Supplemental Work Plan
Additional Field Sampling and
Interim Remedial Measures

R. Freedman & Son Property
25 Tibbits Avenue
Green Island, New York

New York State Department of Environmental Conservation
Site # 401033

Prepared for:

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Revised – December 2018

842.002

Leader

CERTIFICATION

I, Dixon Rollins, P.E. certify that I am currently a New York State registered Professional Engineer [as defined in 6 NYCRR Part 375] and that this Supplemental Work Plan Additional Field Sampling and Interim Remedial Measures was prepared in accordance with all applicable statues and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

059206	12/11/18	
New York State Professional Engineer #	Date	Signature

Note: Include PE Stamp

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1.0 INTRODUCTION

This Supplemental Work Plan ("SWP") was prepared to respond to requests made by the New York State Department of Environmental Conservation ("NYSDEC") and the New York State Department of Health ("NYSDOH") for additional soil and groundwater sampling at the R. Freedman & Son Site located at 25 Tibbets Avenue in Green Island, New York ("Site") at a joint meeting with NYSDEC, NYSDOH, Eastern Metal & Recycling ("EMR") and Leader Professional Services, Inc. ("Leader") on November 14, 2017. The SWP has been revised in response to comments provided by NYSDEC in a letter dated August 28, 2018.

At the November 14, 2017 meeting, NYSDEC clarified that it was requiring additional sampling and remedial measures including: the investigation of soil conditions beneath the raised mound area (turnstile area), conducting additional groundwater sampling, conducting surface soil delineation sampling in the Tibbets Avenue right of way ("ROW"), conducting delineation sampling in the vicinity of berm sampling locations Berm 10 and Berm 13, and berm slope stabilization and establishing vegetation on the berms. On March 7, 2018, NYSDEC provided additional information regarding slope stabilization and revegetation of the Site's berms. The NYSDEC provided a Figure (see Figure 1) to Leader which identifies the vegetation requirements on the berms. In particular, NYSDEC indicated that the slope of the east-west trending berm on the northside of the Site will require slope stabilization for any slope exceeding 33 % (a one-foot vertical rise over a three-feet horizontal run).

After considering the associated cost to conduct the delineation sampling versus conducting the removal of the impacted soil/material, EMR will conduct Interim Remedial Measures ("IRM") in the ROW and in the areas of the Berm 10 and Berm 13 sample locations. This SWP also provides a description of the additional field sampling activities requested by NYSDEC and NYSDOH along with notification to the United States Environmental Protection Agency ("USEPA") for the "self-implementing cleanup" of soils impacted by polychlorinated biphenyls ("PCBs").

2.0 BACKGROUND

On March 24, 2015, EMR executed a Consent Order with the NYSDEC to conduct a Remedial Investigation ("RI") of the Site consistent with the Office of Remediation and Materials Management requirements. Beginning in December 2016 and finishing in February 2017, Leader conducted the field activities specified in the September 2016 Remedial Investigation/Feasibility Study ("RI/FS") Work Plan.

As a part of the RI/FS reporting, Leader prepared a presentation of the RI/FS results for NYSDEC, which indicated several areas within Site's berm that exceeded NYSDEC's Part 375 Soil Cleanup Objectives for Restricted Use – Industrial ("SCOI"). NYSDEC expressed concern about the exceedances of PCBs and Mercury, in particular. The findings also indicated that surface soils in two areas located outside the fence within the ROW for Tibbits Avenue had also been impacted with PCBs at concentrations exceeding NYSDEC's Part 375 Soil Cleanup Objectives for Unrestricted Use – Residential ("SCOR"). The data presentation showed the upper one foot of on-Site (within the fenced area used for metal salvaging) surface soil/materials

were below the SCOI and that groundwater was only impacted with naturally occurring elements; Iron, Manganese and Sodium. Minor concentrations of polynuclear aromatic hydrocarbons ("PAHs), Benzene, and Acetone were found in some of the samples. Following a review of this information, NYSDEC recommended that EMR conduct IRMs to address contamination in the berm materials or conduct additional sampling to delineate the extent of contamination. NYSDEC notified Leader that further investigation and additional groundwater sampling will be required in the mound area of the Site.

The location of the mound area of the Site is consistent with the location of a former railroad roundhouse and turnstile. It is believed that a remnant concrete floor and foundation, caused drilling tool refusal as the early termination of several soil borings. NYSDEC is requesting this area be further investigated by sampling the soils beneath the concrete feature.

Also, in order to fulfill a NYSDEC/NYSDOH directive, selected monitoring wells will be sampled and analyzed for Perfluorochemicals ("PFCs"), including Perfluoroalkyl and Polyfluoroalkyl Substances ("PFAS"), and Perfluorooctanoic Acid ("PFOA"). PFAS and PFOAs will be referred to collectively herein as PFCs. NYSDEC requested that all of the Site's monitoring wells be sampled for the following analytes: Target Compound List ("TCL") volatile organic compounds, semivolatile organic compounds ("SVOCs"), PCBs, Target Analyte List ("TAL") metals and cyanide.

3.0 SELF-IMPLEMENTING CLEANUP NOTIFICATION

This IRM Work Plan was submitted to the NYSDEC and USEPA to fulfill the notification requirements under 40 CFR Section 761.61(a) for a self-implementing cleanup of bulk PCBs remediation waste. Based on the known PCB impacts to soil at the Site, the self-implementing procedure for the cleanup and disposal of soils impacted by PCB is considered appropriate and consistent with the definitions presented in the aforementioned section of these regulations. The general waste category at this Site falls under the "bulk PCB remediation waste" category. The Site area is fenced, and access is restricted meeting the definition of a "low occupancy area" and the associated cleanup standard for PCB in soil is less than or equal to 25.0 parts per million ("ppm") without a cap. The off-site areas are defined as "high occupancy areas" and the associated cleanup standard for PCB in these areas is less than or equal to 1.0 ppm without a cap. Off-site disposal of the PCB impacted soils will be conducted in accordance with 40 CFR Section 761.62.

3.1 Remedial Investigation

The Site was used as a scrap metal yard from at least 1951 to 2011. The Site property is fenced and located in an area zoned as industrial. The Site is separated from nearby residential properties by Tibbets Avenue. The remedial investigation was conducted in several phases with some of the samples collected for a prior site owner. Figure 2 shows the locations and laboratory analytical results for PCB in surface soil samples collected from a berm that exists along a majority of the Site's perimeter. In addition, surface soil samples were collected within the fenced area of the berm and around the northern, eastern and southern property lines outside the berm fence. The samples were analyzed for PCBs. The sampling locations and results of the laboratory analysis are shown on Figure 3. Within the fenced area, the sample collection process

was biased toward operational areas where there is visible debris, berms and low areas where sediments from storm water runoff may accumulate. Figure 4 provides the sampling locations and results of the historical samples completed for a former site owner with the surface soil samples collected as part of the RI along the Tibbets Avenue ROW.

3.2 Surface Soil Sample Results

In January 2017, thirteen (13) biased surface soil samples were collected and analyzed for TCL semi-volatile organic compounds plus tentatively identified compounds ("TICs"), TCL Pesticides, TCL PCBs, Cyanide, and TAL metals. The sample results are presented as "Surface Soil Data" in the attached tables with the results compared to the SCOIs for samples collected within the fenced area and compared to the residential SC for samples collected outside of the fenced area. As shown in the tables, the results indicate that PCBs were not detected within the fenced area at concentrations exceeding the SCOI; however, PCBs were found in certain samples along the Tibbets Avenue ROW at concentrations exceeding the residential SCO.

3.3 Berm Soil Sample Results

During the remedial investigation process, 13 soil samples from the soil berms were collected and analyzed in December 2016 for TCL SVOCs plus TICs, TCL Pesticides, TCL PCBs, Cyanide, and TAL metals. The sample results are presented as "Berm Data" in the attached tables with the results compared to the SCOIs. Total PCBs were detected in one sample (Berm-10) at a concentration exceeding its SCOI of 25.0 mg/Kg and mercury was detected in one sample (Berm-13) at a concentration of exceeding its SCOI of 5.7 mg/Kg.

3.4 Prior Surface Sample Results – Tibbets Avenue

In 2005, a prior site owner sampled the surface soils (0 to 2-inches) in the right of way between Cannon Street and High Street. Eight (8) samples were collected and analyzed for PCBs. The results are shown on Figure 5. Seven (7) of the fifteen (15) surface soil samples analyzed were found to equal, or exceed, the soil cleanup objective - Restricted Residential of 1.0 mg/Kg. 1.78 mg/Kg in Sample SS-03 was the highest value found.

3.5 Proposed Remedial Activities

The remedial activities at the Site are presented in Section 4.0. Completion of these IRMs will result in the removal of PCB- impacted berm soils at the Site along with the removal of surface soils to a depth of 6-inches in the Tibbets Avenue ROW. Also, an area of berm soils will be removed that are impacted with mercury. The procedures for the removal of the PCB and mercury-impacted materials are outlined in detail in the subsequent sections of this SWP.

4.0 SCOPE OF WORK

The scope of work for the SWP is presented in two parts: 1) the IRMs, and 2) the Investigative Tasks. Where applicable, the SWP will rely on the Site's September 2017 Work Plan to provide the sampling approach and procedures, and the written Health and Safety Plan and the written Community Air Monitoring Plans. As needed, these documents will be amended.

4.1 Interim Remedial Measures ("IRMs")

4.1.1 IRM – Tibbits Avenue ROW

The sample results from the RI/FS and sample results compiled by the former R. Freedman & Son consultant, Alpha Geosciences, are shown on Figure 5. The area requiring remediation is shown in this figure. For the remediation, soil will be removed from the depth of 6 inches below the ground surface and post-excavation samples will be collected from the bottom of the excavation. The soil samples will be analyzed for PCB as described in Section 4.1.5 and six inches of replacement topsoil and grass-seed or sod will be placed.

4.1.2 Notification

Prior to initiating the IRM in the ROW, Leader will confirm the work dates with NYSDEC, and notify the Village of Green Island, the Green Island Police Department, the Village of Green Island Public Works Department and the underground utility locating service Dig Safe New York (811). Notification will begin approximately four weeks prior to the start of work. The work will be weather dependent. Work will not begin if rain or snow is expected within the time frame the work is scheduled.

4.1.3 Health and Safety

The remediation contractor ("Contractor") will prepare and employ a Health and Safety Plan ("HASP"). It will include the Project's Site Health and Safety Plan prepared by Leader. The contractor's HASP will require the use of street signs placed along Tibbets Avenue, approximately 200 feet from the work zone in each direction, and as necessary, along Cannon Street, High Street and James Street. The Contractor will position two flagmen east and west of the work zone to further notify drivers and workers of oncoming traffic. Signs will be posted, or barricades will be setup to close the sidewalks within the work area.

The HASP will include conducting air monitoring for fugitive dust using temporary air monitoring stations located upwind and downwind of the work area. The monitors will measure fugitive dust concentrations continuously throughout the work day and the data will be downloaded at the end of the work day. Dust levels will be monitored periodically throughout the day by Leader's engineer and if visible dust is present. If visible dust is observed, the Contractor will stop work and dust suppression measures will be implemented.

The Site's HASP for the project is provided in Appendix 1.

4.1.4 Removal Procedures

Prior to the removal of any soil waste from the Site, disposal facility acceptance letters will be provided to NYSDEC. Additionally, sample analysis results verifying the quality of the backfill and topsoil will be provided to NYSDEC in addition to the location (name and address) of where the soil is being obtained.

After the utility clearance and stakeout has been reviewed and health and safety measures set up, the Contractor will begin to remove the surface soil. Removal will include the use of hand-tools, backhoe or a vacuum operated soil excavator. The goal of the removal will be to excavate the upper six inches of soil. Within the ROW there are periodic interruptions of the grass/gravel surface by asphalt and concrete driveway aprons and sidewalks. These surfaces will be left in

place and will not be disturbed. Similarly, trees along the north side of Tibbets Avenue will not be disturbed. To the extent possible, the soil and gravel around the trees will be removed using hand tools or vacuum extraction to minimize any damage to the trees.

Once excavation is completed and samples have been collected, the excavation will be left open and fenced off until verification sample results have been obtained, see Section 4.1.5 Verification Sampling.

The soil removed during this project will be placed directly into a lined roll off container for eventual transportation to and disposal at a permitted landfill. If a roll off container is not filled and can not be immediately transported to its final disposal destination, the roll off container will be returned to the Site, covered and parked within the fence until it can be removed. If a vacuum excavator is used, the excavator container will be dumped into the roll off box or onto a plastic lined pad set up on an asphalt or concrete surface on the Site. The plastic lined pad will be constructed with bermed side walls to contain spillage but will be used for temporary use. All soil placed on the plastic lined pad will be removed and placed into the roll off box and covered at the end of each day. The decontamination and soil containment pad will be constructed with plastic sheeting having a thickness of at least 20-mm thickness and an area of at least 12 feet by 20 feet (the size can be adjusted as necessary). Thinner sheets may be substituted, provided multiple sheets are overlain to achieve the desired thickness. (See Section 4.2.6 and Figure 6 for additional information.)

4.1.5 Verification Sampling

The soil samples will be collected at a rate of one sample per 30 feet of excavation from the newly formed sub-grade. Section 8.3 of the Quality Assurance Project Plan (see Appendix 2) for the Supplemental Work Plan describes the sampling. These samples will be analyzed for PCB on an expedited basis so NYSDEC may review the results to conclude the 1.0 ppm SCO is achieved. The samples will include a field blank, a duplicate, a matrix spike and a matrix spike duplicate sample. Each sample will be analyzed following the Supplement Work Plan's Quality Assurance Plan requirements, see Sections 8, 9 and 11. Post excavation soil samples will demonstrate attainment of the 1 mg/kg residential SCO for PCBs.

Each sampling location will be located using a handheld global position system ("GPS") instrument with an accuracy of one meter or less.

4.1.6 Backfill

All soil to be used as backfill and topsoil will be sampled and analyzed, and the results approved by NYSDEC prior to EMR receiving the soil for use. Each source used for topsoil and backfill will be identified to NYSDEC with the name of the owner and location (name and address) of where the soil is being obtained. After the collection of excavation verification samples and NYSDEC has approved that the SCOs have been meet, backfilling of the excavation will commence.

The backfill will consist of six inches of topsoil covered with either grass seed or a natural fiber matt containing grass seed appropriate for northeast weather conditions. Appendix 3 provides specifications for topsoil and grass seed. Once placed, the grass seed will be watered. Silt fence

will be placed along the north side of Tibbets Avenue and left in place for at least six weeks after the grass seed has been placed before it is removed. If the grass seed fails to mature within six weeks, then the silt fence will remain in place and additional grass seed applied as needed.

As an alternative to grass seed is a natural fiber matt containing grass seed or sod. Appendix 3 provides specifications for sod. Once the sub-grade is prepared with topsoil, the natural fiber matt will be pinned to the ground surface minimizing erosion. The sod will be unrolled, lightly rolled and watered.

4.1.7 Decontamination

Personal decontamination is covered in the Site's HASP. Equipment used for the removal of contaminated material will be cleaned nightly by removing loose dirt from shovels, shovel handles, buckets and tools. Shovels and small tools will be rinsed with water and scrubbed as necessary with soapy water and rinsed again. Water used in the decontamination process will be containerized and the soil will be gathered and placed in the waste soil roll off. All waste will be disposed of at the end of the project.

The decontamination area and soil containment will be constructed with plastic sheeting having a thickness of at least 20mm and an area of at least 12 feet by 20 feet. Sheets with a thinner thickness can be substituted provided multiple sheets are overlain to achieve the desired thickness.

4.2 IRM - Berm Removal

The results of the analysis of the berm samples from the RI/FS are shown on Figure 4. The area proposed for remediation is shown on Figure 7. The IRM will be conducted to remove contaminated soil/material. The IRM's backfill and grading specifications will be used to address portions of the Site berm where the slopes are extreme and are prone to erosion. Re-grading the berm is addressed in this Section at 4.1.2.5.

4.2.1 Notification

Prior to initiating the IRM for the Site berms, Leader will confirm the work dates with NYSDEC and provide NYSDEC with approximately two weeks' notice.

4.2.2 Health and Safety

The Contractor will prepare and employ a HASP, and it will include the Project's Site HASP which requires air monitoring for fugitive dust and organic vapors. Temporary air monitoring stations located upwind and downwind of the work area will monitor fugitive dust. Fugitive dust concentrations will be monitored continuously throughout the work day and data will be downloaded at the end of the work day. Dust levels will be monitored periodically throughout the day by Leader's project engineer or scientist and as necessary if visible dust is present. If visible dust is observed, the Contractor will stop work and dust suppression measures will be implemented.

Since access to the Site is controlled, the work area will be delineated with caution tape to restrict the movement of the excavating equipment and trucks. A plastic lined loading pad will be placed to contain any contaminated material inadvertently spilling on to the ground surface.

The Site HASP for the project is presented as Appendix 1.

4.2.3 Removal Procedures

Prior to the removal of any soil waste off-site, disposal facility waste acceptance documentation will be provided to NYSDEC. Additionally, sample results verifying the quality of the backfill and topsoil will be provided to NYSDEC in addition to the location (name and address) of where the soil is being obtained.

After the sampling locations are identified and health and safety measures set up, the Contractor will begin to remove impacted soil. Impacted soil will be defined as soil in the immediate area of the sampling location or approximately two feet in each direction from the location, plus the height and width of the berm.

Any large metal pieces will be set aside for recycling and any stained soil or material, soil or material with odors, or soil or material omitting volatile organic compounds ("VOCs") as measured by a portable organic vapor analyzer with a photoionization detector ("PID") will be removed.

The soil removed during this project will be placed directly into a lined roll off box or dump trailer for eventual transportation to a permitted landfill/disposal facility. In the event the waste material is not approved into a disposal facility when the work is scheduled to begin, waste materials will be stockpiled on plastic sheeting on a concrete surface with a bermed edge and covered with plastic sheeting. Along the bottom edge of the stockpile a berm will be created using wood timbers or approved soil fill so there is 4 to 6-inches of height. The pile will be covered with plastic, which will extend beyond the bermmed edge to allow precipitation to run-off the pile. The plastic covered will be secured with either tires or wood block to prevent the cover from moving. The waste stockpile will be removed when all disposal approvals are received. The cover will be inspected at least daily when an EMR employee is on the Site.

4.2.4 Verification Sampling

The soil samples will be collected at a rate of one sample per side wall and one at the bottom of the excavation. Five samples from each excavation will be collected and analyzed for PCBs (Berm 10) and Mercury (Berm 13). The Quality Assurance Project Plan for the Supplemental Work Plan, section 8.4 of the plan, describes the sampling. The samples will include a field blank sample and a sample duplicate. Quality assurance samples (matrix spike and matrix spike duplicate samples) will be collected as a part of the overall project, which includes the sampling of mound area test pits. Each sample will be analyzed following the Supplemental Work Plan Quality Assurance Project Plan's requirements, see Sections 8, 9, and 11. These samples will be analyzed with an expedited turn-around so NYSDEC can review the results. Post-excavation soil samples will demonstrate attainment of the 25 mg/kg industrial SCO for PCBs. The industrial SCO for mercury is 5.7 mg/kg.

