUIRED EROSION CONTROL MEASURES THROUGHOUT CONSTRUCTION. EROSION CONTROL DEVICES TO BE ESTABLISHED PRIOR TO COMMENCING EARTHWORK.
3. DISTURBED AREAS SHALL BE AS SMALL AS PRACTICAL, AND SHALL BE RESTORED, IMPROVED OR TEMPORARILY STABILIZED AS SOON AS POSSIBLE.
4. CONTRACTOR SHALL TAKE THE NECESSARY MEASURES, INCLUDING WATER SPRINKLING, TO PROVIDE DUST CONTROL DURING CONSTRUCTION.
5. CONTRACTOR SHALL PREVENT SEDIMENTS FROM ENTERING UTILITIES. ALL MANHOLES, CURB INLETS, FIELD INLETS, END SECTIONS OR OTHER SIMILAR DRAINAGE INLET STRUCTURES SHALL BE PROJECTED FROM SILTATION BY INSTALLING FILTER FABRIC AND/OR CRUSHED STONE.
6. SILT FENCE SEDIMENT BARRIERS SHALL BE INSTALLED PRIOR TO ANY GRADING WORK ALONG THE LIMITS OF DISTURBANCE AND SHALL BE MAINTAINED FOR THE DURATION OF THE WORK. NO SEDIMENT FROM THE SITE SHALL BE PERMITTED TO WASH OFF-SITE.

SEQUENCE OF CONSTRUCTION:

A. PRE-CONSTRUCTION MEETING HELD BY PROJECT MANAGER AND THE OPERATOR'S ENGINEER PRIOR TO LAND DISTURBING ACTIVITIES
B. CLEARLY IDENTIFY PROJECT WORK LIMITS IDENTIFYING ALL AREAS WHERE CONSTRUCTION DISTURBANCE SHALL NOT BE PERMITTED INCLUDING, BUT NOT LIMITED TO, BUFFER AREAS, WETLANDS, SELECT TREES AND ADJOINING PROPERTIES.
C. INSTALL TREE PROTECTION AND PERIMETER EROSION CONTROL MEASURES. CONSTRUCT TEMPORARY EARTHEN BERMS, SEDIMENT TRAP, SEDIMENT CONTROL CHECK DAMS AND ASSOCIATED EROSION AND SEDIMENT CONTROL MEASURES AS NECESSARY TO DIVERT RUNOFF FROM ENTERING AREAS OF PLAN.
D. ESTABLISH EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO COMMENCING EARTHWORK OPERATIONS.
E. REMOVE AND DISPOSE OF ALL REMOVED VEGETATION OFF-SITE OR AS DIRECTED BY OWNER'S REPRESENTATIVE.
F. STRIP AND STOCKPILE TOPSOIL FROM STRUCTURAL FILL AND CUT AREAS (STOCKPILE LOCATIONS AS DIRECTED BY OWNER'S REPRESENTATIVE).
G. ESTABLISH MASS GRADE ELEVATIONS.
H. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AS WELL AS STOCK PILES ARE TO BE MULCHED AND SEEDED FOR TEMPORARY VEGETATIVE COVER IMMEDIATELY FOLLOWING GRADING.
I. CONSTRUCT STORM WATER MANAGEMENT FEATURES.
J. CONSTRUCT UTILITIES AND INFRASTRUCTURE IMPROVEMENTS.
K. FINE GRADE AND SPREAD TOPSOIL. INSTALL LANDSCAPING, SITE AMENITIES AND PERMANENT SEEDING.
L. REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL FEATURES UPON ESTABLISHMENT OF PERMANENT GROUND COVER.
M. NOTIFY OWNER'S REPRESENTATIVE OF COMPLETION OF FINAL SITE STABILIZATION.

THE ACTUAL SCHEDULE FOR IMPLEMENTING POLLUTANT CONTROL MEASURES WILL BE DETERMINED BY PROJECT CONSTRUCTION PROGRESS AND THE CONTRACTOR WILL HAVE THE OPPORTUNITY TO VARY FROM THE SCHEDULE AS NECESSARY. ARRANGEMENT OF THESE ACTIVITIES ANOTHER WAY MAY BE REQUIRED TO MAINTAIN SATISFACTORY EROSION AND SEDIMENT CONTROL.