4.2.5 Backfill and Regrading

The IRM excavations will be backfilled as needed with approved backfill soil (see Section 4.2.3). Ideally, the adjacent bermed material will be used to reform the berm with slightly

smaller dimensions. The slope of the berm will not exceed the current slope angle of approximately a one foot rise over a three feet run.

4.2.6 Decontamination

Personnel decontamination is covered in the Site project HASP. Equipment used for the removal of contaminated material will be cleaned daily by removing loose dirt from shovels, shovel handles, excavator buckets and tools. These tools and equipment will then be rinsed and scrubbed as necessary with soapy water and rinsed again. At the end of each work day, soil and solids will be placed into the waste soil roll off or waste stockpile. Water will be pumped or poured into an appropriately sized container located on the decontamination pad and sealed.

Trucks hauling contaminated materials will be inspected and, as necessary, swept to remove dirt. Excavating equipment too large to be effectively cleaned by hand will be cleaned on the pad used by vehicles. As needed, the truck tires, tail gates, excavator buckets, tracks, etc. will be washed with water to remove potentially contaminated materials. At the end of each day, loose soil/material will be picked up and containerized, water will be pumped from sumps and placed in suitably sized containers and sealed. Figure 6 provide details for the construction of the decontamination area. Any damaged plastic sheeting will be removed and disposed of as solid waste and replaced as needed.

Truck loading will be conducted on plastic sheeting having a thickness of at least 20-mm and covering an area of at least 12 feet by 20 feet. Thinner sheets may be substituted provided multiple sheets are overlain to achieve the desired 20-mm thickness.

The decontamination areas may have multiple zones; for example, an area to clean small tools and equipment, and other to clean trucks or excavating equipment. The decontamination area design is shown on Figure 6.

All decontamination waste will be disposed of at the completion of the project.

4.3 Berm Regrading and Vegetation

4.3.1 Implementation

NYSDEC indicated the berm at the north end of the Site is unstable requiring regrading to a decrease the slope of the berm. Based on the Site's topographic map, the existing slopes on the berm currently range from 12.5 degrees to 30 degrees. These angles are less than the angle of repose for the range of particle sizes visually apparent in the berm. The NYSDEC Regional Materials Management Division is requiring additional reshaping of the slope to achieve a visual 33 percent slope. Reshaping of the slope will be performed using either an excavator to remove approximately one to two feet from the top of the berm and to extend the toe of the slope southward approximately three to five feet. The goal will be to create a uniform surface across the berm so top soil and seed can be applied.

A permanent vegetative cover for the berms will be established following the removal of contaminated materials. The placement of the vegetative cover will follow one of two approaches, depending on availability of locally sourced materials. Organic matter (in the form

of leaf mold or shredded bark) mixed with grass and plant seed composed of rye grass, fescue grass and other seed will be spread or the topsoil will be covered with seeded jute matts. The leaf mold, shredded bark, or topsoil and jute matts provide organic material which will minimize erosion and retain moisture to provide a surface for the grass to germinate and grow. Approximately three to six inches of organic matter will be used to help establish the grass. Grass seed will be applied at a rate of five pounds per 1,000 square feet.

4.3.2 Health and Safety

The Contractor will prepare and employ a HASP, and it will include the Project's Site HASP which requires air monitoring for fugitive dust and organic vapors. Temporary air monitoring stations will monitor fugitive dust located upwind and downwind of the work area. Fugitive dust concentrations will be monitored continuously throughout the work day and the data will be downloaded at the end of the work day. Dust levels will be monitored periodically throughout the day by Leader's resident engineer and, as necessary, if visible dust is present. If visible dust is observed, the Contractor will stop work and dust suppression measures will be employed.

Since access to the Site is restricted and controlled and the work area will not be fixed for any appreciable period of time, the work will not be delineated with caution tape. Any mixing of organic material or seed with water will be completed on one of the concrete pads on the Site so cleanup of leaf mold, shredded bark, or seed can be expedited.

The Site Project HASP for the project is included as Appendix 1.

4.3.3 Decontamination

Personnel decontamination is covered in the Site Project HASP. Equipment used for spreading organic material and grass will be swept clean and any tools in contact with the berm materials will be cleaned off nightly by removing loose dirt from shovels, shovel handles and tools. At the end of each work day, this equipment will be rinsed with water and scrubbed as necessary with soapy water and rinsed again. Water will be containerized, and the soil will be gathered and placed in the waste soil roll off container. All waste will be disposed of at the end of the project.

Decontamination will be conducted on plastic sheeting or over containers to catch spills. At the end of the work day and at the end of project, the plastic sheeting or containers will be containerized for proper off-site disposal.

4.3.4 Imported Fill Requirements

Imported fill soil will be brought to the Site for use to revegetate the berms and to restore the ROW along Tibbets Avenue. All soil to be used as backfill and topsoil will be sampled, and the analysis results reviewed and use of the fill soils approved by NYSDEC prior to receiving the soil for use. Each source used for topsoil and backfill will be provided to NYSDEC with the name of the owner and location (name and address) of where the soil is being obtained.

Between 2,000 and 2,400 cubic yards of topsoil will be used for restoration. The source for this material is unknown at this time, but unless the soil can be certified for use by the supplier for residential use, the source(s) of the soil will be visited and sampled. The sampling will be conducted using either a backhoe or geoprobe sampling equipment to acquire the samples. The

samples will be analyzed following the sampling schedule in Table 4 found in NYSDEC Policy CP-51 Soil Cleanup Guidance ("CP-51"). The schedule provided in Table 4 requires seven discrete samples be analyzed for TCL VOCs (7) and two (2) composite samples for TCL SVOC. TAL metals and inorganic compounds, pesticides, and PCBs for the first 1,000-cubic yards of soil, then for each 1,000-cubic yards, two additional discrete samples for TCL VOCs and one composite sample for SVOCs, TAL metals and inorganic compounds, pesticides and PCBs will be analyzed. Following CP-51 Table 4, approximately thirteen (13) discrete samples and five (5) composite samples will be required.

The results of the analysis will be compared to Title 6 of New York States Code Rules and Regulations Part 375, Table 375-6.8(b): Restricted Use Residential and Industrial Soil Cleanup Objectives ("SCO"). Soil used in the Tibbets Avenue ROW will need to meet or be below the Residential SCO, while soil used on the Site will need to meet the SCOI.

Soil brought onto the Site before or while the project is being conducted will be placed on and covered with 10mm plastic sheeting. Ideally, the soil will be placed on a concrete or asphalt surface to facilitate its loading into a vehicle for use on the Site or in the ROW. During the restoration of the ROW, soil may be dumped in an excavated area without the use of plastic sheeting and the amount of soil stockpiled will equal the amount that can be used in one day. Any remaining soil will be returned to the Site at the end of the day.

4.4 Investigative Sampling

4.4.1 Mound Area and Other Supplemental Soil Sampling

Other areas of the Site require additional investigation and inspection. These areas include:

- An elevated area of the Site, referred to as the "mound area or turnstile" will be sampled to determine the nature and extent of contamination;
- The green storage building will be evaluated for potential contamination areas or equipment which may contain fluids or debris;
- Electrical cabinets will be inspected for the presence of equipment potentially containing PCB fluids and conduct follow-up sampling as necessary;
- Inspect former shredding or crushing equipment for debris requiring disposal;
- Inspect the hydraulic equipment (tanks, lines, pumps, etc.) found in the building used to store waste gas and oils;
- Determine if stains or dried oil and grease represent a potential source of contamination and address with sampling or arrange for removal (stains and dried residuals have been observed in a number of locations (shearing equipment, hydraulic equipment, etc.);
- Evaluate miscellaneous piles of debris associated with buildings and equipment;
- Decommission the truck tire wash pit;

- Determine if existing stationary equipment will remain on-site or be removed;

- Inspect and clean the approximate 2,000-gallon tank inside the shear building which is currently surrounded by absorbent socks and loose hay, along with the following:

    a. Include provisions for cleaning and draining pumps, pistons, and hydraulic lines;

    b. Proper disposal of all (eight) carboys containing fluids (used oil, gasoline, antifreeze) inside the shear building; and

    c. Evaluate and clean up the visibly stained areas outside the perimeter of the shear building; and

- Estimate the volume of the berms surrounding the Site.

An elevated area of the Site, referred to as the "mound area or turnstile" was not adequately sampled during the RI because of an obstruction believed to be a buried former concrete floor or foundation. Leader is proposing to conduct additional test pit excavations and sampling using an excavator to unearth portions of the mound to obtain samples from beneath the suspected concrete.

The other areas of sampling and investigation will be evaluated as a part of an initial Site walk through.

4.4.1.1 Execution

Mound Area

The excavation of three test pits for soil sampling is planned (see Figure 8). One test pit at each of the mound's ends and one test pit located in the middle of the mound will be excavated. The test pits located at the end of the mound will be excavated first to examine the profile of the obstruction and to obtain a sample from beneath it. A test pit will then be excavated at the approximate center of the mound or if the obstruction appears to be a continuous concrete form, a test pit will be completed immediately next (west) to the mound. The east end of the mound is covered with large rock to minimize erosion. It is preferred not to disturb this material. If evidence of contamination is found, additional test pits and/or samples may be collected.

The excavated material from the test pits will be placed on a plastic sheet to contain the material and to avoid impacting the clean surface soil. The plastic sheet will act as a temporary decontamination pad after the completion of each test pit. The plastic sheeting will be at least 10mm thickness and cover an area of at least 12 feet by 12 feet. Thinner (thickness) sheets may be substituted, provided multiple sheets are overlain to achieve the desired thickness.

In the event saturated soil conditions or heavily contaminated materials are encountered, a second area of plastic sheeting will be used to contain these suspected contaminated materials. If the soil pile shows evidence of contamination, the soils will not be returned to the excavation,

without the approval of the NYSDEC Project Manager. Soil not returned to an excavation will be sampled to determine the appropriate method of disposal and covered with adequate plastic sheeting until it can be removed from the Site.

During the sampling, Leader's field geologist or engineer will log the materials, depths and PID readings of each test pit. These field notes will be recorded along with other observations, readings and a summary of the day's activities in the project's field note book.

Following completion of the test pit excavation task, the location of each test pit will be determined and mapped using a handheld GPS device with accuracy of at least one meter.

Mound Sampling

The mound area sampling will be conducted using the same approach used for the sampling of soil borings presented in the RI Work Plan: one sample will be collected from the fill material (if present) and one sample from the unsaturated overburden. The sampling will be guided based on the presence of stains, odors, or organic vapors as measured using a PID. If there is no evidence of contamination, then a sample will be collected from material representative of the fill material and within the undisturbed overburden a sample will be collected from immediately above the groundwater interface, if groundwater is encountered. Alternatively, if groundwater is not encountered, then the soil from the deepest portion of the test pit will be retained for analysis. Up to six samples (two from each test pit) will be collected and analyzed for the same parameters analyzed during the RI; TCL VOCs, TCL semi-volatile organic compounds, pesticides and herbicides, PCBs, TAL metals, and cyanide.

Quality assurance samples for both the berm and mound sampling locations will be collected from the test pits excavated in the mound area, including: one duplicate sample, one matrix spike and one matrix spike duplicate sample. If a trowel is used for sample collection, then a field blank sample will also be collected.

4.4.1.2 Other Areas of Inspection and Sampling

During the Site walk-through, the areas and tasks identified in Section 4.2.2 will be inspected to determine the scope of any needed sampling and to acquire the information to address the presence of contamination and presence of debris or fluids requiring disposal and proper equipment decommissioning.

During the walk-through, Leader will be prepared to collect samples for either waste characterization or the nature and extent of contamination. At locations where there is evidence of contamination, either a surface soil/material sample(s) will be collected and analyzed for the TCL volatiles and semi-volatile organic compounds, PCBs, pesticides and herbicides, TAL metals, and cyanide or the area will be characterized for disposal and material removal will be conducted concurrent with the berm IRM.

Leader will coordinate with EMR and their specialized contractors to complete the inspections safely. The evaluation of electrical equipment for the presence of fluids or the inspection of equipment, such as the cyclone, may require an aerial lift.

4.4.1.3 Health and Safety

Work being completed under this task could involve multiple hazards in addition to the presence of organic compounds, organic vapors, and fugitive dusts. Those hazards could include electrical hazards, fluids under pressure, equipment parts with kinetic or potential energy, working on elevated platforms, and slip, trip and fall hazards. At the beginning of each work day a health and safety meeting will be held with project personnel to review and plan for the appropriate level of safety.

The Contractor will prepare and employ a Site-specific HASP, and it will include the Project's Site HASP which will address all of these potential hazards in addition to air monitoring for fugitive dust and organic vapors. Each activity that could potentially create a fugitive dust hazard will monitor fugitive dust located upwind and downwind of the work area. Fugitive dust concentrations will be measured continuously throughout the work day and the data will be downloaded at the end of the work day. Dust levels will be monitored periodically throughout the day by Leader's field geologist or engineer and as necessary if visible dust is present. If visible dust is observed, the Contractor will stop work and the activity causing the dust release changed to lower the dust amount to within acceptable limits. Organic vapors will be monitored at the work location and as needed at the perimeter of the work zone and up and downwind of the Site.

Licensed commercial electrical contractors or EMR employees with Site equipment knowledge and training will be used for the entry of all electrical cabinets/equipment. The electrical contractor will have their own HASP with focus on arc-flash hazards and the appropriate safety protective equipment to be worn. All electrical cabinets will be de-energized prior to opening and rechecked upon opening. The equipment, control panel or circuit breaker panel controlling the flow of electricity to the cabinet or equipment being opened, will be tagged and the switch controlling the flow of electricity to the cabinet or equipment will be locked out. OSHA Log-out Tag-out procedures will be followed to prevent accidental re-energization of equipment.

The use of aerial equipment will be conducted by trained operators. The training will be documented before the equipment is used. OSHA fall protection training will be documented and fall protection equipment will be used.

Personnel performing equipment inspections will be knowledgeable of the equipment, the presence of fluids or gases (including air) which may be under pressure (greater than the atmospheric pressure) in the equipment, and the potential for hazards from potential and kinetic energy sources. Before the inspection is conducted the flow of electricity will be discontinued and checked. The circuit breaker panel or equipment control panel used to terminate the flow of electricity will be tagged and locked out to prevent someone from accidentally turning on the flow of electricity again.

Work areas will be delineated with caution tape to restrict the movement of the people, equipment and trucks. As needed, a plastic lined pad will be used to place excavated soil, debris or waste to avoid impacting the clean ground surface.

The Project Site HASP is provided as Appendix 1.

4.4.1.4 Decontamination

Personal decontamination is covered in the Project Site HASP. Equipment used for the test pit excavation will be cleaned after each test pit by removing loose dirt excavator bucket and shovels. At the end of the day or the test pitting task, the bucket and shovel metal ends will be scrubbed with soapy water and rinsed. Wash water will be containerized, and the removed soil will be gathered and placed in the waste soil roll off container or in a drum. All waste will be removed and disposed of at the end of the project.

4.4.2 Groundwater Sampling

A second round of groundwater sampling will be conducted. The nine (9) monitoring wells sampled during the RI/FS (see Figure 9) will be sampled during the second round.

4.4.2.1 Execution

The sampling of groundwater will follow the procedures in the approved RI/FS Work Plan with the following exceptions to minimize cross contamination when collecting PFC samples:

- Four groundwater monitoring wells will be sampled first for PFCs and handled separately from any other samples.
- The shipping of PFCs samples will be conveyed in their own cooler or shipping container as supplied by the laboratory.
- Decontamination will be kept to a minimum and dedicated tubing and equipment for PFCs sampling will be used. If decontamination is needed while in the field, PFC-free water provided by the laboratory will be used.
- A non-contacting peristaltic pump with Tygon (silicone) tubing and High-Density Polyethylene ("HDPE") tubing will be used for PFC sampling.
- The laboratory will provide all sample containers.
- Equipment used for the field analysis of groundwater characteristics (turbidity, temperature, dissolved oxygen, etc.) will use a non-contacting type meter or equipment so samples designated for analysis do not contact the equipment.
- Additional sampling guidelines provided by the laboratory are attached as Appendix 3.

The monitoring wells selected for sampling and PFCs analysis were selected based on the locations relative to the direction of groundwater flow, which is approximately northwest to southeast.

4.4.2.2 Sample Analysis

Four (4) groundwater samples will be collected and analyzed for PFCs and 1,4-Dioxane. The analysis of PFCs will be conducted by Alpha Laboratories using USEPA Method 537. Alpha is certified by NYSDOH to conduct these analyses. Method 537 will differentiate between the individual PFC compounds and has a reporting limit of 2.0 parts per trillion ("ppt"). 1,4-Dioxane will be analyzed using Method 8270 SIM with a method limit of no greater than 350 parts per trillion.

A total of nine (9) groundwater samples will be collected from the permanent monitoring wells and the NYSDEC monitoring well (PES-2) and analyzed for TCL VOC and SVOCs plus TICs, PCBs, and TAL Metals. Herbicides and pesticides will not be analyzed because these compounds were not identified in the first round of sampling.

The Supplemental Quality Assurance Project Plan (Appendix 2) for groundwater sampling will be followed for both sets of analyses. During the sampling, depth to groundwater and field parameters; dissolved oxygen, pH, temperature, oxidation reduction potential and turbidity will be measured. Sampling will be conducted when these parameters stabilize, and turbidity is less than 50 nephelometric units. If a monitoring well was sampled for PFCs, these monitoring wells will not require additional purging and analyzing for the field parameters.

4.4.2.3 Health and Safety

The Project Site HASP is provided in Appendix 1.

4.4.2.4 Decontamination

Personal and equipment decontamination are covered in the RI/FS Site HASP.

5.0 WASTE DISPOSAL

At the completion of the activities described in this Work Plan, all investigation, remediation or other waste/debris located on the property, with the exception of municipal trash, will be sampled and analyzed as necessary and transported to proper recycling or disposal/treatment facilities. All waste will be sampled and analyzed to the satisfaction of the recycling or disposal/treatment facility. The ability for the recycling or disposal/treatment facility to accept the waste will be documented and provided to NYSDEC upon receipt and EMR's acceptance of the facility to complete the recycling, disposal or treatment of the debris and waste. Manifests and bills of lading for the waste and debris will be collected and distributed as necessary to document that the recycling/treatment/disposal facility is in receipt of the waste. Certificates of destruction, treatment or disposal will be obtained from the facilities being used. NYSDEC will be provided with waste facility acceptance documentation, waste characterization results, manifests and bills of lading and certificates of disposal.

6.0 REPORTING

One of two generic deliverables will be used for each task. The results of each IRM will be summarized in a Completion Report. The Completion Report will summarize the work that was completed, authorized changes made, sample results, a data usability summary and disposal receipts/manifests. A figure will be prepared showing the location of samples and the area remediated. Completion reports will be prepared by Leader's Professional Engineer, licensed in New York State. The goal of the IRMs is to complete the tasks so the results can be included in the RI/FS report.

A data presentation will be prepared for the mound test pit sampling and the groundwater sampling. This report will include a summary of the findings, authorized changes, analytical results, a data usability summary and a comparison of the results to appropriate standards or guidance values. Figures and tables of results, as appropriate, will be included in each presentation. The results of these samples will be included in the RI/FS.

The results of the equipment inspections will be reported in the RI/FS along with any sampling that is conducted as part of the inspections.

7.0 PROJECT MANAGEMENT

Dixon Rollins, PE will serve as Leader's Project Manager for this project. Mr. Rollins will be responsible for coordination between EMR, NYSDEC/NYSDOH, and the Village of Green Island. He will ensure the SWP is completed and all reports are completed in keeping with the RI/FS and the SWP.

Peter von Schondorf, P.G. and Matthew Knight will assist Mr. Rollins with field work and the preparation of reports.

The NYSDEC Project Manager is Kyle Forster. Mr. Forster can be contacted at 518-402-8644.

8.0 SCHEDULE

Upon NYSDEC approval of the SWP, Leader will schedule the completion of the groundwater sampling, the equipment inspections, the mound area test pits and the berm IRM. Leader anticipates the groundwater sampling and equipment inspections will be completed within two weeks of SWP approval. The test pit excavation and the berm IRM will require three to four weeks to mobilize and they are expected to be completed within a 10-day period.

The IRM for the Tibbets Avenue ROW will be implemented upon contacting the Village of Green Island with a suitable start date coordinated with the NYSDEC and the Contractor. The implementation date is weather-dependent, especially for the restoration of the ROW. The ROW project is expected to be completed within a five day period.

TABLES

TABLE 1 SURFACE SOIL DATA
Former Freedman Sons Property
Green Island, NY

		SAMPLE ID:		SURFACE-1				SURFACE-2				SURFACE-3				SURFACE-4		
		LAB ID:		L1702357-01				L1702357-02				L1702357-03				L1702357-04		
		COLLECTION DATE:		1/24/2017				1/24/2017				1/24/2017				1/24/2017		
		SAMPLE MATRIX:		SOIL				SOIL				SOIL				SOIL		
		SCO IND																
ANALYTE	**Cas**	**(mg/kg)**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
VOLATILE ORGANICS BY GC/MS																		
Methylene chloride	75-09-2	1000	0.0016	J	0.013	0.0015	ND		0.013	0.0014	0.0019	J	0.013	0.0015	ND		0.022	0.0024
1,1-Dichloroethane	75-34-3	480	ND		0.002	0.00011	ND		0.0019	0.00011	ND		0.002	0.00011	ND		0.0032	0.00018
Chloroform	67-66-3	700	ND		0.002	0.0005	ND		0.0019	0.00047	ND		0.002	0.00049	ND		0.0032	0.0008
Carbon tetrachloride	56-23-5	44	ND		0.0013	0.00028	ND		0.0013	0.00027	ND		0.0013	0.00028	ND		0.0022	0.00045
1,2-Dichloropropane	78-87-5	NA	ND		0.0047	0.0003	ND		0.0045	0.00029	ND		0.0046	0.0003	ND		0.0076	0.00049
Dibromochloromethane	124-48-1	NA	ND		0.0013	0.0002	ND		0.0013	0.0002	ND		0.0013	0.0002	ND		0.0022	0.00033
1,1,2-Trichloroethane	79-00-5	NA	ND		0.002	0.00041	ND		0.0019	0.00039	ND		0.002	0.0004	ND		0.0032	0.00066
Tetrachloroethene	127-18-4	300	ND		0.0013	0.00019	ND		0.0013	0.00018	ND		0.0013	0.00018	ND		0.0022	0.0003
Chlorobenzene	108-90-7	1000	ND		0.0013	0.00046	ND		0.0013	0.00044	ND		0.0013	0.00046	ND		0.0022	0.00075
Trichlorofluoromethane	75-69-4	NA	ND		0.0067	0.00052	ND		0.0064	0.0005	ND		0.0066	0.00051	ND		0.011	0.00084
1,2-Dichloroethane	107-06-2	60	ND		0.0013	0.00015	ND		0.0013	0.00014	ND		0.0013	0.00015	ND		0.0022	0.00024
1,1,1-Trichloroethane	71-55-6	1000	ND		0.0013	0.00015	ND		0.0013	0.00014	ND		0.0013	0.00015	ND		0.0022	0.00024
Bromodichloromethane	75-27-4	NA	ND		0.0013	0.00023	ND		0.0013	0.00022	ND		0.0013	0.00023	ND		0.0022	0.00037
trans-1,3-Dichloropropene	10061-02-6	NA	ND		0.0013	0.00016	ND		0.0013	0.00015	ND		0.0013	0.00016	ND		0.0022	0.00026
cis-1,3-Dichloropropene	10061-01-5	NA	ND		0.0013	0.00016	ND		0.0013	0.00015	ND		0.0013	0.00016	ND		0.0022	0.00025
Bromoform	75-25-2	NA	ND		0.0054	0.00032	ND		0.0051	0.0003	ND		0.0053	0.00031	ND		0.0086	0.00051
1,1,2,2-Tetrachloroethane	79-34-5	NA	ND		0.0013	0.00013	ND		0.0013	0.00013	ND		0.0013	0.00013	ND		0.0022	0.00022
Benzene	71-43-2	89	ND		0.0013	0.00016	ND		0.0013	0.00015	ND		0.0013	0.00016	ND		0.0022	0.00025
Toluene	108-88-3	1000	ND		0.002	0.00026	ND		0.0019	0.00025	ND		0.002	0.00026	ND		0.0032	0.00042
Ethylbenzene	100-41-4	780	ND		0.0013	0.00017	ND		0.0013	0.00016	ND		0.0013	0.00017	ND		0.0022	0.00028
Chloromethane	74-87-3	NA	ND		0.0067	0.00039	ND		0.0064	0.00038	ND		0.0066	0.00039	ND		0.011	0.00063
Bromomethane	74-83-9	NA	ND		0.0027	0.00045	ND		0.0026	0.00043	ND		0.0026	0.00045	ND		0.0043	0.00073
Vinyl chloride	75-01-4	27	ND		0.0027	0.00016	ND		0.0026	0.00015	ND		0.0026	0.00016	ND		0.0043	0.00025
Chloroethane	75-00-3	NA	ND		0.0027	0.00042	ND		0.0026	0.0004	ND		0.0026	0.00042	ND		0.0043	0.00068
1,1-Dichloroethene	75-35-4	1000	ND		0.0013	0.00035	ND		0.0013	0.00034	ND		0.0013	0.00035	ND		0.0022	0.00056
trans-1,2-Dichloroethene	156-60-5	1000	ND		0.002	0.00028	ND		0.0019	0.00027	ND		0.002	0.00028	ND		0.0032	0.00046
Trichloroethene	79-01-6	400	ND		0.0013	0.00017	ND		0.0013	0.00016	ND		0.0013	0.00016	ND		0.0022	0.00027
1,2-Dichlorobenzene	95-50-1	1000	ND		0.0067	0.0002	ND		0.0064	0.0002	ND		0.0066	0.0002	ND		0.011	0.00033
1,3-Dichlorobenzene	541-73-1	560	ND		0.0067	0.00018	ND		0.0064	0.00017	ND		0.0066	0.00018	ND		0.011	0.00029
1,4-Dichlorobenzene	106-46-7	250	ND		0.0067	0.00018	ND		0.0064	0.00018	ND		0.0066	0.00018	ND		0.011	0.0003
Methyl tert butyl ether	1634-04-4	1000	ND		0.0027	0.00011	ND		0.0026	0.00011	ND		0.0026	0.00011	ND		0.0043	0.00018
p/m-Xylene	179601-23-1	NA	ND		0.0027	0.00047	ND		0.0026	0.00045	ND		0.0026	0.00046	ND		0.0043	0.00076
o-Xylene	95-47-6	NA	ND		0.0027	0.00045	ND		0.0026	0.00043	ND		0.0026	0.00045	ND		0.0043	0.00073
cis-1,2-Dichloroethene	156-59-2	1000	ND		0.0013	0.00019	ND		0.0013	0.00018	ND		0.0013	0.00019	ND		0.0022	0.00031
Styrene	100-42-5	NA	ND		0.0027	0.00054	ND		0.0026	0.00051	ND		0.0026	0.00053	ND		0.0043	0.00087
Dichlorodifluoromethane	75-71-8	NA	ND		0.013	0.00026	ND		0.013	0.00024	ND		0.013	0.00025	ND		0.022	0.00041
Acetone	67-64-1	1000	ND		0.013	0.0014	0.002	J	0.013	0.0013	ND		0.013	0.0014	ND		0.022	0.0022
Carbon disulfide	75-15-0	NA	ND		0.013	0.0015	ND		0.013	0.0014	ND		0.013	0.0015	ND		0.022	0.0024
2-Butanone	78-93-3	1000	ND		0.013	0.00036	ND		0.013	0.00035	ND		0.013	0.00036	ND		0.022	0.00059
4-Methyl-2-pentanone	108-10-1	NA	ND		0.013	0.00033	ND		0.013	0.00031	ND		0.013	0.00032	ND		0.022	0.00053
2-Hexanone	591-78-6	NA	ND		0.013	0.00089	ND		0.013	0.00085	ND		0.013	0.00088	ND		0.022	0.0014
Bromochloromethane	74-97-5	NA	ND		0.0067	0.00037	ND		0.0064	0.00035	ND		0.0066	0.00037	ND		0.011	0.0006
1,2-Dibromoethane	106-93-4	NA	ND		0.0054	0.00023	ND		0.0051	0.00022	ND		0.0053	0.00023	ND		0.0086	0.00038
1,2-Dibromo-3-chloropropane	96-12-8	NA	ND		0.0067	0.00053	ND		0.0064	0.00051	ND		0.0066	0.00052	ND		0.011	0.00086
Isopropylbenzene	98-82-8	NA	ND		0.0013	0.00014	ND		0.0013	0.00013	ND		0.0013	0.00014	ND		0.0022	0.00022
1,2,3-Trichlorobenzene	87-61-6	NA	ND		0.0067	0.0002	ND		0.0064	0.00019	ND		0.0066	0.0002	ND		0.011	0.00032
1,2,4-Trichlorobenzene	120-82-1	NA	ND		0.0067	0.00024	ND		0.0064	0.00023	ND		0.0066	0.00024	ND		0.011	0.00039
Methyl Acetate	79-20-9	NA	ND		0.027	0.00036	ND		0.026	0.00034	ND		0.026	0.00036	ND		0.043	0.00058
Cyclohexane	110-82-7	NA	ND		0.027	0.0002	ND		0.026	0.00019	ND		0.026	0.00019	ND		0.043	0.00032
1,4-Dioxane	123-91-1	250	ND		0.13	0.019	ND		0.13	0.018	ND		0.13	0.019	ND		0.22	0.031
Freon-113	76-13-1	NA	ND		0.027	0.00037	ND		0.026	0.00035	ND		0.026	0.00036	ND		0.043	0.00059
Methyl cyclohexane	108-87-2	NA	ND		0.0054	0.00021	ND		0.0051	0.0002	ND		0.0053	0.0002	ND		0.0086	0.00033
Total VOCs			0.0016	-	-	-	0.002	-	-	-	0.0019	-	-	-	-	-	-	-
Total TIC Compounds		NA	0.0135	J	0	0	0.00942	J	0	0	0.00378	J	0	0	-	-	-	-

Notes:
mg/Kg = Milligrams per kilogram
NA = Not Analyzed.
ND = Not detected above reporting limit (RL)
J = Compound found below RL.
E = Est. concentration.
Shaded cells indicate result is greater than SCO.
SCO = Soil Clean Up Objective.

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		SAMPLE ID:		SURFACE-1				SURFACE-2				SURFACE-3				SURFACE-4		
		LAB ID:		L1702357-01				L1702357-02				L1702357-03				L1702357-04		
		COLLECTION DATE:		1/24/2017				1/24/2017				1/24/2017				1/24/2017		
		SAMPLE MATRIX:		SOIL				SOIL				SOIL				SOIL		
		SCO IND																
ANALYTE	**Cas**	**(mg/kg)**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
SEMIVOLATILE ORGANICS BY GC/MS																		
Acenaphthene	83-32-9	1000	0.046	J	0.18	0.023	ND		0.17	0.022	ND		0.35	0.045	ND		0.28	0.037
Hexachlorobenzene	118-74-1	12	ND		0.13	0.025	ND		0.12	0.023	ND		0.26	0.048	ND		0.21	0.04
Bis(2-chloroethyl)ether	111-44-4	NA	ND		0.2	0.03	ND		0.19	0.028	ND		0.39	0.059	ND		0.32	0.048
2-Chloronaphthalene	91-58-7	NA	ND		0.22	0.022	ND		0.21	0.021	ND		0.43	0.043	ND		0.36	0.035
3,3'-Dichlorobenzidine	91-94-1	NA	ND		0.22	0.058	ND		0.21	0.056	ND		0.43	0.12	ND		0.36	0.095
2,4-Dinitrotoluene	121-14-2	NA	ND		0.22	0.044	ND		0.21	0.042	ND		0.43	0.087	ND		0.36	0.071
2,6-Dinitrotoluene	606-20-2	NA	ND		0.22	0.038	ND		0.21	0.036	ND		0.43	0.074	ND		0.36	0.061
Fluoranthene	206-44-0	1000	1.1		0.13	0.025	3.6		0.12	0.024	0.13	J	0.26	0.05	0.23		0.21	0.041
4-Chlorophenyl phenyl ether	7005-72-3	NA	ND		0.22	0.024	ND		0.21	0.022	ND		0.43	0.046	ND		0.36	0.038
4-Bromophenyl phenyl ether	101-55-3	NA	ND		0.22	0.034	ND		0.21	0.032	ND		0.43	0.066	ND		0.36	0.054
Bis(2-chloroisopropyl)ether	108-60-1	NA	ND		0.26	0.038	ND		0.25	0.036	ND		0.52	0.074	ND		0.43	0.061
Bis(2-chloroethoxy)methane	111-91-1	NA	ND		0.24	0.022	ND		0.23	0.021	ND		0.47	0.043	ND		0.38	0.036
Hexachlorobutadiene	87-68-3	NA	ND		0.22	0.032	ND		0.21	0.031	ND		0.43	0.063	ND		0.36	0.052
Hexachlorocyclopentadiene	77-47-4	NA	ND		0.63	0.2	ND		0.6	0.19	ND		1.2	0.39	ND		1	0.32
Hexachloroethane	67-72-1	NA	ND		0.18	0.036	ND		0.17	0.034	ND		0.35	0.07	ND		0.28	0.058
Isophorone	78-59-1	NA	ND		0.2	0.028	ND		0.19	0.027	ND		0.39	0.056	ND		0.32	0.046
Naphthalene	91-20-3	1000	0.2	J	0.22	0.027	0.36		0.21	0.025	0.066	J	0.43	0.053	0.25	J	0.36	0.043
Nitrobenzene	98-95-3	140	ND		0.2	0.032	ND		0.19	0.031	ND		0.39	0.064	ND		0.32	0.053
NDPA/DPA	86-30-6	NA	ND		0.18	0.025	ND		0.17	0.024	ND		0.35	0.049	ND		0.28	0.04
n-Nitrosodi-n-propylamine	621-64-7	NA	ND		0.22	0.034	ND		0.21	0.032	ND		0.43	0.067	ND		0.36	0.055
Bis(2-ethylhexyl)phthalate	117-81-7	NA	0.3		0.22	0.076	0.14	J	0.21	0.072	3.2		0.43	0.15	1.8		0.36	0.12
Butyl benzyl phthalate	85-68-7	NA	0.3		0.22	0.055	ND		0.21	0.053	ND		0.43	0.11	0.54		0.36	0.09
Di-n-butylphthalate	84-74-2	NA	0.078	J	0.22	0.042	ND		0.21	0.04	0.085	J	0.43	0.082	ND		0.36	0.068
Di-n-octylphthalate	117-84-0	NA	ND		0.22	0.075	ND		0.21	0.071	ND		0.43	0.15	ND		0.36	0.12
Diethyl phthalate	84-66-2	NA	ND		0.22	0.02	ND		0.21	0.019	ND		0.43	0.04	ND		0.36	0.033
Dimethyl phthalate	131-11-3	NA	ND		0.22	0.046	ND		0.21	0.044	ND		0.43	0.091	ND		0.36	0.075
Benzo(a)anthracene	56-55-3	11	0.56		0.13	0.025	3.4		0.12	0.024	0.079	J	0.26	0.049	0.12	J	0.21	0.04
Benzo(a)pyrene	50-32-8	1.1	0.66		0.18	0.054	**3.5**		**0.17**	**0.051**	0.12	J	0.35	0.1	0.16	J	0.28	0.087
Benzo(b)fluoranthene	205-99-2	11	0.94		0.13	0.037	5.2		0.12	0.035	0.2	J	0.26	0.073	0.2	J	0.21	0.06
Benzo(k)fluoranthene	207-08-9	110	0.29		0.13	0.035	1.7		0.12	0.033	ND		0.26	0.069	ND		0.21	0.057
Chrysene	218-01-9	110	0.65		0.13	0.023	3.8		0.12	0.022	0.13	J	0.26	0.045	0.14	J	0.21	0.037
Acenaphthylene	208-96-8	1000	0.041	J	0.18	0.034	2.7		0.17	0.032	ND		0.35	0.067	ND		0.28	0.055
Anthracene	120-12-7	1000	0.1	J	0.13	0.043	1.4		0.12	0.041	ND		0.26	0.084	ND		0.21	0.069
Benzo(ghi)perylene	191-24-2	1000	0.45		0.18	0.026	2		0.17	0.025	0.17	J	0.35	0.051	0.15	J	0.28	0.042
Fluorene	86-73-7	1000	ND		0.22	0.021	0.28		0.21	0.02	ND		0.43	0.042	0.057	J	0.36	0.035
Phenanthrene	85-01-8	1000	0.63		0.13	0.027	1.1		0.12	0.025	0.074	J	0.26	0.053	0.18	J	0.21	0.043
Dibenzo(a,h)anthracene	53-70-3	1.1	0.12	J	0.13	0.025	0.66		0.12	0.024	ND		0.26	0.05	ND		0.21	0.041
Indeno(1,2,3-cd)pyrene	193-39-5	11	0.49		0.18	0.031	2.3		0.17	0.029	0.12	J	0.35	0.06	0.13	J	0.28	0.05
Pyrene	129-00-0	1000	0.96		0.13	0.022	4.6		0.12	0.021	0.17	J	0.26	0.043	0.21		0.21	0.035
Biphenyl	92-52-4	NA	ND		0.5	0.051	0.048	J	0.48	0.048	ND		0.99	0.1	ND		0.81	0.083
4-Chloroaniline	106-47-8	NA	ND		0.22	0.04	ND		0.21	0.038	ND		0.43	0.079	ND		0.36	0.065
2-Nitroaniline	88-74-4	NA	ND		0.22	0.042	ND		0.21	0.04	ND		0.43	0.084	ND		0.36	0.069
3-Nitroaniline	99-09-2	NA	ND		0.22	0.041	ND		0.21	0.039	ND		0.43	0.082	ND		0.36	0.067
4-Nitroaniline	100-01-6	NA	ND		0.22	0.091	ND		0.21	0.087	ND		0.43	0.18	ND		0.36	0.15
Dibenzofuran	132-64-9	1000	0.063	J	0.22	0.021	0.16	J	0.21	0.02	ND		0.43	0.041	ND		0.36	0.034
2-Methylnaphthalene	91-57-6	NA	0.18	J	0.26	0.026	0.3		0.25	0.025	0.083	J	0.52	0.052	0.25	J	0.43	0.043
1,2,4,5-Tetrachlorobenzene	95-94-3	NA	ND		0.22	0.023	ND		0.21	0.022	ND		0.43	0.045	ND		0.36	0.037
Acetophenone	98-86-2	NA	0.04	J	0.22	0.027	0.051	J	0.21	0.026	ND		0.43	0.054	ND		0.36	0.044
2,4,6-Trichlorophenol	88-06-2	NA	ND		0.13	0.042	ND		0.12	0.04	ND		0.26	0.082	ND		0.21	0.068
p-Chloro-m-cresol	59-50-7	NA	ND		0.22	0.033	ND		0.21	0.031	ND		0.43	0.064	ND		0.36	0.053
2-Chlorophenol	95-57-8	NA	ND		0.22	0.026	ND		0.21	0.025	ND		0.43	0.051	ND		0.36	0.042