WESTLAKE DEVELOPMENT, LLC
DATE: 5/2/18
"AS BUILT"

Dig Safely. New York
800-962-7962
or 811
www.digsafelynewyork.org
- Call Before You Dig
- Wait The Required Time
- Confirm Utility Response
- Respect the Marks
- Dig With Care

0 20 40 60 FT
1" = 20' SCALE BAR

Family Dollar

113-135 RIDGE ROAD
LACKAWANNA, NY 14218

Prepared For:
FAMILY DOLLAR

FDS 715551, LLC
5500 Brooktree Road
Wexford, PA 15090

BERGMANN ASSOCIATES

Bergmann Associates, Architects, Engineers, Landscape Architects & Surveyors, D.P.C.
280 East Broad Street
Suite 200
Rochester, NY 14604

office 585.232.5135
fax 585.232.4652

www.bergmannpc.com

REVISIONS

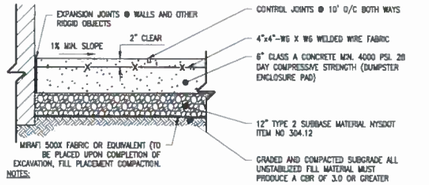
NO	DATE	DESCRIPTION	REV.	CK'D
1	02/28/17	ECDSM REVISIONS	PFD	JL
2	03/24/17	GRADING REVISIONS	DGC	JL
3	04/13/17	STORM DETAIL SHEETS	PFD	JL
4	10/02/17	ADDED ROOF LATERALS	DGC	JL

PROFESSIONAL CERTIFICATION: I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE OF NEW YORK, LICENSE NO. 095027 EXPIRATION DATE 4/30/18.

Project Manager K. CHARLAND	Checked By J. LATTERNER, PE
Designed By D. CHRISTOPHER	Drawn By D. CHRISTOPHER
Date 12/19/16	Scale 1" = 20'
Project Number 012073.00	

GRADING AND EROSION CONTROL PLAN

Drawing Number
C120
8 of 14

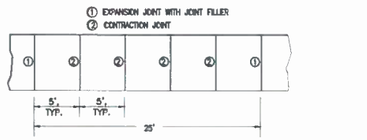


NOTES:

1. ITEM 304.12 SHALL HAVE NO MORE THAN 7 PERCENT BY WEIGHT, FINER THAN NO. 200 SIEVE.
2. USE THIS DETAIL FOR CONCRETE PAVEMENT AND FOR EXTERIOR CONCRETE SLABS.

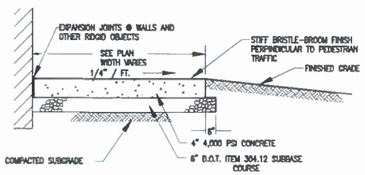
HEAVY DUTY CONCRETE PAVING

NO SCALE



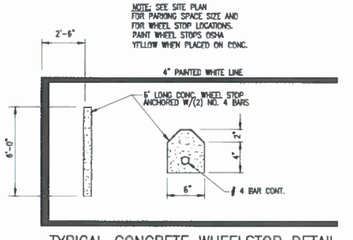
CONCRETE SIDEWALK SECTION (ON-SITE)

NO SCALE



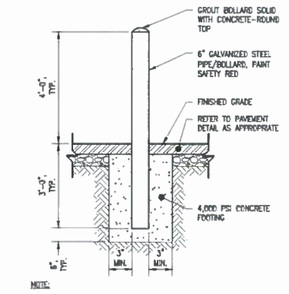
TYPICAL STANDARD DUTY CONCRETE PAVEMENT SECTION FOR AREAS OUTSIDE DELIVERY AND EXIT DOORS

NO SCALE



TYPICAL CONCRETE WHEELSTOP DETAIL

NO SCALE

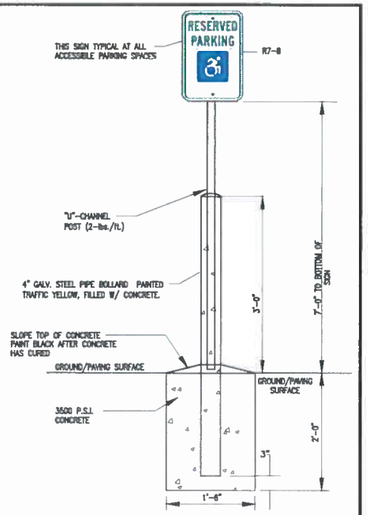


NOTE:

1. WHEN BOLLARD IS TO BE INSTALLED IN GRASS, FOOTING SHALL BE EXTENDED TO FINISHED GRADE AND DOWED TO PROMOTE DRAINAGE AWAY FROM BOLLARD

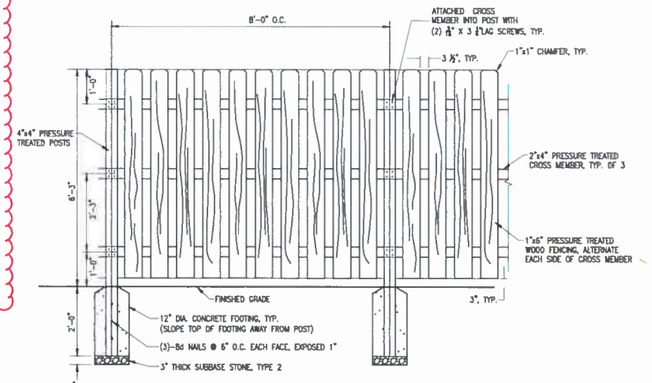
6" GALVANIZED STEEL PIPE BOLLARD

NO SCALE



ACCESSIBLE PARKING SIGN DETAIL

NO SCALE



FENCE SECTION ELEVATION

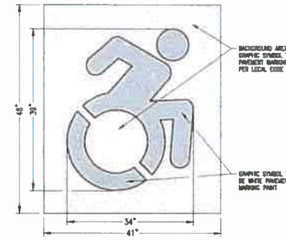
PLAN

NOTES:

1. TREAT ALL WOOD WITH CLEAR SEALER

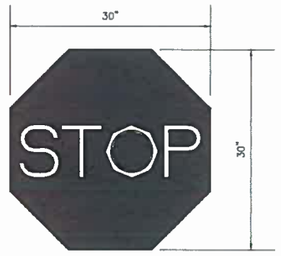
6'-0" WOOD BOARD ON BOARD SECURITY/SCREENING FENCE DETAIL

NO SCALE



ACCESSIBLE PARKING PAVEMENT SYMBOL

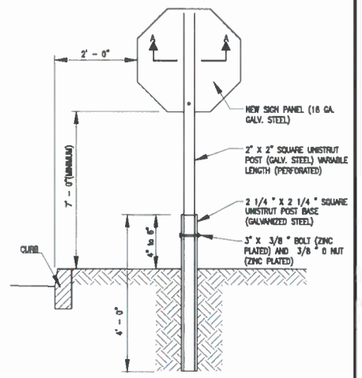
NO SCALE



WHITE LEGEND RED BACKGROUND R1-1

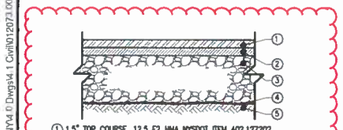
30"x30" "STOP" SIGN

NO SCALE



POST MOUNT SIGN INSTALLATION IN SOIL

NO SCALE

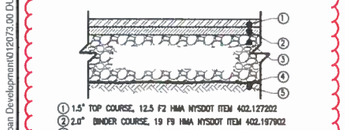


NOTES:

1. COMPACT SUBGRADE TO A MODIFIED PROCTOR DENSITY OF 95%
2. SUBBASE COURSE SHALL HAVE NO MORE THAN (7%) SEVEN PERCENT BY WEIGHT FINER THAN NO. 200 SIEVE.

TYPICAL STANDARD DUTY ASPHALT PAVEMENT SECTION

NO SCALE

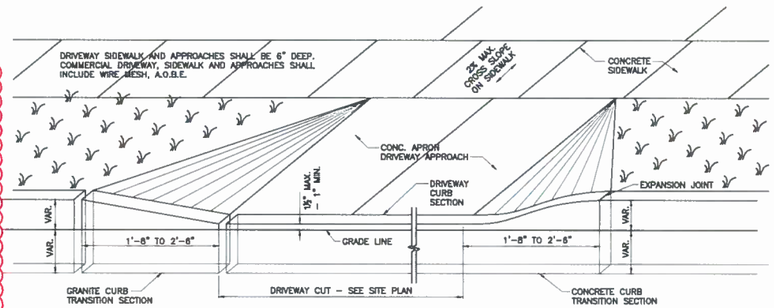


NOTES:

1. COMPACT SUBGRADE TO A MODIFIED PROCTOR DENSITY OF 95%
2. SUBBASE COURSE SHALL HAVE NO MORE THAN (7%) SEVEN PERCENT BY WEIGHT FINER THAN NO. 200 SIEVE.