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Former Freedman Sons Property
Green Island, NY

		SAMPLE ID:		SURFACE-1				SURFACE-2				SURFACE-3				SURFACE-4		
		LAB ID:		L1702357-01				L1702357-02				L1702357-03				L1702357-04		
		COLLECTION DATE:		1/24/2017				1/24/2017				1/24/2017				1/24/2017		
		SAMPLE MATRIX:		SOIL				SOIL				SOIL				SOIL		
		SCO IND																
ANALYTE	**Cas**	**(mg/kg)**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
2,4-Dichlorophenol	120-83-2	NA	ND		0.2	0.035	ND		0.19	0.034	ND		0.39	0.07	ND		0.32	0.057
2,4-Dimethylphenol	105-67-9	NA	ND		0.22	0.072	ND		0.21	0.069	ND		0.43	0.14	ND		0.36	0.12
2-Nitrophenol	88-75-5	NA	ND		0.47	0.083	ND		0.45	0.079	ND		0.94	0.16	ND		0.77	0.13
4-Nitrophenol	100-02-7	NA	ND		0.31	0.09	ND		0.29	0.085	ND		0.61	0.18	ND		0.5	0.14
2,4-Dinitrophenol	51-28-5	NA	ND		1	0.1	ND		1	0.098	ND		2.1	0.2	ND		1.7	0.17
4,6-Dinitro-o-cresol	534-52-1	NA	ND		0.57	0.1	ND		0.54	0.1	ND		1.1	0.21	ND		0.93	0.17
Pentachlorophenol	87-86-5	55	ND		0.18	0.048	ND		0.17	0.046	ND		0.35	0.095	ND		0.28	0.078
Phenol	108-95-2	1000	ND		0.22	0.033	ND		0.21	0.032	ND		0.43	0.065	ND		0.36	0.054
2-Methylphenol	95-48-7	1000	ND		0.22	0.034	ND		0.21	0.032	ND		0.43	0.067	ND		0.36	0.055
3-Methylphenol/4-Methylphenol	108-39-4	1000	ND		0.32	0.034	0.042	J	0.3	0.033	ND		0.62	0.068	ND		0.51	0.056
2,4,5-Trichlorophenol	95-95-4	NA	ND		0.22	0.042	ND		0.21	0.04	ND		0.43	0.083	ND		0.36	0.068
Carbazole	86-74-8	NA	ND		0.22	0.021	0.16	J	0.21	0.02	ND		0.43	0.042	ND		0.36	0.035
Atrazine	1912-24-9	NA	ND		0.18	0.077	ND		0.17	0.073	ND		0.35	0.15	ND		0.28	0.12
Benzaldehyde	100-52-7	NA	ND		0.29	0.059	ND		0.28	0.056	ND		0.57	0.12	ND		0.47	0.096
Caprolactam	105-60-2	NA	ND		0.22	0.067	ND		0.21	0.064	ND		0.43	0.13	ND		0.36	0.11
2,3,4,6-Tetrachlorophenol	58-90-2	NA	ND		0.22	0.044	ND		0.21	0.042	ND		0.43	0.088	ND		0.36	0.072
Total SVOCs TICS			1.386	-	-	-	17	-	-	-	0.42	-	-	-	4.444	-	-	-
CHLORINATED HERBICIDES BY GC																		
MCPP		NA	ND		4.36	1.37	ND		4.22	1.33	ND		4.31	1.36	ND		7.03	2.21
MCPA	93-65-2	NA	ND		4.36	1.23	ND		4.22	1.19	ND		4.31	1.22	ND		7.03	1.99
Dalapon	94-74-6	NA	ND		0.0436	0.0142	ND		0.0422	0.0138	ND		0.0431	0.0141	ND		0.0703	0.023
Dicamba	75-99-0	NA	ND		0.0436	0.00732	ND		0.0422	0.00708	ND		0.0431	0.00724	ND		0.0703	0.0118
Dichloroprop	1918-00-9	NA	ND		0.0436	0.0125	ND		0.0422	0.0121	ND		0.0431	0.0124	ND		0.0703	0.0202
2,4-D	120-36-5	NA	ND		0.218	0.0137	ND		0.211	0.0133	ND		0.216	0.0136	ND		0.352	0.0221
2,4-DB	94-75-7	NA	ND		0.218	0.0112	ND		0.211	0.0108	ND		0.216	0.0111	ND		0.352	0.0181
2,4,5-T	94-82-6	NA	ND		0.218	0.00675	ND		0.211	0.00654	ND		0.216	0.00668	ND		0.352	0.0109
2,4,5-TP (Silvex)	93-76-5	1000	ND		0.218	0.00579	ND		0.211	0.00561	ND		0.216	0.00573	ND		0.352	0.00935
Dinoseb	93-72-1	NA	ND		0.0436	0.00536	ND		0.0422	0.00519	ND		0.0431	0.0053	ND		0.0703	0.00865
ORGANOCHLORINE PESTICIDES BY GC	88-85-7																	
Delta-BHC		1000	ND		0.00206	0.000403	ND		0.00198	0.000388	ND		0.00212	0.000415	ND		0.0033	0.000645
Lindane	319-86-8	23	ND		0.000858	0.000384	ND		0.000826	0.000369	ND		0.000882	0.000394	ND		0.00137	0.000614
Alpha-BHC	58-89-9	6.8	ND		0.000858	0.000244	ND		0.000826	0.000234	ND		0.000882	0.000251	ND		0.00137	0.00039
Beta-BHC	319-84-6	14	ND		0.00206	0.000781	ND		0.00198	0.000751	ND		0.00212	0.000803	ND		0.0033	0.00125
Heptachlor	319-85-7	29	ND		0.00103	0.000462	ND		0.000991	0.000444	ND		0.00106	0.000475	ND		0.00165	0.000739
Aldrin	76-44-8	1.4	ND		0.00206	0.000725	ND		0.00198	0.000698	ND		0.00212	0.000746	ND		0.0033	0.00116
Heptachlor epoxide	309-00-2	NA	0.00376	J	0.00386	0.00116	ND		0.00371	0.00111	ND		0.00397	0.00119	ND		0.00618	0.00185
Endrin	1024-57-3	410	0.00728		0.000858	0.000352	ND		0.000826	0.000338	0.0097	P	0.000882	0.000362	0.044	P	0.00137	0.000563
Endrin aldehyde	72-20-8	NA	ND		0.00257	0.000901	ND		0.00248	0.000867	ND		0.00265	0.000926	ND		0.00412	0.00144
Endrin ketone	7421-93-4	NA	ND		0.00206	0.00053	ND		0.00198	0.00051	ND		0.00212	0.000545	ND		0.0033	0.000848
Dieldrin	53494-70-5	2.8	0.00817	PI	0.00129	0.000644	0.00299	PI	0.00124	0.000619	0.014		0.00132	0.000662	0.106	P	0.00206	0.00103
4,4'-DDE	60-57-1	120	ND		0.00206	0.000476	0.000988	J	0.00198	0.000458	ND		0.00212	0.00049	ND		0.0033	0.000762
4,4'-DDD	72-55-9	180	ND		0.00206	0.000734	ND		0.00198	0.000707	ND		0.00212	0.000755	ND		0.0033	0.00118
4,4'-DDT	72-54-8	94	0.0207	PI	0.00386	0.00166	0.0228		0.00371	0.00159	0.0117	PI	0.00397	0.0017	0.0539	PI	0.00618	0.00265
Endosulfan I	50-29-3	920	ND		0.00206	0.000486	ND		0.00198	0.000468	ND		0.00212	0.0005	ND		0.0033	0.000778
Endosulfan II	959-98-8	920	0.00288	PI	0.00206	0.000688	ND		0.00198	0.000662	ND		0.00212	0.000708	0.00458	PI	0.0033	0.0011
Endosulfan sulfate	33213-65-9	920	ND		0.000858	0.000408	ND		0.000826	0.000393	ND		0.000882	0.00042	ND		0.00137	0.000654
Methoxychlor	1031-07-8	NA	ND		0.00386	0.0012	ND		0.00371	0.00116	ND		0.00397	0.00124	ND		0.00618	0.00192
Toxaphene	72-43-5	NA	ND		0.0386	0.0108	ND		0.0371	0.0104	ND		0.0397	0.0111	ND		0.0618	0.0173
cis-Chlordane	8001-35-2	47	ND		0.00257	0.000717	ND		0.00248	0.00069	ND		0.00265	0.000738	ND		0.00412	0.00115
trans-Chlordane	5103-71-9	NA	ND		0.00257	0.00068	ND		0.00248	0.000654	ND		0.00265	0.000699	ND		0.00412	0.00109
Chlordane	5103-74-2	NA	ND		0.0167	0.00682	ND		0.0161	0.00656	ND		0.0172	0.00702	ND		0.0268	0.0109

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		LAB ID:		L1702357-01			L1702357-02				L1702357-03				L1702357-04			
		COLLECTION DATE:		1/24/2017			1/24/2017				1/24/2017				1/24/2017			
		SAMPLE MATRIX:		SOIL			SOIL				SOIL				SOIL			
		SCO IND																
ANALYTE	**Cas**	**(mg/kg)**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
POLYCHLORINATED BIPHENYLS BY GC																		
Aroclor 1016	57-74-9	25	ND		0.0432	0.00341	ND		0.0408	0.00323	ND		0.211	0.0167	ND		0.7	0.0553
Aroclor 1221	12674-11-2	25	ND		0.0432	0.00398	ND		0.0408	0.00377	ND		0.211	0.0195	ND		0.7	0.0645
Aroclor 1232	11104-28-2	25	ND		0.0432	0.00506	ND		0.0408	0.00479	ND		0.211	0.0248	ND		0.7	0.082
Aroclor 1242	11141-16-5	25	0.136		0.0432	0.00528	0.0489		0.0408	0.005	0.493		0.211	0.0258	ND		0.7	0.0857
Aroclor 1248	53469-21-9	25	ND		0.0432	0.00364	ND		0.0408	0.00345	ND		0.211	0.0178	ND		0.7	0.0591
Aroclor 1254	12672-29-6	25	0.401		0.0432	0.00355	0.103		0.0408	0.00336	0.67		0.211	0.0174	ND		0.7	0.0575
Aroclor 1260	11097-69-1	25	0.449		0.0432	0.00329	0.0974		0.0408	0.00311	0.388		0.211	0.0161	4.72		0.7	0.0533
Aroclor 1262	11096-82-5	25	ND		0.0432	0.00214	ND		0.0408	0.00203	ND		0.211	0.0105	ND		0.7	0.0347
Aroclor 1268	37324-23-5	25	ND		0.0432	0.00626	ND		0.0408	0.00592	ND		0.211	0.0306	ND		0.7	0.101
PCBs, Total	11100-14-4	Res. 1/Ind. 25	0.986		0.0432	0.00329	0.249		0.0408	0.00311	1.55		0.211	0.0161	**4.72**		0.7	0.0347

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		COLLECTION DATE:		1/24/2017				1/24/2017				1/24/2017				1/24/2017		
		SAMPLE MATRIX:		SOIL				SOIL				SOIL				SOIL		
		SCO IND																
ANALYTE	**Cas**	**(mg/kg)**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
TOTAL METALS																		
Aluminum, Total	1336-36-3	NA	7000		11	2.9	7200		9.8	2.6	8500		10	2.8	10000		16	4.4
Antimony, Total	7429-90-5	NA	6.4		5.4	0.41	6.4		4.9	0.37	34		5.2	0.4	1.5	J	8.2	0.63
Arsenic, Total	7440-36-0	16	9.6		1.1	0.22	13		0.98	0.2	9.5		1	0.22	8		1.6	0.34
Barium, Total	7440-38-2	10000	110		1.1	0.19	78		0.98	0.17	720		1	0.18	240		1.6	0.29
Beryllium, Total	7440-39-3	2700	0.3	J	0.54	0.04	0.32	J	0.49	0.03	0.36	J	0.52	0.03	0.25	J	0.82	0.05
Cadmium, Total	7440-41-7	60	2.2		1.1	0.1	0.81	J	0.98	0.1	5.7		1	0.1	2.9		1.6	0.16
Calcium, Total	7440-43-9	NA	11000		11	3.7	7900		9.8	3.4	42000		10	3.7	91000		16	5.8
Chromium, Total	7440-70-2	NA	55		1.1	0.1	34		0.98	0.09	180		1	0.1	44		1.6	0.16
Cobalt, Total	7440-47-3	NA	9.4		2.1	0.18	10		2	0.16	11		2.1	0.17	9.2		3.3	0.27
Copper, Total	7440-48-4	10000	540		1.1	0.28	340		0.98	0.25	8500		1	0.27	690		1.6	0.42
Iron, Total	7440-50-8	NA	34000		5.4	0.97	37000		4.9	0.88	89000		26	4.7	58000		8.2	1.5
Lead, Total	7439-89-6	3900	700		5.4	0.29	370		4.9	0.26	1800		5.2	0.28	610		8.2	0.44
Magnesium, Total	7439-92-1	NA	5300		11	1.6	3000		9.8	1.5	13000		10	1.6	18000		16	2.5
Manganese, Total	7439-95-4	10000	600		1.1	0.17	540		0.98	0.16	740		1	0.17	640		1.6	0.26
Mercury, Total	7439-96-5	5.7	1.3		0.09	0.02	0.87		0.09	0.02	0.79		0.08	0.02	0.7		0.14	0.03
Nickel, Total	7439-97-6	10000	53		2.7	0.26	37		2.4	0.24	230		2.6	0.25	54		4.1	0.4
Potassium, Total	7440-02-0	NA	640		270	15	570		240	14	890		260	15	1200		410	24
Selenium, Total	7440-09-7	6800	ND		2.1	0.28	ND		2	0.25	ND		2.1	0.27	ND		3.3	0.42
Silver, Total	7782-49-2	6800	0.41	J	1.1	0.3	ND		0.98	0.28	1.9		1	0.3	0.49	J	1.6	0.47
Sodium, Total	7440-22-4	NA	110	J	210	3.4	77	J	200	3.1	1600		210	3.3	210	J	330	5.2
Thallium, Total	7440-23-5	NA	ND		2.1	0.34	ND		2	0.31	ND		2.1	0.33	ND		3.3	0.52
Vanadium, Total	7440-28-0	NA	35		1.1	0.22	29		0.98	0.2	26		1	0.21	45		1.6	0.33
Zinc, Total	7440-62-2	10000	500		5.4	0.31	280		4.9	0.29	3800		26	1.5	470		8.2	0.48
GENERAL CHEMISTRY																		
Solids, Total	None	NA	74.7		0.1	NA	78.1		0.1	NA	75.4		0.1	NA	46.3		0.1	NA
Cyanide, Total	57-12-5	10000	0.65	J	1.2	0.21	0.34	J	1.2	0.21	0.54	J	1.2	0.2	1	J	2	0.33

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Former Freedman Sons Property
Green Island, NY

		SAMPLE ID:		SURFACE-4 DUP				SURFACE-5				SURFACE-6				SURFACE-7		
		LAB ID:		L1702357-05				L1702771-08				L1702771-09				L1702771-01		
		COLLECTION DATE:		1/24/2017				1/25/2017				1/25/2017				1/26/2017		
		SAMPLE MATRIX:		SOIL				SOIL				SOIL				SOIL		
		SCO IND																
ANALYTE	**Cas**	**(mg/kg)**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
VOLATILE ORGANICS BY GC/MS																		
Methylene chloride	75-09-2	1000	ND		0.024	0.0027	-		-	-	-		-	-	-		-	-
1,1-Dichloroethane	75-34-3	480	ND		0.0036	0.00021	-		-	-	-		-	-	-		-	-
Chloroform	67-66-3	700	ND		0.0036	0.00089	-		-	-	-		-	-	-		-	-
Carbon tetrachloride	56-23-5	44	ND		0.0024	0.00051	-		-	-	-		-	-	-		-	-
1,2-Dichloropropane	78-87-5	NA	ND		0.0084	0.00055	-		-	-	-		-	-	-		-	-
Dibromochloromethane	124-48-1	NA	ND		0.0024	0.00037	-		-	-	-		-	-	-		-	-
1,1,2-Trichloroethane	79-00-5	NA	ND		0.0036	0.00073	-		-	-	-		-	-	-		-	-
Tetrachloroethene	127-18-4	300	ND		0.0024	0.00034	-		-	-	-		-	-	-		-	-
Chlorobenzene	108-90-7	1000	ND		0.0024	0.00084	-		-	-	-		-	-	-		-	-
Trichlorofluoromethane	75-69-4	NA	ND		0.012	0.00094	-		-	-	-		-	-	-		-	-
1,2-Dichloroethane	107-06-2	60	ND		0.0024	0.00027	-		-	-	-		-	-	-		-	-
1,1,1-Trichloroethane	71-55-6	1000	ND		0.0024	0.00027	-		-	-	-		-	-	-		-	-
Bromodichloromethane	75-27-4	NA	ND		0.0024	0.00042	-		-	-	-		-	-	-		-	-
trans-1,3-Dichloropropene	10061-02-6	NA	ND		0.0024	0.00029	-		-	-	-		-	-	-		-	-
cis-1,3-Dichloropropene	10061-01-5	NA	ND		0.0024	0.00028	-		-	-	-		-	-	-		-	-
Bromoform	75-25-2	NA	ND		0.0097	0.00057	-		-	-	-		-	-	-		-	-
1,1,2,2-Tetrachloroethane	79-34-5	NA	ND		0.0024	0.00024	-		-	-	-		-	-	-		-	-
Benzene	71-43-2	89	ND		0.0024	0.00028	-		-	-	-		-	-	-		-	-
Toluene	108-88-3	1000	ND		0.0036	0.00047	-		-	-	-		-	-	-		-	-
Ethylbenzene	100-41-4	780	ND		0.0024	0.00031	-		-	-	-		-	-	-		-	-
Chloromethane	74-87-3	NA	ND		0.012	0.00071	-		-	-	-		-	-	-		-	-
Bromomethane	74-83-9	NA	ND		0.0048	0.00082	-		-	-	-		-	-	-		-	-
Vinyl chloride	75-01-4	27	ND		0.0048	0.00028	-		-	-	-		-	-	-		-	-
Chloroethane	75-00-3	NA	ND		0.0048	0.00076	-		-	-	-		-	-	-		-	-
1,1-Dichloroethene	75-35-4	1000	ND		0.0024	0.00063	-		-	-	-		-	-	-		-	-
trans-1,2-Dichloroethene	156-60-5	1000	ND		0.0036	0.00051	-		-	-	-		-	-	-		-	-
Trichloroethene	79-01-6	400	ND		0.0024	0.0003	-		-	-	-		-	-	-		-	-
1,2-Dichlorobenzene	95-50-1	1000	ND		0.012	0.00037	-		-	-	-		-	-	-		-	-
1,3-Dichlorobenzene	541-73-1	560	ND		0.012	0.00033	-		-	-	-		-	-	-		-	-
1,4-Dichlorobenzene	106-46-7	250	ND		0.012	0.00033	-		-	-	-		-	-	-		-	-
Methyl tert butyl ether	1634-04-4	1000	ND		0.0048	0.0002	-		-	-	-		-	-	-		-	-
p/m-Xylene	179601-23-1	NA	ND		0.0048	0.00085	-		-	-	-		-	-	-		-	-
o-Xylene	95-47-6	NA	ND		0.0048	0.00082	-		-	-	-		-	-	-		-	-
cis-1,2-Dichloroethene	156-59-2	1000	ND		0.0024	0.00034	-		-	-	-		-	-	-		-	-
Styrene	100-42-5	NA	ND		0.0048	0.00097	-		-	-	-		-	-	-		-	-
Dichlorodifluoromethane	75-71-8	NA	ND		0.024	0.00046	-		-	-	-		-	-	-		-	-
Acetone	67-64-1	1000	ND		0.024	0.0025	-		-	-	-		-	-	-		-	-
Carbon disulfide	75-15-0	NA	ND		0.024	0.0027	-		-	-	-		-	-	-		-	-
2-Butanone	78-93-3	1000	ND		0.024	0.00066	-		-	-	-		-	-	-		-	-
4-Methyl-2-pentanone	108-10-1	NA	ND		0.024	0.00059	-		-	-	-		-	-	-		-	-
2-Hexanone	591-78-6	NA	ND		0.024	0.0016	-		-	-	-		-	-	-		-	-
Bromochloromethane	74-97-5	NA	ND		0.012	0.00067	-		-	-	-		-	-	-		-	-
1,2-Dibromoethane	106-93-4	NA	ND		0.0097	0.00042	-		-	-	-		-	-	-		-	-
1,2-Dibromo-3-chloropropane	96-12-8	NA	ND		0.012	0.00096	-		-	-	-		-	-	-		-	-
Isopropylbenzene	98-82-8	NA	ND		0.0024	0.00025	-		-	-	-		-	-	-		-	-
1,2,3-Trichlorobenzene	87-61-6	NA	ND		0.012	0.00036	-		-	-	-		-	-	-		-	-
1,2,4-Trichlorobenzene	120-82-1	NA	ND		0.012	0.00044	-		-	-	-		-	-	-		-	-
Methyl Acetate	79-20-9	NA	ND		0.048	0.00065	-		-	-	-		-	-	-		-	-
Cyclohexane	110-82-7	NA	ND		0.048	0.00035	-		-	-	-		-	-	-		-	-
1,4-Dioxane	123-91-1	250	ND		0.24	0.035	-		-	-	-		-	-	-		-	-
Freon-113	76-13-1	NA	ND		0.048	0.00066	-		-	-	-		-	-	-		-	-
Methyl cyclohexane	108-87-2	NA	ND		0.0097	0.00037	-		-	-	-		-	-	-		-	-
Total VOCs			-	-	-	-	-		-	-	-		-	-	-		-	-
Total TIC Compounds		NA	-	-	-	-	-		-	-	-		-	-	-		-	-

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ANALYTE	**Cas**	**(mg/kg)**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
SEMIVOLATILE ORGANICS BY GC/MS																			
Acenaphthene	83-32-9	1000	ND		0.17	0.022	ND		0.37	0.048	ND		0.45	0.059	-		-	-
Hexachlorobenzene	118-74-1	12	ND		0.12	0.023	ND		0.28	0.051	ND		0.34	0.063	-		-	-
Bis(2-chloroethyl)ether	111-44-4	NA	ND		0.19	0.028	ND		0.41	0.062	ND		0.51	0.077	-		-	-
2-Chloronaphthalene	91-58-7	NA	ND		0.21	0.021	ND		0.46	0.046	ND		0.57	0.056	-		-	-
3,3'-Dichlorobenzidine	91-94-1	NA	ND		0.21	0.056	ND		0.46	0.12	ND		0.57	0.15	-		-	-
2,4-Dinitrotoluene	121-14-2	NA	ND		0.21	0.042	ND		0.46	0.092	ND		0.57	0.11	-		-	-
2,6-Dinitrotoluene	606-20-2	NA	ND		0.21	0.036	ND		0.46	0.079	ND		0.57	0.097	-		-	-
Fluoranthene	206-44-0	1000	3.6		0.12	0.024	0.26	J	0.28	0.053	1		0.34	0.065	-		-	-
4-Chlorophenyl phenyl ether	7005-72-3	NA	ND		0.21	0.022	ND		0.46	0.049	ND		0.57	0.061	-		-	-
4-Bromophenyl phenyl ether	101-55-3	NA	ND		0.21	0.032	ND		0.46	0.07	ND		0.57	0.086	-		-	-
Bis(2-chloroisopropyl)ether	108-60-1	NA	ND		0.25	0.036	ND		0.55	0.078	ND		0.68	0.097	-		-	-
Bis(2-chloroethoxy)methane	111-91-1	NA	ND		0.23	0.021	ND		0.5	0.046	ND		0.61	0.057	-		-	-
Hexachlorobutadiene	87-68-3	NA	ND		0.21	0.031	ND		0.46	0.067	ND		0.57	0.083	-		-	-
Hexachlorocyclopentadiene	77-47-4	NA	ND		0.6	0.19	ND		1.3	0.42	ND		1.6	0.51	-		-	-
Hexachloroethane	67-72-1	NA	ND		0.17	0.034	ND		0.37	0.074	ND		0.45	0.092	-		-	-
Isophorone	78-59-1	NA	ND		0.19	0.027	ND		0.41	0.06	ND		0.51	0.074	-		-	-
Naphthalene	91-20-3	1000	0.36		0.21	0.025	0.12	J	0.46	0.056	0.082	J	0.57	0.069	-		-	-
Nitrobenzene	98-95-3	140	ND		0.19	0.031	ND		0.41	0.068	ND		0.51	0.084	-		-	-
NDPA/DPA	86-30-6	NA	ND		0.17	0.024	ND		0.37	0.052	ND		0.45	0.064	-		-	-
n-Nitrosodi-n-propylamine	621-64-7	NA	ND		0.21	0.032	ND		0.46	0.071	ND		0.57	0.087	-		-	-
Bis(2-ethylhexyl)phthalate	117-81-7	NA	0.14	J	0.21	0.072	6.2		0.46	0.16	1.2		0.57	0.2	-		-	-
Butyl benzyl phthalate	85-68-7	NA	ND		0.21	0.053	ND		0.46	0.12	0.56	J	0.57	0.14	-		-	-
Di-n-butylphthalate	84-74-2	NA	ND		0.21	0.04	ND		0.46	0.087	0.14	J	0.57	0.11	-		-	-
Di-n-octylphthalate	117-84-0	NA	ND		0.21	0.071	ND		0.46	0.16	ND		0.57	0.19	-		-	-
Diethyl phthalate	84-66-2	NA	ND		0.21	0.019	ND		0.46	0.042	ND		0.57	0.052	-		-	-
Dimethyl phthalate	131-11-3	NA	ND		0.21	0.044	0.12	J	0.46	0.096	ND		0.57	0.12	-		-	-
Benzo(a)anthracene	56-55-3	11	3.4		0.12	0.024	0.13	J	0.28	0.052	0.36		0.34	0.064	-		-	-
Benzo(a)pyrene	50-32-8	1.1	**3.5**		**0.17**	**0.051**	0.25	J	0.37	0.11	0.39	J	0.45	0.14	-		-	-
Benzo(b)fluoranthene	205-99-2	11	5.2		0.12	0.035	0.52		0.28	0.077	0.89		0.34	0.095	-		-	-
Benzo(k)fluoranthene	207-08-9	110	1.7		0.12	0.033	0.12	J	0.28	0.073	0.29	J	0.34	0.091	-		-	-
Chrysene	218-01-9	110	3.8		0.12	0.022	0.26	J	0.28	0.048	0.51		0.34	0.059	-		-	-
Acenaphthylene	208-96-8	1000	2.7		0.17	0.032	0.08	J	0.37	0.071	ND		0.45	0.087	-		-	-
Anthracene	120-12-7	1000	1.4		0.12	0.041	ND		0.28	0.09	ND		0.34	0.11	-		-	-
Benzo(ghi)perylene	191-24-2	1000	2		0.17	0.025	0.21	J	0.37	0.054	0.34	J	0.45	0.067	-		-	-
Fluorene	86-73-7	1000	0.28		0.21	0.02	ND		0.46	0.045	ND		0.57	0.055	-		-	-
Phenanthrene	85-01-8	1000	1.1		0.12	0.025	0.1	J	0.28	0.056	0.37		0.34	0.069	-		-	-
Dibenzo(a,h)anthracene	53-70-3	1.1	0.66		0.12	0.024	ND		0.28	0.053	ND		0.34	0.065	-		-	-
Indeno(1,2,3-cd)pyrene	193-39-5	11	2.3		0.17	0.029	0.19	J	0.37	0.064	0.36	J	0.45	0.079	-		-	-
Pyrene	129-00-0	1000	4.6		0.12	0.021	0.75		0.28	0.046	0.98		0.34	0.056	-		-	-
Biphenyl	92-52-4	NA	0.048	J	0.48	0.048	ND		1	0.11	ND		1.3	0.13	-		-	-
4-Chloroaniline	106-47-8	NA	ND		0.21	0.038	ND		0.46	0.084	ND		0.57	0.1	-		-	-
2-Nitroaniline	88-74-4	NA	ND		0.21	0.04	ND		0.46	0.088	ND		0.57	0.11	-		-	-
3-Nitroaniline	99-09-2	NA	ND		0.21	0.039	ND		0.46	0.087	ND		0.57	0.11	-		-	-
4-Nitroaniline	100-01-6	NA	ND		0.21	0.087	ND		0.46	0.19	ND		0.57	0.23	-		-	-
Dibenzofuran	132-64-9	1000	0.16	J	0.21	0.02	ND		0.46	0.043	ND		0.57	0.054	-		-	-
2-Methylnaphthalene	91-57-6	NA	0.3		0.25	0.025	0.17	J	0.55	0.055	0.1	J	0.68	0.068	-		-	-
1,2,4,5-Tetrachlorobenzene	95-94-3	NA	ND		0.21	0.022	ND		0.46	0.048	ND		0.57	0.059	-		-	-
Acetophenone	98-86-2	NA	0.051	J	0.21	0.026	0.11	J	0.46	0.057	0.1	J	0.57	0.07	-		-	-
2,4,6-Trichlorophenol	88-06-2	NA	ND		0.12	0.04	ND		0.28	0.087	ND		0.34	0.11	-		-	-
p-Chloro-m-cresol	59-50-7	NA	ND		0.21	0.031	ND		0.46	0.068	ND		0.57	0.084	-		-	-
2-Chlorophenol	95-57-8	NA	ND		0.21	0.025	ND		0.46	0.054	ND		0.57	0.067	-		-	-

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		COLLECTION DATE:		1/24/2017				1/25/2017				1/25/2017				1/26/2017		
		SAMPLE MATRIX:		SOIL				SOIL				SOIL				SOIL		
		SCO IND																
ANALYTE	Cas	(mg/kg)	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
2,4-Dichlorophenol	120-83-2	NA	ND		0.19	0.034	ND		0.41	0.074	ND		0.51	0.091	-		-	-
2,4-Dimethylphenol	105-67-9	NA	ND		0.21	0.069	ND		0.46	0.15	ND		0.57	0.19	-		-	-
2-Nitrophenol	88-75-5	NA	ND		0.45	0.079	ND		0.99	0.17	ND		1.2	0.21	-		-	-
4-Nitrophenol	100-02-7	NA	ND		0.29	0.085	ND		0.64	0.19	ND		0.79	0.23	-		-	-
2,4-Dinitrophenol	51-28-5	NA	ND		1	0.098	ND		2.2	0.21	ND		2.7	0.26	-		-	-
4,6-Dinitro-o-cresol	534-52-1	NA	ND		0.54	0.1	ND		1.2	0.22	ND		1.5	0.27	-		-	-
Pentachlorophenol	87-86-5	55	ND		0.17	0.046	ND		0.37	0.1	ND		0.45	0.12	-		-	-
Phenol	108-95-2	1000	ND		0.21	0.032	ND		0.46	0.069	ND		0.57	0.086	-		-	-
2-Methylphenol	95-48-7	1000	ND		0.21	0.032	ND		0.46	0.071	ND		0.57	0.088	-		-	-
3-Methylphenol/4-Methylphenol	108-39-4	1000	0.042	J	0.3	0.033	ND		0.66	0.072	ND		0.82	0.089	-		-	-
2,4,5-Trichlorophenol	95-95-4	NA	ND		0.21	0.04	ND		0.46	0.088	ND		0.57	0.11	-		-	-
Carbazole	86-74-8	NA	0.16	J	0.21	0.02	ND		0.46	0.045	0.095	J	0.57	0.055	-		-	-
Atrazine	1912-24-9	NA	ND		0.17	0.073	ND		0.37	0.16	ND		0.45	0.2	-		-	-
Benzaldehyde	100-52-7	NA	ND		0.28	0.056	ND		0.61	0.12	0.27	J	0.75	0.15	-		-	-
Caprolactam	105-60-2	NA	ND		0.21	0.064	ND		0.46	0.14	ND		0.57	0.17	-		-	-
2,3,4,6-Tetrachlorophenol	58-90-2	NA	ND		0.21	0.042	ND		0.46	0.093	ND		0.57	0.11	-		-	-
Total SVOCs TICS			10.796	-	-	-	6.587	-	-	-	9.683	-	-	-	-	-	-	-
CHLORINATED HERBICIDES BY GC																		
MCPP		NA	ND		7.92	2.49	ND		4.62	1.46	ND		5.72	1.8	-		-	-
MCPA	93-65-2	NA	ND		7.92	2.24	ND		4.62	1.31	ND		5.72	1.62	-		-	-
Dalapon	94-74-6	NA	ND		0.0792	0.0259	ND		0.0462	0.0151	ND		0.0572	0.0187	-		-	-
Dicamba	75-99-0	NA	ND		0.0792	0.0133	ND		0.0462	0.00776	ND		0.0572	0.00961	-		-	-
Dichloroprop	1918-00-9	NA	ND		0.0792	0.0227	ND		0.0462	0.0133	ND		0.0572	0.0164	-		-	-
2,4-D	120-36-5	NA	ND		0.396	0.0249	ND		0.231	0.0146	ND		0.286	0.018	-		-	-
2,4-DB	94-75-7	NA	ND		0.396	0.0203	ND		0.231	0.0119	ND		0.286	0.0147	-		-	-
2,4,5-T	94-82-6	NA	ND		0.396	0.0123	ND		0.231	0.00716	ND		0.286	0.00886	-		-	-
2,4,5-TP (Silvex)	93-76-5	1000	ND		0.396	0.0105	ND		0.231	0.00615	ND		0.286	0.0076	-		-	-
Dinoseb	93-72-1	NA	ND		0.0792	0.00974	ND		0.0462	0.00568	ND		0.0572	0.00703	-		-	-
ORGANOCHLORINE PESTICIDES BY GC	88-85-7																	
Delta-BHC		1000	ND		0.00376	0.000737	ND		0.00216	0.000422	ND		0.00275	0.000539	-		-	-
Lindane	319-86-8	23	ND		0.00157	0.000701	ND		0.000898	0.000401	ND		0.00115	0.000512	-		-	-
Alpha-BHC	58-89-9	6.8	ND		0.00157	0.000445	ND		0.000898	0.000255	ND		0.00115	0.000326	-		-	-
Beta-BHC	319-84-6	14	ND		0.00376	0.00143	ND		0.00216	0.000817	ND		0.00275	0.00104	-		-	-
Heptachlor	319-85-7	29	ND		0.00188	0.000844	ND		0.00108	0.000483	ND		0.00138	0.000617	-		-	-
Aldrin	76-44-8	1.4	ND		0.00376	0.00132	ND		0.00216	0.000759	ND		0.00275	0.000969	-		-	-
Heptachlor epoxide	309-00-2	NA	ND		0.00706	0.00212	ND		0.00404	0.00121	ND		0.00516	0.00155	-		-	-
Endrin	1024-57-3	410	0.0646		0.00157	0.000643	ND		0.000898	0.000368	0.0345		0.00115	0.00047	-		-	-
Endrin aldehyde	72-20-8	NA	ND		0.0047	0.00165	ND		0.00269	0.000943	ND		0.00344	0.0012	-		-	-
Endrin ketone	7421-93-4	NA	ND		0.00376	0.000969	ND		0.00216	0.000555	ND		0.00275	0.000708	-		-	-
Dieldrin	53494-70-5	2.8	0.193	P	0.00235	0.00118	ND		0.00135	0.000674	ND		0.00172	0.00086	-		-	-
4,4'-DDE	60-57-1	120	ND		0.00376	0.00087	ND		0.00216	0.000498	ND		0.00275	0.000636	-		-	-
4,4'-DDD	72-55-9	180	ND		0.00376	0.00134	ND		0.00216	0.000769	ND		0.00275	0.000981	-		-	-
4,4'-DDT	72-54-8	94	0.0907	PI	0.00706	0.00303	ND		0.00404	0.00173	ND		0.00516	0.00221	-		-	-
Endosulfan I	50-29-3	920	ND		0.00376	0.000889	ND		0.00216	0.000509	ND		0.00275	0.00065	-		-	-
Endosulfan II	959-98-8	920	0.00565	PI	0.00376	0.00126	ND		0.00216	0.00072	ND		0.00275	0.000919	-		-	-
Endosulfan sulfate	33213-65-9	920	ND		0.00157	0.000746	ND		0.000898	0.000427	ND		0.00115	0.000546	-		-	-
Methoxychlor	1031-07-8	NA	ND		0.00706	0.0022	ND		0.00404	0.00126	ND		0.00516	0.0016	-		-	-
Toxaphene	72-43-5	NA	ND		0.0706	0.0198	ND		0.0404	0.0113	ND		0.0516	0.0144	-		-	-
cis-Chlordane	8001-35-2	47	ND		0.0047	0.00131	ND		0.00269	0.000751	ND		0.00344	0.000958	-		-	-
trans-Chlordane	5103-71-9	NA	ND		0.0047	0.00124	ND		0.00269	0.000711	ND		0.00344	0.000908	-		-	-
Chlordane	5103-74-2	NA	ND		0.0306	0.0125	ND		0.0175	0.00714	ND		0.0224	0.00911	-		-	-

Notes:
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Shaded cells indicate result is greater than SCO.
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TABLE 1 SURFACE SOIL DATA
Former Freedman Sons Property
Green Island, NY