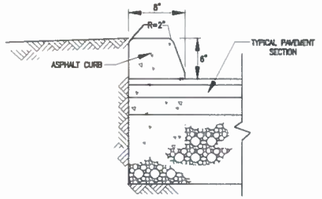
TYPICAL HEAVY DUTY ASPHALT PAVEMENT SECTION

NO SCALE



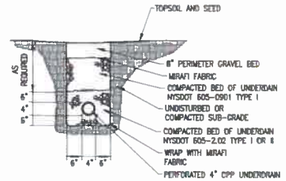
CURB DRIVEWAY TRANSITION & APRON

NO SCALE



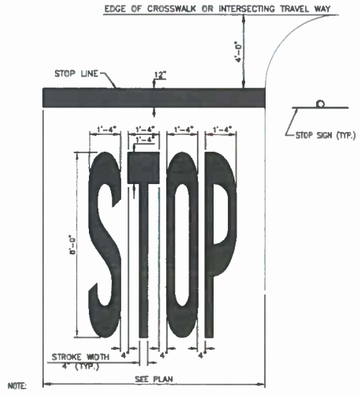
ASPHALT CURB DETAIL

NO SCALE



EDGE DRAIN

NO SCALE



NOTE:

1. WORDS AND LINES SHALL BE APPLIED IN ACCORDANCE WITH SECTIONS 3B.16 AND 3B.20 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
2. THESE WORDS AND BAR ARE TO BE PAINTED RETROREFLECTIVE WHITE.

STOP BAR

NO SCALE

WESTLAKE DEVELOPMENT, LLC
DATE: 4/20/18
"AS BUILT"

11/11/2015 3:43:40 PM I:\Durban Development\012073.00 DURBAN-FAMILY DOLLAR LACKAWANNA NY\4 0 Dwgs\4.1 Civil\012073.00 C500 Site Details.dwg

Family Dollar

113-135 RIDGE ROAD
LACKAWANNA, NY 14218

Prepared For:

FAMILY DOLLAR

FDS 715551, LLC
5500 Brooktree Road
Wexford, PA 15090

BERGMANN ASSOCIATES

Bergmann Associates Architects, Engineers, Landscape Architects & Surveyors D P C
280 East Broad Street
Suite 200
Rochester NY 14604

office 585.232.5135
fax 585.232.4052

www.bergmannpc.com

REVISIONS

NO	DATE	DESCRIPTION	REV.	CK'D
1	02/28/17	ECDSM REVISIONS	PFD	L
2	03/24/17	GRADING REVISIONS	DGC	JL

PROFESSIONAL CERTIFICATION. I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE OF NEW YORK LICENSE NO 095027 EXPIRATION DATE 4/30/18

Project Manager: K. CHARLAND	Checked By: J. LATTIERRE, PE
Designed By: D. CHRISTOPHER	Drawn By: D. CHRISTOPHER
Date Issued: 12/16/16	Scale: AS NOTED
Project Number: 012073.00	

SITE DETAILS

Drawing Number: C500

9 of 12

FRONTIER
ABSTRACT AND RESEARCH SERVICES, INC.
www.FrontierAbstract.com
Recordings@FrontierAbstract.com

RECORDING INFORMATION

Client	*FOUNDATION TITLE*	Today's Date	*6/25/2018*
Client's #	*501-10131-A*	FRO #	*749398*
County	*Erie*	Folder #	*5094415*
Address	*113-135 RIDGE RD LACKAWANNA NY -*		
Owner(s)	*CITY OF LACKAWANNA*		

Document	*Instrument*	*Date Recorded*	*Time Recorded*	*Note*	*Proof of Recording*
Amendment to Environmental Easement	Liber / Page 11330 / 8736	6/22/2018			Attached

No continuation of Search was performed.