		SAMPLE ID:		SURFACE-4 DUP				SURFACE-5				SURFACE-6				SURFACE-7		
		LAB ID:		L1702357-05				L1702771-08				L1702771-09				L1702771-01		
		COLLECTION DATE:		1/24/2017				1/25/2017				1/25/2017				1/26/2017		
		SAMPLE MATRIX:		SOIL				SOIL				SOIL				SOIL		
		SCO IND																
ANALYTE	**Cas**	**(mg/kg)**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
POLYCHLORINATED BIPHENYLS BY GC																		
Aroclor 1016	57-74-9	25	ND		0.791	0.0625	ND		0.224	0.0177	ND		0.284	0.0224	ND		0.054	0.00427
Aroclor 1221	12674-11-2	25	ND		0.791	0.073	ND		0.224	0.0206	ND		0.284	0.0262	ND		0.054	0.00498
Aroclor 1232	11104-28-2	25	ND		0.791	0.0928	ND		0.224	0.0262	ND		0.284	0.0333	ND		0.054	0.00634
Aroclor 1242	11141-16-5	25	ND		0.791	0.0969	1.87		0.224	0.0274	0.62		0.284	0.0348	0.34		0.054	0.00662
Aroclor 1248	53469-21-9	25	ND		0.791	0.0668	ND		0.224	0.0189	ND		0.284	0.024	ND		0.054	0.00456
Aroclor 1254	12672-29-6	25	ND		0.791	0.065	1.25		0.224	0.0184	1.25		0.284	0.0234	0.625		0.054	0.00444
Aroclor 1260	11097-69-1	25	6.81		0.791	0.0603	0.607		0.224	0.0171	1.48		0.284	0.0216	0.474		0.054	0.00412
Aroclor 1262	11096-82-5	25	ND		0.791	0.0392	ND		0.224	0.0111	ND		0.284	0.0141	ND		0.054	0.00268
Aroclor 1268	37324-23-5	25	ND		0.791	0.115	ND		0.224	0.0325	ND		0.284	0.0412	ND		0.054	0.00784
PCBs, Total	11100-14-4	Res. 1/Ind. 25	**6.81**		0.791	0.0392	3.73		0.224	0.0171	3.35		0.284	0.0216	1.44		0.054	0.00412

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Green Island, NY

		SAMPLE ID:		SURFACE-4 DUP				SURFACE-5				SURFACE-6				SURFACE-7		
		LAB ID:		L1702357-05				L1702771-08				L1702771-09				L1702771-01		
		COLLECTION DATE:		1/24/2017				1/25/2017				1/25/2017				1/26/2017		
		SAMPLE MATRIX:		SOIL				SOIL				SOIL				SOIL		
		SCO IND																
ANALYTE	**Cas**	**(mg/kg)**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
TOTAL METALS																		
Aluminum, Total	1336-36-3	NA	12000		19	5	9700		10	2.8	11000		14	3.7	-		-	-
Antimony, Total	7429-90-5	NA	1.8	J	9.3	0.71	13		5.3	0.4	26		6.8	0.52	-		-	-
Arsenic, Total	7440-36-0	16	9.7		1.9	0.39	8.3		1	0.22	11		1.4	0.28	-		-	-
Barium, Total	7440-38-2	10000	260		1.9	0.32	230		1	0.18	180		1.4	0.24	-		-	-
Beryllium, Total	7440-39-3	2700	0.26	J	0.93	0.06	0.26	J	0.53	0.04	0.4	J	0.68	0.05	-		-	-
Cadmium, Total	7440-41-7	60	3.1		1.9	0.18	6.8		1	0.1	8.6		1.4	0.13	-		-	-
Calcium, Total	7440-43-9	NA	110000		19	6.5	37000		10	3.7	14000		14	4.8	-		-	-
Chromium, Total	7440-70-2	NA	49		1.9	0.18	71		1	0.1	2600		1.4	0.13	-		-	-
Cobalt, Total	7440-47-3	NA	11		3.7	0.31	12		2.1	0.17	31		2.7	0.23	-		-	-
Copper, Total	7440-48-4	10000	710		1.9	0.48	1900		1	0.27	1800		1.4	0.35	-		-	-
Iron, Total	7440-50-8	NA	72000		9.3	1.7	38000		5.3	0.95	63000		6.8	1.2	-		-	-
Lead, Total	7439-89-6	3900	680		9.3	0.5	1100		5.3	0.28	1200		6.8	0.36	-		-	-
Magnesium, Total	7439-92-1	NA	24000		19	2.9	6700		10	1.6	5500		14	2.1	-		-	-
Manganese, Total	7439-95-4	10000	680		1.9	0.3	480		1	0.17	820		1.4	0.22	-		-	-
Mercury, Total	7439-96-5	5.7	0.81		0.16	0.03	2.9		0.09	0.02	2		0.11	0.02	-		-	-
Nickel, Total	7439-97-6	10000	63		4.7	0.45	100		2.6	0.25	1400		3.4	0.33	-		-	-
Potassium, Total	7440-02-0	NA	1100		470	27	740		260	15	1000		340	20	-		-	-
Selenium, Total	7440-09-7	6800	ND		3.7	0.48	0.37	J	2.1	0.27	1.9	J	2.7	0.35	-		-	-
Silver, Total	7782-49-2	6800	ND		1.9	0.53	2.6		1	0.3	1.5		1.4	0.39	-		-	-
Sodium, Total	7440-22-4	NA	210	J	370	5.9	220		210	3.3	280		270	4.3	-		-	-
Thallium, Total	7440-23-5	NA	ND		3.7	0.59	ND		2.1	0.33	ND		2.7	0.43	-		-	-
Vanadium, Total	7440-28-0	NA	49		1.9	0.38	35		1	0.21	27		1.4	0.28	-		-	-
Zinc, Total	7440-62-2	10000	510		9.3	0.55	2100		5.3	0.31	3100		6.8	0.4	-		-	-
GENERAL CHEMISTRY																		
Solids, Total	None	NA	41.4		0.1	NA	71.2		0.1	NA	58		0.1	NA	59.6		0.1	NA
Cyanide, Total	57-12-5	10000	2	J	2.4	0.39	-	-	-	-	-	-	-	-	-	-	-	-

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TABLE 1 SURFACE SOIL DATA
Former Freedman Sons Property
Green Island, NY

		SAMPLE ID:		SURFACE-8				SURFACE-9				SURFACE-10				SURFACE-11		
		LAB ID:		L1702771-02				L1702771-03				L1702771-04				L1702771-05		
		COLLECTION DATE:		1/26/2017				1/26/2017				1/26/2017				1/26/2017		
		SAMPLE MATRIX:		SOIL				SOIL				SOIL				SOIL		
		SCO IND																
ANALYTE	Cas	(mg/kg)	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
VOLATILE ORGANICS BY GC/MS																		
Methylene chloride	75-09-2	1000	-		-	-	-		-	-	-		-	-	-		-	-
1,1-Dichloroethane	75-34-3	480	-		-	-	-		-	-	-		-	-	-		-	-
Chloroform	67-66-3	700	-		-	-	-		-	-	-		-	-	-		-	-
Carbon tetrachloride	56-23-5	44	-		-	-	-		-	-	-		-	-	-		-	-
1,2-Dichloropropane	78-87-5	NA	-		-	-	-		-	-	-		-	-	-		-	-
Dibromochloromethane	124-48-1	NA	-		-	-	-		-	-	-		-	-	-		-	-
1,1,2-Trichloroethane	79-00-5	NA	-		-	-	-		-	-	-		-	-	-		-	-
Tetrachloroethene	127-18-4	300	-		-	-	-		-	-	-		-	-	-		-	-
Chlorobenzene	108-90-7	1000	-		-	-	-		-	-	-		-	-	-		-	-
Trichlorofluoromethane	75-69-4	NA	-		-	-	-		-	-	-		-	-	-		-	-
1,2-Dichloroethane	107-06-2	60	-		-	-	-		-	-	-		-	-	-		-	-
1,1,1-Trichloroethane	71-55-6	1000	-		-	-	-		-	-	-		-	-	-		-	-
Bromodichloromethane	75-27-4	NA	-		-	-	-		-	-	-		-	-	-		-	-
trans-1,3-Dichloropropene	10061-02-6	NA	-		-	-	-		-	-	-		-	-	-		-	-
cis-1,3-Dichloropropene	10061-01-5	NA	-		-	-	-		-	-	-		-	-	-		-	-
Bromoform	75-25-2	NA	-		-	-	-		-	-	-		-	-	-		-	-
1,1,2,2-Tetrachloroethane	79-34-5	NA	-		-	-	-		-	-	-		-	-	-		-	-
Benzene	71-43-2	89	-		-	-	-		-	-	-		-	-	-		-	-
Toluene	108-88-3	1000	-		-	-	-		-	-	-		-	-	-		-	-
Ethylbenzene	100-41-4	780	-		-	-	-		-	-	-		-	-	-		-	-
Chloromethane	74-87-3	NA	-		-	-	-		-	-	-		-	-	-		-	-
Bromomethane	74-83-9	NA	-		-	-	-		-	-	-		-	-	-		-	-
Vinyl chloride	75-01-4	27	-		-	-	-		-	-	-		-	-	-		-	-
Chloroethane	75-00-3	NA	-		-	-	-		-	-	-		-	-	-		-	-
1,1-Dichloroethene	75-35-4	1000	-		-	-	-		-	-	-		-	-	-		-	-
trans-1,2-Dichloroethene	156-60-5	1000	-		-	-	-		-	-	-		-	-	-		-	-
Trichloroethene	79-01-6	400	-		-	-	-		-	-	-		-	-	-		-	-
1,2-Dichlorobenzene	95-50-1	1000	-		-	-	-		-	-	-		-	-	-		-	-
1,3-Dichlorobenzene	541-73-1	560	-		-	-	-		-	-	-		-	-	-		-	-
1,4-Dichlorobenzene	106-46-7	250	-		-	-	-		-	-	-		-	-	-		-	-
Methyl tert butyl ether	1634-04-4	1000	-		-	-	-		-	-	-		-	-	-		-	-
p/m-Xylene	179601-23-1	NA	-		-	-	-		-	-	-		-	-	-		-	-
o-Xylene	95-47-6	NA	-		-	-	-		-	-	-		-	-	-		-	-
cis-1,2-Dichloroethene	156-59-2	1000	-		-	-	-		-	-	-		-	-	-		-	-
Styrene	100-42-5	NA	-		-	-	-		-	-	-		-	-	-		-	-
Dichlorodifluoromethane	75-71-8	NA	-		-	-	-		-	-	-		-	-	-		-	-
Acetone	67-64-1	1000	-		-	-	-		-	-	-		-	-	-		-	-
Carbon disulfide	75-15-0	NA	-		-	-	-		-	-	-		-	-	-		-	-
2-Butanone	78-93-3	1000	-		-	-	-		-	-	-		-	-	-		-	-
4-Methyl-2-pentanone	108-10-1	NA	-		-	-	-		-	-	-		-	-	-		-	-
2-Hexanone	591-78-6	NA	-		-	-	-		-	-	-		-	-	-		-	-
Bromochloromethane	74-97-5	NA	-		-	-	-		-	-	-		-	-	-		-	-
1,2-Dibromoethane	106-93-4	NA	-		-	-	-		-	-	-		-	-	-		-	-
1,2-Dibromo-3-chloropropane	96-12-8	NA	-		-	-	-		-	-	-		-	-	-		-	-
Isopropylbenzene	98-82-8	NA	-		-	-	-		-	-	-		-	-	-		-	-
1,2,3-Trichlorobenzene	87-61-6	NA	-		-	-	-		-	-	-		-	-	-		-	-
1,2,4-Trichlorobenzene	120-82-1	NA	-		-	-	-		-	-	-		-	-	-		-	-
Methyl Acetate	79-20-9	NA	-		-	-	-		-	-	-		-	-	-		-	-
Cyclohexane	110-82-7	NA	-		-	-	-		-	-	-		-	-	-		-	-
1,4-Dioxane	123-91-1	250	-		-	-	-		-	-	-		-	-	-		-	-
Freon-113	76-13-1	NA	-		-	-	-		-	-	-		-	-	-		-	-
Methyl cyclohexane	108-87-2	NA	-		-	-	-		-	-	-		-	-	-		-	-
Total VOCs			-		-	-	-		-	-	-		-	-	-		-	-
Total TIC Compounds		NA	-		-	-	-		-	-	-		-	-	-		-	-

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		SAMPLE ID:		SURFACE-8				SURFACE-9				SURFACE-10				SURFACE-11		
		LAB ID:		L1702771-02				L1702771-03				L1702771-04				L1702771-05		
		COLLECTION DATE:		1/26/2017				1/26/2017				1/26/2017				1/26/2017		
		SAMPLE MATRIX:		SOIL				SOIL				SOIL				SOIL		
		SCO IND																
ANALYTE	**Cas**	**(mg/kg)**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
SEMIVOLATILE ORGANICS BY GC/MS																		
Acenaphthene	83-32-9	1000	-		-	-	-		-	-	-		-	-	-		-	-
Hexachlorobenzene	118-74-1	12	-		-	-	-		-	-	-		-	-	-		-	-
Bis(2-chloroethyl)ether	111-44-4	NA	-		-	-	-		-	-	-		-	-	-		-	-
2-Chloronaphthalene	91-58-7	NA	-		-	-	-		-	-	-		-	-	-		-	-
3,3'-Dichlorobenzidine	91-94-1	NA	-		-	-	-		-	-	-		-	-	-		-	-
2,4-Dinitrotoluene	121-14-2	NA	-		-	-	-		-	-	-		-	-	-		-	-
2,6-Dinitrotoluene	606-20-2	NA	-		-	-	-		-	-	-		-	-	-		-	-
Fluoranthene	206-44-0	1000	-		-	-	-		-	-	-		-	-	-		-	-
4-Chlorophenyl phenyl ether	7005-72-3	NA	-		-	-	-		-	-	-		-	-	-		-	-
4-Bromophenyl phenyl ether	101-55-3	NA	-		-	-	-		-	-	-		-	-	-		-	-
Bis(2-chloroisopropyl)ether	108-60-1	NA	-		-	-	-		-	-	-		-	-	-		-	-
Bis(2-chloroethoxy)methane	111-91-1	NA	-		-	-	-		-	-	-		-	-	-		-	-
Hexachlorobutadiene	87-68-3	NA	-		-	-	-		-	-	-		-	-	-		-	-
Hexachlorocyclopentadiene	77-47-4	NA	-		-	-	-		-	-	-		-	-	-		-	-
Hexachloroethane	67-72-1	NA	-		-	-	-		-	-	-		-	-	-		-	-
Isophorone	78-59-1	NA	-		-	-	-		-	-	-		-	-	-		-	-
Naphthalene	91-20-3	1000	-		-	-	-		-	-	-		-	-	-		-	-
Nitrobenzene	98-95-3	140	-		-	-	-		-	-	-		-	-	-		-	-
NDPA/DPA	86-30-6	NA	-		-	-	-		-	-	-		-	-	-		-	-
n-Nitrosodi-n-propylamine	621-64-7	NA	-		-	-	-		-	-	-		-	-	-		-	-
Bis(2-ethylhexyl)phthalate	117-81-7	NA	-		-	-	-		-	-	-		-	-	-		-	-
Butyl benzyl phthalate	85-68-7	NA	-		-	-	-		-	-	-		-	-	-		-	-
Di-n-butylphthalate	84-74-2	NA	-		-	-	-		-	-	-		-	-	-		-	-
Di-n-octylphthalate	117-84-0	NA	-		-	-	-		-	-	-		-	-	-		-	-
Diethyl phthalate	84-66-2	NA	-		-	-	-		-	-	-		-	-	-		-	-
Dimethyl phthalate	131-11-3	NA	-		-	-	-		-	-	-		-	-	-		-	-
Benzo(a)anthracene	56-55-3	11	-		-	-	-		-	-	-		-	-	-		-	-
Benzo(a)pyrene	50-32-8	1.1	-		-	-	-		-	-	-		-	-	-		-	-
Benzo(b)fluoranthene	205-99-2	11	-		-	-	-		-	-	-		-	-	-		-	-
Benzo(k)fluoranthene	207-08-9	110	-		-	-	-		-	-	-		-	-	-		-	-
Chrysene	218-01-9	110	-		-	-	-		-	-	-		-	-	-		-	-
Acenaphthylene	208-96-8	1000	-		-	-	-		-	-	-		-	-	-		-	-
Anthracene	120-12-7	1000	-		-	-	-		-	-	-		-	-	-		-	-
Benzo(ghi)perylene	191-24-2	1000	-		-	-	-		-	-	-		-	-	-		-	-
Fluorene	86-73-7	1000	-		-	-	-		-	-	-		-	-	-		-	-
Phenanthrene	85-01-8	1000	-		-	-	-		-	-	-		-	-	-		-	-
Dibenzo(a,h)anthracene	53-70-3	1.1	-		-	-	-		-	-	-		-	-	-		-	-
Indeno(1,2,3-cd)pyrene	193-39-5	11	-		-	-	-		-	-	-		-	-	-		-	-
Pyrene	129-00-0	1000	-		-	-	-		-	-	-		-	-	-		-	-
Biphenyl	92-52-4	NA	-		-	-	-		-	-	-		-	-	-		-	-
4-Chloroaniline	106-47-8	NA	-		-	-	-		-	-	-		-	-	-		-	-
2-Nitroaniline	88-74-4	NA	-		-	-	-		-	-	-		-	-	-		-	-
3-Nitroaniline	99-09-2	NA	-		-	-	-		-	-	-		-	-	-		-	-
4-Nitroaniline	100-01-6	NA	-		-	-	-		-	-	-		-	-	-		-	-
Dibenzofuran	132-64-9	1000	-		-	-	-		-	-	-		-	-	-		-	-
2-Methylnaphthalene	91-57-6	NA	-		-	-	-		-	-	-		-	-	-		-	-
1,2,4,5-Tetrachlorobenzene	95-94-3	NA	-		-	-	-		-	-	-		-	-	-		-	-
Acetophenone	98-86-2	NA	-		-	-	-		-	-	-		-	-	-		-	-
2,4,6-Trichlorophenol	88-06-2	NA	-		-	-	-		-	-	-		-	-	-		-	-
p-Chloro-m-cresol	59-50-7	NA	-		-	-	-		-	-	-		-	-	-		-	-
2-Chlorophenol	95-57-8	NA	-		-	-	-		-	-	-		-	-	-		-	-

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Former Freedman Sons Property
Green Island, NY

		SAMPLE ID:			SURFACE-8				SURFACE-9				SURFACE-10				SURFACE-11	
		LAB ID:			L1702771-02				L1702771-03				L1702771-04				L1702771-05	
		COLLECTION DATE:			1/26/2017				1/26/2017				1/26/2017				1/26/2017	
		SAMPLE MATRIX:			SOIL				SOIL				SOIL				SOIL	
		SCO IND																
ANALYTE	**Cas**	**(mg/kg)**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
2,4-Dichlorophenol	120-83-2	NA	-		-	-	-		-	-	-		-	-	-		-	-
2,4-Dimethylphenol	105-67-9	NA	-		-	-	-		-	-	-		-	-	-		-	-
2-Nitrophenol	88-75-5	NA	-		-	-	-		-	-	-		-	-	-		-	-
4-Nitrophenol	100-02-7	NA	-		-	-	-		-	-	-		-	-	-		-	-
2,4-Dinitrophenol	51-28-5	NA	-		-	-	-		-	-	-		-	-	-		-	-
4,6-Dinitro-o-cresol	534-52-1	NA	-		-	-	-		-	-	-		-	-	-		-	-
Pentachlorophenol	87-86-5	55	-		-	-	-		-	-	-		-	-	-		-	-
Phenol	108-95-2	1000	-		-	-	-		-	-	-		-	-	-		-	-
2-Methylphenol	95-48-7	1000	-		-	-	-		-	-	-		-	-	-		-	-
3-Methylphenol/4-Methylphenol	108-39-4	1000	-		-	-	-		-	-	-		-	-	-		-	-
2,4,5-Trichlorophenol	95-95-4	NA	-		-	-	-		-	-	-		-	-	-		-	-
Carbazole	86-74-8	NA	-		-	-	-		-	-	-		-	-	-		-	-
Atrazine	1912-24-9	NA	-		-	-	-		-	-	-		-	-	-		-	-
Benzaldehyde	100-52-7	NA	-		-	-	-		-	-	-		-	-	-		-	-
Caprolactam	105-60-2	NA	-		-	-	-		-	-	-		-	-	-		-	-
2,3,4,6-Tetrachlorophenol	58-90-2	NA	-		-	-	-		-	-	-		-	-	-		-	-
Total SVOCs TICS			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHLORINATED HERBICIDES BY GC																		
MCPP		NA	-		-	-	-		-	-	-		-	-	-		-	-
MCPA	93-65-2	NA	-		-	-	-		-	-	-		-	-	-		-	-
Dalapon	94-74-6	NA	-		-	-	-		-	-	-		-	-	-		-	-
Dicamba	75-99-0	NA	-		-	-	-		-	-	-		-	-	-		-	-
Dichloroprop	1918-00-9	NA	-		-	-	-		-	-	-		-	-	-		-	-
2,4-D	120-36-5	NA	-		-	-	-		-	-	-		-	-	-		-	-
2,4-DB	94-75-7	NA	-		-	-	-		-	-	-		-	-	-		-	-
2,4,5-T	94-82-6	NA	-		-	-	-		-	-	-		-	-	-		-	-
2,4,5-TP (Silvex)	93-76-5	1000	-		-	-	-		-	-	-		-	-	-		-	-
Dinoseb	93-72-1	NA	-		-	-	-		-	-	-		-	-	-		-	-
ORGANOCHLORINE PESTICIDES BY GC	88-85-7																	
Delta-BHC		1000	-		-	-	-		-	-	-		-	-	-		-	-
Lindane	319-86-8	23	-		-	-	-		-	-	-		-	-	-		-	-
Alpha-BHC	58-89-9	6.8	-		-	-	-		-	-	-		-	-	-		-	-
Beta-BHC	319-84-6	14	-		-	-	-		-	-	-		-	-	-		-	-
Heptachlor	319-85-7	29	-		-	-	-		-	-	-		-	-	-		-	-
Aldrin	76-44-8	1.4	-		-	-	-		-	-	-		-	-	-		-	-
Heptachlor epoxide	309-00-2	NA	-		-	-	-		-	-	-		-	-	-		-	-
Endrin	1024-57-3	410	-		-	-	-		-	-	-		-	-	-		-	-
Endrin aldehyde	72-20-8	NA	-		-	-	-		-	-	-		-	-	-		-	-
Endrin ketone	7421-93-4	NA	-		-	-	-		-	-	-		-	-	-		-	-
Dieldrin	53494-70-5	2.8	-		-	-	-		-	-	-		-	-	-		-	-
4,4'-DDE	60-57-1	120	-		-	-	-		-	-	-		-	-	-		-	-
4,4'-DDD	72-55-9	180	-		-	-	-		-	-	-		-	-	-		-	-
4,4'-DDT	72-54-8	94	-		-	-	-		-	-	-		-	-	-		-	-
Endosulfan I	50-29-3	920	-		-	-	-		-	-	-		-	-	-		-	-
Endosulfan II	959-98-8	920	-		-	-	-		-	-	-		-	-	-		-	-
Endosulfan sulfate	33213-65-9	920	-		-	-	-		-	-	-		-	-	-		-	-
Methoxychlor	1031-07-8	NA	-		-	-	-		-	-	-		-	-	-		-	-
Toxaphene	72-43-5	NA	-		-	-	-		-	-	-		-	-	-		-	-
cis-Chlordane	8001-35-2	47	-		-	-	-		-	-	-		-	-	-		-	-
trans-Chlordane	5103-71-9	NA	-		-	-	-		-	-	-		-	-	-		-	-
Chlordane	5103-74-2	NA	-		-	-	-		-	-	-		-	-	-		-	-

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Former Freedman Sons Property
Green Island, NY

		SAMPLE ID:		SURFACE-8			SURFACE-9				SURFACE-10				SURFACE-11			
		LAB ID:		L1702771-02			L1702771-03				L1702771-04				L1702771-05			
		COLLECTION DATE:		1/26/2017			1/26/2017				1/26/2017				1/26/2017			
		SAMPLE MATRIX:		SOIL			SOIL				SOIL				SOIL			
		SCO IND																
ANALYTE	**Cas**	**(mg/kg)**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
POLYCHLORINATED BIPHENYLS BY GC																		
Aroclor 1016	57-74-9	25	ND		0.0528	0.00417	ND		0.229	0.0181	ND		0.0381	0.00301	ND		0.0389	0.00307
Aroclor 1221	12674-11-2	25	ND		0.0528	0.00487	ND		0.229	0.0211	ND		0.0381	0.00351	ND		0.0389	0.00358
Aroclor 1232	11104-28-2	25	ND		0.0528	0.00619	ND		0.229	0.0268	ND		0.0381	0.00446	ND		0.0389	0.00456
Aroclor 1242	11141-16-5	25	0.105		0.0528	0.00647	0.113	J	0.229	0.028	ND		0.0381	0.00466	0.0179	J	0.0389	0.00476
Aroclor 1248	53469-21-9	25	ND		0.0528	0.00446	ND		0.229	0.0193	ND		0.0381	0.00321	ND		0.0389	0.00328
Aroclor 1254	12672-29-6	25	0.392		0.0528	0.00434	1.08		0.229	0.0188	0.0107	J	0.0381	0.00313	0.0203	J	0.0389	0.0032
Aroclor 1260	11097-69-1	25	0.36		0.0528	0.00403	0.336		0.229	0.0174	ND		0.0381	0.0029	0.011	J	0.0389	0.00296
Aroclor 1262	11096-82-5	25	ND		0.0528	0.00262	ND		0.229	0.0114	ND		0.0381	0.00189	ND		0.0389	0.00193
Aroclor 1268	37324-23-5	25	ND		0.0528	0.00766	ND		0.229	0.0332	ND		0.0381	0.00552	ND		0.0389	0.00564
PCBs, Total	11100-14-4	Res. 1/Ind. 25	0.857		0.0528	0.00434	1.53	J	0.229	0.0174	0.0107	J	0.0381	0.00313	0.0492	J	0.0389	0.00296

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Former Freedman Sons Property
Green Island, NY

		SAMPLE ID:		SURFACE-8				SURFACE-9				SURFACE-10				SURFACE-11		
		LAB ID:		L1702771-02				L1702771-03				L1702771-04				L1702771-05		
		COLLECTION DATE:		1/26/2017				1/26/2017				1/26/2017				1/26/2017		
		SAMPLE MATRIX:		SOIL				SOIL				SOIL				SOIL		
		SCO IND																
ANALYTE	**Cas**	**(mg/kg)**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
TOTAL METALS																		
Aluminum, Total	1336-36-3	NA	-		-	-	-		-	-	-		-	-	-		-	-
Antimony, Total	7429-90-5	NA	-		-	-	-		-	-	-		-	-	-		-	-
Arsenic, Total	7440-36-0	16	-		-	-	-		-	-	-		-	-	-		-	-
Barium, Total	7440-38-2	10000	-		-	-	-		-	-	-		-	-	-		-	-
Beryllium, Total	7440-39-3	2700	-		-	-	-		-	-	-		-	-	-		-	-
Cadmium, Total	7440-41-7	60	-		-	-	-		-	-	-		-	-	-		-	-
Calcium, Total	7440-43-9	NA	-		-	-	-		-	-	-		-	-	-		-	-
Chromium, Total	7440-70-2	NA	-		-	-	-		-	-	-		-	-	-		-	-
Cobalt, Total	7440-47-3	NA	-		-	-	-		-	-	-		-	-	-		-	-
Copper, Total	7440-48-4	10000	-		-	-	-		-	-	-		-	-	-		-	-
Iron, Total	7440-50-8	NA	-		-	-	-		-	-	-		-	-	-		-	-
Lead, Total	7439-89-6	3900	-		-	-	-		-	-	-		-	-	-		-	-
Magnesium, Total	7439-92-1	NA	-		-	-	-		-	-	-		-	-	-		-	-
Manganese, Total	7439-95-4	10000	-		-	-	-		-	-	-		-	-	-		-	-
Mercury, Total	7439-96-5	5.7	-		-	-	-		-	-	-		-	-	-		-	-
Nickel, Total	7439-97-6	10000	-		-	-	-		-	-	-		-	-	-		-	-
Potassium, Total	7440-02-0	NA	-		-	-	-		-	-	-		-	-	-		-	-
Selenium, Total	7440-09-7	6800	-		-	-	-		-	-	-		-	-	-		-	-
Silver, Total	7782-49-2	6800	-		-	-	-		-	-	-		-	-	-		-	-
Sodium, Total	7440-22-4	NA	-		-	-	-		-	-	-		-	-	-		-	-
Thallium, Total	7440-23-5	NA	-		-	-	-		-	-	-		-	-	-		-	-
Vanadium, Total	7440-28-0	NA	-		-	-	-		-	-	-		-	-	-		-	-
Zinc, Total	7440-62-2	10000	-		-	-	-		-	-	-		-	-	-		-	-
GENERAL CHEMISTRY																		
Solids, Total	None	NA	61.2		0.1	NA	70.6		0.1	NA	82.4		0.1	NA	80.8		0.1	NA
Cyanide, Total	57-12-5	10000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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		SAMPLE ID:		SURFACE-12				SURFACE-13				COMPOSITE-1			
		LAB ID:		L1702771-06				L1702771-07				L1702771-10			
		COLLECTION DATE:		1/26/2017				1/26/2017				1/26/2017			
		SAMPLE MATRIX:		SOIL				SOIL				SOIL			
		SCO IND													
ANALYTE	Cas	(mg/kg)	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
VOLATILE ORGANICS BY GC/MS															
Methylene chloride	75-09-2	1000	-		-	-	-		-	-	-		-	-
1,1-Dichloroethane	75-34-3	480	-		-	-	-		-	-	-		-	-
Chloroform	67-66-3	700	-		-	-	-		-	-	-		-	-
Carbon tetrachloride	56-23-5	44	-		-	-	-		-	-	-		-	-
1,2-Dichloropropane	78-87-5	NA	-		-	-	-		-	-	-		-	-
Dibromochloromethane	124-48-1	NA	-		-	-	-		-	-	-		-	-
1,1,2-Trichloroethane	79-00-5	NA	-		-	-	-		-	-	-		-	-
Tetrachloroethene	127-18-4	300	-		-	-	-		-	-	-		-	-
Chlorobenzene	108-90-7	1000	-		-	-	-		-	-	-		-	-
Trichlorofluoromethane	75-69-4	NA	-		-	-	-		-	-	-		-	-
1,2-Dichloroethane	107-06-2	60	-		-	-	-		-	-	-		-	-
1,1,1-Trichloroethane	71-55-6	1000	-		-	-	-		-	-	-		-	-
Bromodichloromethane	75-27-4	NA	-		-	-	-		-	-	-		-	-
trans-1,3-Dichloropropene	10061-02-6	NA	-		-	-	-		-	-	-		-	-
cis-1,3-Dichloropropene	10061-01-5	NA	-		-	-	-		-	-	-		-	-
Bromoform	75-25-2	NA	-		-	-	-		-	-	-		-	-
1,1,2,2-Tetrachloroethane	79-34-5	NA	-		-	-	-		-	-	-		-	-
Benzene	71-43-2	89	-		-	-	-		-	-	-		-	-
Toluene	108-88-3	1000	-		-	-	-		-	-	-		-	-
Ethylbenzene	100-41-4	780	-		-	-	-		-	-	-		-	-
Chloromethane	74-87-3	NA	-		-	-	-		-	-	-		-	-
Bromomethane	74-83-9	NA	-		-	-	-		-	-	-		-	-
Vinyl chloride	75-01-4	27	-		-	-	-		-	-	-		-	-
Chloroethane	75-00-3	NA	-		-	-	-		-	-	-		-	-
1,1-Dichloroethene	75-35-4	1000	-		-	-	-		-	-	-		-	-
trans-1,2-Dichloroethene	156-60-5	1000	-		-	-	-		-	-	-		-	-
Trichloroethene	79-01-6	400	-		-	-	-		-	-	-		-	-
1,2-Dichlorobenzene	95-50-1	1000	-		-	-	-		-	-	-		-	-
1,3-Dichlorobenzene	541-73-1	560	-		-	-	-		-	-	-		-	-
1,4-Dichlorobenzene	106-46-7	250	-		-	-	-		-	-	-		-	-
Methyl tert butyl ether	1634-04-4	1000	-		-	-	-		-	-	-		-	-
p/m-Xylene	179601-23-1	NA	-		-	-	-		-	-	-		-	-
o-Xylene	95-47-6	NA	-		-	-	-		-	-	-		-	-
cis-1,2-Dichloroethene	156-59-2	1000	-		-	-	-		-	-	-		-	-
Styrene	100-42-5	NA	-		-	-	-		-	-	-		-	-
Dichlorodifluoromethane	75-71-8	NA	-		-	-	-		-	-	-		-	-
Acetone	67-64-1	1000	-		-	-	-		-	-	-		-	-
Carbon disulfide	75-15-0	NA	-		-	-	-		-	-	-		-	-
2-Butanone	78-93-3	1000	-		-	-	-		-	-	-		-	-
4-Methyl-2-pentanone	108-10-1	NA	-		-	-	-		-	-	-		-	-
2-Hexanone	591-78-6	NA	-		-	-	-		-	-	-		-	-
Bromochloromethane	74-97-5	NA	-		-	-	-		-	-	-		-	-
1,2-Dibromoethane	106-93-4	NA	-		-	-	-		-	-	-		-	-
1,2-Dibromo-3-chloropropane	96-12-8	NA	-		-	-	-		-	-	-		-	-
Isopropylbenzene	98-82-8	NA	-		-	-	-		-	-	-		-	-
1,2,3-Trichlorobenzene	87-61-6	NA	-		-	-	-		-	-	-		-	-
1,2,4-Trichlorobenzene	120-82-1	NA	-		-	-	-		-	-	-		-	-
Methyl Acetate	79-20-9	NA	-		-	-	-		-	-	-		-	-
Cyclohexane	110-82-7	NA	-		-	-	-		-	-	-		-	-
1,4-Dioxane	123-91-1	250	-		-	-	-		-	-	-		-	-
Freon-113	76-13-1	NA	-		-	-	-		-	-	-		-	-
Methyl cyclohexane	108-87-2	NA	-		-	-	-		-	-	-		-	-
Total VOCs			-		-	-	-		-	-	-		-	-
Total TIC Compounds		NA	-		-	-	-		-	-	-		-	-

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		COLLECTION DATE:			1/26/2017				1/26/2017				1/26/2017		
		SAMPLE MATRIX:			SOIL				SOIL				SOIL		
		SCO IND													
ANALYTE	**Cas**	**(mg/kg)**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
SEMIVOLATILE ORGANICS BY GC/MS														
Acenaphthene	83-32-9	1000	-		-	-	-		-	-	ND		0.17	0.022
Hexachlorobenzene	118-74-1	12	-		-	-	-		-	-	ND		0.12	0.023
Bis(2-chloroethyl)ether	111-44-4	NA	-		-	-	-		-	-	ND		0.19	0.028
2-Chloronaphthalene	91-58-7	NA	-		-	-	-		-	-	ND		0.21	0.021
3,3'-Dichlorobenzidine	91-94-1	NA	-		-	-	-		-	-	ND		0.21	0.056
2,4-Dinitrotoluene	121-14-2	NA	-		-	-	-		-	-	ND		0.21	0.042
2,6-Dinitrotoluene	606-20-2	NA	-		-	-	-		-	-	ND		0.21	0.036
Fluoranthene	206-44-0	1000	-		-	-	-		-	-	0.14		0.12	0.024
4-Chlorophenyl phenyl ether	7005-72-3	NA	-		-	-	-		-	-	ND		0.21	0.022
4-Bromophenyl phenyl ether	101-55-3	NA	-		-	-	-		-	-	ND		0.21	0.032
Bis(2-chloroisopropyl)ether	108-60-1	NA	-		-	-	-		-	-	ND		0.25	0.036
Bis(2-chloroethoxy)methane	111-91-1	NA	-		-	-	-		-	-	ND		0.23	0.021
Hexachlorobutadiene	87-68-3	NA	-		-	-	-		-	-	ND		0.21	0.031
Hexachlorocyclopentadiene	77-47-4	NA	-		-	-	-		-	-	ND		0.6	0.19
Hexachloroethane	67-72-1	NA	-		-	-	-		-	-	ND		0.17	0.034
Isophorone	78-59-1	NA	-		-	-	-		-	-	ND		0.19	0.027
Naphthalene	91-20-3	1000	-		-	-	-		-	-	ND		0.21	0.026
Nitrobenzene	98-95-3	140	-		-	-	-		-	-	ND		0.19	0.031
NDPA/DPA	86-30-6	NA	-		-	-	-		-	-	ND		0.17	0.024
n-Nitrosodi-n-propylamine	621-64-7	NA	-		-	-	-		-	-	ND		0.21	0.032
Bis(2-ethylhexyl)phthalate	117-81-7	NA	-		-	-	-		-	-	0.28		0.21	0.072
Butyl benzyl phthalate	85-68-7	NA	-		-	-	-		-	-	ND		0.21	0.053
Di-n-butylphthalate	84-74-2	NA	-		-	-	-		-	-	ND		0.21	0.04
Di-n-octylphthalate	117-84-0	NA	-		-	-	-		-	-	ND		0.21	0.071
Diethyl phthalate	84-66-2	NA	-		-	-	-		-	-	ND		0.21	0.019
Dimethyl phthalate	131-11-3	NA	-		-	-	-		-	-	ND		0.21	0.044
Benzo(a)anthracene	56-55-3	11	-		-	-	-		-	-	0.063	J	0.12	0.024
Benzo(a)pyrene	50-32-8	1.1	-		-	-	-		-	-	0.061	J	0.17	0.051
Benzo(b)fluoranthene	205-99-2	11	-		-	-	-		-	-	0.097	J	0.12	0.035
Benzo(k)fluoranthene	207-08-9	110	-		-	-	-		-	-	ND		0.12	0.034
Chrysene	218-01-9	110	-		-	-	-		-	-	0.07	J	0.12	0.022
Acenaphthylene	208-96-8	1000	-		-	-	-		-	-	ND		0.17	0.032
Anthracene	120-12-7	1000	-		-	-	-		-	-	ND		0.12	0.041
Benzo(ghi)perylene	191-24-2	1000	-		-	-	-		-	-	ND		0.17	0.025
Fluorene	86-73-7	1000	-		-	-	-		-	-	ND		0.21	0.02
Phenanthrene	85-01-8	1000	-		-	-	-		-	-	0.063	J	0.12	0.025
Dibenzo(a,h)anthracene	53-70-3	1.1	-		-	-	-		-	-	ND		0.12	0.024
Indeno(1,2,3-cd)pyrene	193-39-5	11	-		-	-	-		-	-	ND		0.17	0.029
Pyrene	129-00-0	1000	-		-	-	-		-	-	0.13		0.12	0.021
Biphenyl	92-52-4	NA	-		-	-	-		-	-	ND		0.48	0.049
4-Chloroaniline	106-47-8	NA	-		-	-	-		-	-	ND		0.21	0.038
2-Nitroaniline	88-74-4	NA	-		-	-	-		-	-	ND		0.21	0.04
3-Nitroaniline	99-09-2	NA	-		-	-	-		-	-	ND		0.21	0.04
4-Nitroaniline	100-01-6	NA	-		-	-	-		-	-	ND		0.21	0.087
Dibenzofuran	132-64-9	1000	-		-	-	-		-	-	ND		0.21	0.02
2-Methylnaphthalene	91-57-6	NA	-		-	-	-		-	-	ND		0.25	0.025
1,2,4,5-Tetrachlorobenzene	95-94-3	NA	-		-	-	-		-	-	ND		0.21	0.022
Acetophenone	98-86-2	NA	-		-	-	-		-	-	ND		0.21	0.026
2,4,6-Trichlorophenol	88-06-2	NA	-		-	-	-		-	-	ND		0.12	0.04
p-Chloro-m-cresol	59-50-7	NA	-		-	-	-		-	-	ND		0.21	0.031
2-Chlorophenol	95-57-8	NA	-		-	-	-		-	-	ND		0.21	0.025