50 & Shnt

Recording Information

Abstract No.: 0294415

Property Address: 113-135 Ridge

Owner: City of Lackawanna

Recording Info.

MICHAEL P. KEARNS, ERIE COUNTY CLERK
REF:

DATE:6/22/2018
TIME:2:05:58 PM
RECEIPT: 18114981

FRONTIER ABSTRACT & RESEARCH SERVICES
ACCOUNT #: 9186

ITEM - 01 MTP
RECD: 6/22/2018 2:06:08 PM
FILE: 2018123865 BK/PG D 11330/8736
Deed Sequence: TT2017023204
LACKAWANNA FDS 715551 LLC
DEPARTMENT OF ENVIRONMENTAL CONSERVATION COM

Recording Fees	70.50
TP584	10.00
Subtotal	80.50

TOTAL DUE	$80.50
PAID TOTAL	$80.50
PAID CHECK	$80.00
Check #13512:	80.00
PAID ESCROW	$0.50

REC BY: Faith
COUNTY RECORDER

AMENDMENT TO ENVIRONMENTAL EASEMENT

This Amendment to Environmental Easement is made as of this 12th day of June 2018, by and between the People of the State of New York, acting through their Commissioner of the Department of Environmental Conservation ("NYSDEC" or the "Department") with its headquarters located at 625 Broadway, Albany, New York 12233, and Lackawanna FDS 715551, LLC (the "Grantor") with its offices located at 106 Foster Avenue, Charlotte, North Carolina 28203.

RECITALS

1. Grantor, Lackawanna FDS 715551, LLC, is the owner of the real property located at the address of 113-135 Ridge Road in the City of Lackawanna, County of Erie and State of New York, known and designated on the tax map of the County Clerk of Erie as tax map parcel numbers: Section 141.43 Block 1 Lots 6.1, being the same as that property conveyed to Grantor by the City of Lackawanna by deed dated October 25, 2017 and recorded in the Erie County Clerk's Office in Liber 11321, Page 3478.

2. The property referenced above comprises approximately 0.770 +/- acres, and is hereinafter more fully described in Exhibit A.

3. The previous owner of the property referenced above conveyed in perpetuity to the Department a certain Environmental Easement ("Easement Agreement") dated as of April 27, 2017 and recorded in the Erie County Clerk's Office in Liber 11319, Page 9728. Capitalized terms used herein without definition have the meanings ascribed to them in the Environmental Easement Agreement.

4. Pursuant to Section 1, 2, 3, 4, and 5 of the Easement Agreement, the City of Lackawanna, its successors and assigns, granted the Department rights and interests that run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of the Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of maintenance, monitoring or operation requirements; and to ensure the potential restriction of future uses of the land that are inconsistent with the stated purpose.

5. The Easement Agreement dated April 27, 2017 erroneously stated in the 4th Whereas clause that the Controlled Property comprised of approximately 5.5 ± acres.

6. This Amendment to Environmental Easement is filed solely in order to correct a mutual mistake between the Department and previous owner relating to the size of the Controlled Property as stated in the 4th Whereas clause to that Environmental Easement dated April 27, 2017 and recorded in the Erie County Clerk's Office in Liber 11319, Page 9728.

7. Pursuant to Section 8 of the Easement Agreement, the Department and Grantor agree to amend the Easement Agreement in the manner prescribed by Article 9 of the Real Property Law.

AMENDMENT OF ENVIRONMENTAL EASEMENT

A. The above recitals are hereby incorporated into this Amendment of Environmental Easement.

B. The Department and Grantor hereby agree that the 4th Whereas clause is hereby amended to read as follows:

> **WHEREAS, Grantor, is the owner of real property located at the address of 113-135 Ridge Road in the City of Lackawanna, County of Erie and State of New York, known and designated on the tax map of the County Clerk of Erie as tax map parcel numbers: Section 141.43 Block 1 Lots 6.1, previously known as Section 141.43 Block 1 Lots 6, 7, 8, 9, 10 and 11, being the same as that property conveyed to Grantor by deeds dated May 12, 1977, August 19, 1978, May 7, 1980 and January 19, 1990 and recorded in the Erie County Clerk's Office in Liber and Page 8506/403, 8676/527, 8887/381 and 10130/495, respectively. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 0.770 +/- acres, and is hereinafter more fully described in the Land Title Survey dated February 7, 2005 and last revised July 31, 2006 prepared by Wendel Duchscherer Architects & Engineers, P.C., which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A; and**

C. All other terms of the April 27, 2017 Environmental Easement shall remain in effect.

D. This Amendment of Environmental Easement inures to and binds the parties hereto and their respective successors and assigns.

E. This Amendment of Environmental Easement shall be governed by and interpreted in accordance with the laws of the State of New York.

IN WITNESS WHEREOF, Grantor has caused this Amendment to Environmental Easement to be signed in its name.

Lackawanna FDS 715551, LLC:
By: DBV Durban Management, LLC, its Manager

By: _____

Print Name: GLEN D. CHERRY.

Title: Manager Date: 05-22-2018

Grantor's Acknowledgment

STATE OF NORTH CAROLINA)
) ss:
COUNTY OF Mecklenburg)

On the 22nd day of May, in the year 2018, before me, the undersigned, personally appeared Glen D. Cherry, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

D. Ryland Pond
Notary Public - State of North Carolina

D RYLAND POND
NOTARY PUBLIC
MECKLENBURG COUNTY, NC
My Commission Expires 9-7-2020

THIS AMENDMENT OF THE ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting By and Through the Department of Environmental Conservation as Designee of the Commissioner,

By: _____
Michael J. Ryan, Director
Division of Environmental Remediation

Department's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

On the 12th day of June, in the year 2018, before me, the undersigned, personally appeared Michael J. Ryan, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

David J. Chiusano
Notary Public, State of New York
No. 01CH5032146
Qualified in Schenectady County
Commission Expires August 22, 2018

SCHEDULE "A" PROPERTY DESCRIPTION

Schedule A

All that tract or parcel of land, situate in the City of Lackawanna, County of Erie and State of New York being part of Lot No. 35, Township 10, Range 8 of the Buffalo Creek Reservation and being Sublot 6, under Map Cover 680, filed in the Erie County Clerk's Office and being the same land acquired by Erie County as Serial No. 223 in the County's In Rem Tax Foreclosure action No. 133; and also

All that tract or parcel of land, situate in the City of Lackawanna, County of Erie, State of New York, and being part of Farm Lot 35, Township 10, Range 8, and being Sublot 7 and the East 10' of Sublot 6, under Map Cover 680, filed in the Erie County Clerk's Office, Fox Tract Subdivision, (117-119) Ridge Road., South side, 50' x 140'; and being the same land acquired by Erie County as Serial No. 475 in the County's In Rem Tax Foreclosure action No. 135; and

All that tract or parcel of land, situate in the City of Lackawanna, County of Erie and State of New York, being part of Great Lot Number thirty-five (35), Buffalo Creek Reservation, and Number Twenty-four (24) and Twenty-eight (28) of the Gore Tract, Township ten (10), Range Eight (8) more particularly described as follows:

Beginning at a point on the southerly line of Ridge Road one hundred and twenty (120) feet westerly from the westerly line of Wasson Street; thence running southerly at right angles one hundred and forty (140) feet; thence running westerly at right angles forty (40) feet; thence running northerly at right angles one hundred and forty (140) feet; thence running easterly at right angles forty (40) feet to the point of beginning.

Being Subdivision Lot Number Eight (8) Block "G" as shown on map filed under Cover number 680 in the Erie County Clerk's Office.

Together with and subject to the benefits and burdens of a driveway agreement dated April 22, 1920, recorded in the Erie County Clerk's Office June 23 1920, in Liber 1485 of Deeds, at Page 628; and

All that tract or parcel of land, situate in the City of Lackawanna, County of Erie and State of New York being part of Lot No. 35, Township 10, Range 8 of the Buffalo Creek Reservation and according to map filed under Cover No. 680 is known as Subdivision Lot No. Nine (9) in Block "C" being 40 feet front and rear by 140 feet in depth; and

All that tract or parcel of land, situate in the City of Lackawanna, County of Erie and State of New York, and being part of Lot No. 35, of the Buffalo Creek Reservation, Township 10, Range 8 and being Subdivision Lot No. 10 and Subdivision Lot No. 11, Block C of the Fox Tract Subdivision; intending to be the same lands acquired by Erie County as Serial No. 994 and 995 in the County's In Rem Tax Foreclosure action No. 137.