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		COLLECTION DATE:			1/26/2017				1/26/2017				1/26/2017	
		SAMPLE MATRIX:			SOIL				SOIL				SOIL	
		SCO IND												
ANALYTE	**Cas**	**(mg/kg)**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
2,4-Dichlorophenol	120-83-2	NA	-		-	-	-		-	-	ND		0.19	0.034
2,4-Dimethylphenol	105-67-9	NA	-		-	-	-		-	-	ND		0.21	0.069
2-Nitrophenol	88-75-5	NA	-		-	-	-		-	-	ND		0.45	0.079
4-Nitrophenol	100-02-7	NA	-		-	-	-		-	-	ND		0.29	0.085
2,4-Dinitrophenol	51-28-5	NA	-		-	-	-		-	-	ND		1	0.098
4,6-Dinitro-o-cresol	534-52-1	NA	-		-	-	-		-	-	ND		0.54	0.1
Pentachlorophenol	87-86-5	55	-		-	-	-		-	-	ND		0.17	0.046
Phenol	108-95-2	1000	-		-	-	-		-	-	ND		0.21	0.032
2-Methylphenol	95-48-7	1000	-		-	-	-		-	-	ND		0.21	0.032
3-Methylphenol/4-Methylphenol	108-39-4	1000	-		-	-	-		-	-	ND		0.3	0.033
2,4,5-Trichlorophenol	95-95-4	NA	-		-	-	-		-	-	ND		0.21	0.04
Carbazole	86-74-8	NA	-		-	-	-		-	-	ND		0.21	0.02
Atrazine	1912-24-9	NA	-		-	-	-		-	-	ND		0.17	0.073
Benzaldehyde	100-52-7	NA	-		-	-	-		-	-	ND		0.28	0.056
Caprolactam	105-60-2	NA	-		-	-	-		-	-	ND		0.21	0.064
2,3,4,6-Tetrachlorophenol	58-90-2	NA	-		-	-	-		-	-	ND		0.21	0.042
Total SVOCs TICS			-	-	-	-	-	-	-	-	0.288	-	-	-
CHLORINATED HERBICIDES BY GC														
MCPP		NA	-		-	-	-		-	-	ND		4.16	1.31
MCPA	93-65-2	NA	-		-	-	-		-	-	ND		4.16	1.18
Dalapon	94-74-6	NA	-		-	-	-		-	-	ND		0.0416	0.0136
Dicamba	75-99-0	NA	-		-	-	-		-	-	ND		0.0416	0.00699
Dichloroprop	1918-00-9	NA	-		-	-	-		-	-	ND		0.0416	0.0119
2,4-D	120-36-5	NA	-		-	-	-		-	-	ND		0.208	0.0131
2,4-DB	94-75-7	NA	-		-	-	-		-	-	ND		0.208	0.0107
2,4,5-T	94-82-6	NA	-		-	-	-		-	-	ND		0.208	0.00645
2,4,5-TP (Silvex)	93-76-5	1000	-		-	-	-		-	-	ND		0.208	0.00554
Dinoseb	93-72-1	NA	-		-	-	-		-	-	ND		0.0416	0.00512
ORGANOCHLORINE PESTICIDES BY GC	88-85-7													
Delta-BHC		1000	-		-	-	-		-	-	ND		0.00202	0.000395
Lindane	319-86-8	23	-		-	-	-		-	-	ND		0.00084	0.000375
Alpha-BHC	58-89-9	6.8	-		-	-	-		-	-	ND		0.00084	0.000238
Beta-BHC	319-84-6	14	-		-	-	-		-	-	ND		0.00202	0.000764
Heptachlor	319-85-7	29	-		-	-	-		-	-	ND		0.00101	0.000452
Aldrin	76-44-8	1.4	-		-	-	-		-	-	ND		0.00202	0.00071
Heptachlor epoxide	309-00-2	NA	-		-	-	-		-	-	ND		0.00378	0.00113
Endrin	1024-57-3	410	-		-	-	-		-	-	0.00052	J	0.00084	0.000344
Endrin aldehyde	72-20-8	NA	-		-	-	-		-	-	ND		0.00252	0.000882
Endrin ketone	7421-93-4	NA	-		-	-	-		-	-	ND		0.00202	0.000519
Dieldrin	53494-70-5	2.8	-		-	-	-		-	-	ND		0.00126	0.00063
4,4'-DDE	60-57-1	120	-		-	-	-		-	-	ND		0.00202	0.000466
4,4'-DDD	72-55-9	180	-		-	-	-		-	-	ND		0.00202	0.000719
4,4'-DDT	72-54-8	94	-		-	-	-		-	-	ND		0.00378	0.00162
Endosulfan I	50-29-3	920	-		-	-	-		-	-	ND		0.00202	0.000476
Endosulfan II	959-98-8	920	-		-	-	-		-	-	ND		0.00202	0.000674
Endosulfan sulfate	33213-65-9	920	-		-	-	-		-	-	ND		0.00084	0.0004
Methoxychlor	1031-07-8	NA	-		-	-	-		-	-	ND		0.00378	0.00118
Toxaphene	72-43-5	NA	-		-	-	-		-	-	ND		0.0378	0.0106
cis-Chlordane	8001-35-2	47	-		-	-	-		-	-	ND		0.00252	0.000702
trans-Chlordane	5103-71-9	NA	-		-	-	-		-	-	ND		0.00252	0.000665
Chlordane	5103-74-2	NA	-		-	-	-		-	-	ND		0.0164	0.00668

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		SAMPLE MATRIX:		SOIL			SOIL				SOIL			
		SCO IND												
ANALYTE	Cas	(mg/kg)	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
POLYCHLORINATED BIPHENYLS BY GC														
Aroclor 1016	57-74-9	25	ND		0.0381	0.00301	ND		0.0389	0.00307	ND		0.0404	0.00319
Aroclor 1221	12674-11-2	25	ND		0.0381	0.00351	ND		0.0389	0.00358	ND		0.0404	0.00373
Aroclor 1232	11104-28-2	25	ND		0.0381	0.00446	ND		0.0389	0.00456	ND		0.0404	0.00474
Aroclor 1242	11141-16-5	25	ND		0.0381	0.00466	0.0179	J	0.0389	0.00476	0.0637		0.0404	0.00495
Aroclor 1248	53469-21-9	25	ND		0.0381	0.00321	ND		0.0389	0.00328	ND		0.0404	0.00341
Aroclor 1254	12672-29-6	25	0.0107	J	0.0381	0.00313	0.0203	J	0.0389	0.0032	0.0634		0.0404	0.00332
Aroclor 1260	11097-69-1	25	ND		0.0381	0.0029	0.011	J	0.0389	0.00296	0.0277	J	0.0404	0.00308
Aroclor 1262	11096-82-5	25	ND		0.0381	0.00189	ND		0.0389	0.00193	ND		0.0404	0.002
Aroclor 1268	37324-23-5	25	ND		0.0381	0.00552	ND		0.0389	0.00564	ND		0.0404	0.00586
PCBs, Total	11100-14-4	Res. 1/Ind. 25	0.0107	J	0.0381	0.00313	0.0492	J	0.0389	0.00296	0.155	J	0.0404	0.00308

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		SAMPLE MATRIX:		SOIL				SOIL				SOIL			
		SCO IND													
ANALYTE	**Cas**	**(mg/kg)**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
TOTAL METALS														
Aluminum, Total	1336-36-3	NA	-		-	-	-		-	-	8200		9.6	2.6
Antimony, Total	7429-90-5	NA	-		-	-	-		-	-	0.79	J	4.8	0.36
Arsenic, Total	7440-36-0	16	-		-	-	-		-	-	4.9		0.96	0.2
Barium, Total	7440-38-2	10000	-		-	-	-		-	-	100		0.96	0.17
Beryllium, Total	7440-39-3	2700	-		-	-	-		-	-	0.3	J	0.48	0.03
Cadmium, Total	7440-41-7	60	-		-	-	-		-	-	0.45	J	0.96	0.09
Calcium, Total	7440-43-9	NA	-		-	-	-		-	-	86000		9.6	3.4
Chromium, Total	7440-70-2	NA	-		-	-	-		-	-	21		0.96	0.09
Cobalt, Total	7440-47-3	NA	-		-	-	-		-	-	5.2		1.9	0.16
Copper, Total	7440-48-4	10000	-		-	-	-		-	-	360		0.96	0.25
Iron, Total	7440-50-8	NA	-		-	-	-		-	-	17000		4.8	0.87
Lead, Total	7439-89-6	3900	-		-	-	-		-	-	67		4.8	0.26
Magnesium, Total	7439-92-1	NA	-		-	-	-		-	-	6900		9.6	1.5
Manganese, Total	7439-95-4	10000	-		-	-	-		-	-	360		0.96	0.15
Mercury, Total	7439-96-5	5.7	-		-	-	-		-	-	0.15		0.08	0.02
Nickel, Total	7439-97-6	10000	-		-	-	-		-	-	18		2.4	0.23
Potassium, Total	7440-02-0	NA	-		-	-	-		-	-	1400		240	14
Selenium, Total	7440-09-7	6800	-		-	-	-		-	-	0.37	J	1.9	0.25
Silver, Total	7782-49-2	6800	-		-	-	-		-	-	ND		0.96	0.27
Sodium, Total	7440-22-4	NA	-		-	-	-		-	-	650		190	3
Thallium, Total	7440-23-5	NA	-		-	-	-		-	-	ND		1.9	0.3
Vanadium, Total	7440-28-0	NA	-		-	-	-		-	-	17		0.96	0.2
Zinc, Total	7440-62-2	10000	-		-	-	-		-	-	280		4.8	0.28
GENERAL CHEMISTRY														
Solids, Total	None	NA	-		-	-	-		-	-	78.8		0.1	NA
Cyanide, Total	57-12-5	10000	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
mg/Kg = Milligrams per kilogram
NA = Not Analyzed.
ND = Not detected above reporting limit (RL)
J = Compound found below RL.
E = Est. concentration.
Shaded cells indicate result is greater than SCO.
SCO = Soil Clean Up Objective.

TABLE 2 BERM DATA
Former Freedman Sons Property
Green Island, NY

	SAMPLE ID:		BERM-1 (6)				BERM-2 (4)				BERM-2 (4) DUP				BERM-3 (5)			
	LAB ID:		L1642026-16				L1642026-17				L1642026-18				L1642026-19			
	COLLECTION DATE:		12/22/2016				12/22/2016				12/22/2016				12/22/2016			
	SAMPLE DEPTH:																	
	SAMPLE MATRIX:		SOIL				SOIL				SOIL				SOIL			
		NY-RESI																
ANALYTE	CAS	(mg/kg)	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
VOLATILE ORGANICS BY GC/MS																		
Methylene chloride	75-09-2	1000	ND		0.012	0.0013	ND		0.015	0.0016	ND		0.012	0.0014	ND		0.012	0.0013
1,1-Dichloroethane	75-34-3	480	ND		0.0018	0.0001	ND		0.0022	0.00012	ND		0.0018	0.0001	ND		0.0018	0.0001
Chloroform	67-66-3	700	ND		0.0018	0.00045	ND		0.0022	0.00054	ND		0.0018	0.00045	ND		0.0018	0.00045
Carbon tetrachloride	56-23-5	44	ND		0.0012	0.00026	ND		0.0015	0.00031	ND		0.0012	0.00026	ND		0.0012	0.00025
1,2-Dichloropropane	78-87-5	NA	ND		0.0043	0.00028	ND		0.0051	0.00033	ND		0.0043	0.00028	ND		0.0042	0.00028
Dibromochloromethane	124-48-1	NA	ND		0.0012	0.00019	ND		0.0015	0.00022	ND		0.0012	0.00019	ND		0.0012	0.00019
1,1,2-Trichloroethane	79-00-5	NA	ND		0.0018	0.00037	ND		0.0022	0.00044	ND		0.0018	0.00037	ND		0.0018	0.00037
Tetrachloroethene	127-18-4	300	ND		0.0012	0.00017	ND		0.0015	0.0002	ND		0.0012	0.00017	ND		0.0012	0.00017
Chlorobenzene	108-90-7	1000	ND		0.0012	0.00042	ND		0.0015	0.00051	ND		0.0012	0.00042	ND		0.0012	0.00042
Trichlorofluoromethane	75-69-4	NA	ND		0.0061	0.00047	0.0012	J	0.0073	0.00057	0.00082	J	0.0061	0.00047	ND		0.0061	0.00047
1,2-Dichloroethane	107-06-2	60	ND		0.0012	0.00014	ND		0.0015	0.00017	ND		0.0012	0.00014	ND		0.0012	0.00014
1,1,1-Trichloroethane	71-55-6	1000	ND		0.0012	0.00014	ND		0.0015	0.00016	ND		0.0012	0.00014	ND		0.0012	0.00013
Bromodichloromethane	75-27-4	NA	ND		0.0012	0.00021	ND		0.0015	0.00025	ND		0.0012	0.00021	ND		0.0012	0.00021
trans-1,3-Dichloropropene	10061-02-6	NA	ND		0.0012	0.00015	ND		0.0015	0.00018	ND		0.0012	0.00015	ND		0.0012	0.00015
cis-1,3-Dichloropropene	10061-01-5	NA	ND		0.0012	0.00014	ND		0.0015	0.00017	ND		0.0012	0.00014	ND		0.0012	0.00014
Bromoform	75-25-2	NA	ND		0.0049	0.00029	ND		0.0058	0.00034	ND		0.0049	0.00029	ND		0.0048	0.00029
1,1,2,2-Tetrachloroethane	79-34-5	NA	ND		0.0012	0.00012	ND		0.0015	0.00015	ND		0.0012	0.00012	ND		0.0012	0.00012
Benzene	71-43-2	89	ND		0.0012	0.00014	ND		0.0015	0.00017	ND		0.0012	0.00014	ND		0.0012	0.00014
Toluene	108-88-3	1000	ND		0.0018	0.00024	0.00028	J	0.0022	0.00028	0.00025	J	0.0018	0.00024	0.00036	J	0.0018	0.00024
Ethylbenzene	100-41-4	780	ND		0.0012	0.00016	ND		0.0015	0.00019	ND		0.0012	0.00016	ND		0.0012	0.00015
Chloromethane	74-87-3	NA	ND		0.0061	0.00036	ND		0.0073	0.00043	ND		0.0061	0.00036	ND		0.0061	0.00036
Bromomethane	74-83-9	NA	ND		0.0024	0.00041	ND		0.0029	0.00049	ND		0.0024	0.00041	ND		0.0024	0.00041
Vinyl chloride	75-01-4	27	ND		0.0024	0.00014	ND		0.0029	0.00017	ND		0.0024	0.00014	ND		0.0024	0.00014
Chloroethane	75-00-3	NA	ND		0.0024	0.00039	ND		0.0029	0.00046	ND		0.0024	0.00039	ND		0.0024	0.00038
1,1-Dichloroethene	75-35-4	1000	ND		0.0012	0.00032	ND		0.0015	0.00038	ND		0.0012	0.00032	ND		0.0012	0.00032
trans-1,2-Dichloroethene	156-60-5	1000	ND		0.0018	0.00026	ND		0.0022	0.00031	ND		0.0018	0.00026	ND		0.0018	0.00026
Trichloroethene	79-01-6	400	ND		0.0012	0.00015	ND		0.0015	0.00018	ND		0.0012	0.00015	ND		0.0012	0.00015
1,2-Dichlorobenzene	95-50-1	1000	ND		0.0061	0.00019	ND		0.0073	0.00022	ND		0.0061	0.00019	ND		0.0061	0.00018
1,3-Dichlorobenzene	541-73-1	560	ND		0.0061	0.00016	ND		0.0073	0.0002	ND		0.0061	0.00016	ND		0.0061	0.00016
1,4-Dichlorobenzene	106-46-7	250	ND		0.0061	0.00017	ND		0.0073	0.0002	ND		0.0061	0.00017	ND		0.0061	0.00017
Methyl tert butyl ether	1634-04-4	1000	ND		0.0024	0.0001	ND		0.0029	0.00012	ND		0.0024	0.0001	ND		0.0024	0.0001
p/m-Xylene	179601-23-1	NA	ND		0.0024	0.00043	ND		0.0029	0.00051	ND		0.0024	0.00043	ND		0.0024	0.00042
o-Xylene	95-47-6	NA	ND		0.0024	0.00041	ND		0.0029	0.00049	ND		0.0024	0.00041	ND		0.0024	0.00041
cis-1,2-Dichloroethene	156-59-2	1000	ND		0.0012	0.00017	ND		0.0015	0.00021	ND		0.0012	0.00017	ND		0.0012	0.00017
Styrene	100-42-5	NA	ND		0.0024	0.00049	ND		0.0029	0.00059	ND		0.0024	0.00049	ND		0.0024	0.00049
Dichlorodifluoromethane	75-71-8	NA	ND		0.012	0.00023	ND		0.015	0.00028	ND		0.012	0.00023	ND		0.012	0.00023
Acetone	67-64-1	1000	ND		0.012	0.0013	ND		0.015	0.0015	ND		0.012	0.0013	0.0017	J	0.012	0.0012
Carbon disulfide	75-15-0	NA	ND		0.012	0.0013	ND		0.015	0.0016	ND		0.012	0.0013	ND		0.012	0.0013
2-Butanone	78-93-3	1000	ND		0.012	0.00033	ND		0.015	0.0004	ND		0.012	0.00033	ND		0.012	0.00033
4-Methyl-2-pentanone	108-10-1	NA	ND		0.012	0.0003	ND		0.015	0.00036	ND		0.012	0.0003	ND		0.012	0.0003
2-Hexanone	591-78-6	NA	ND		0.012	0.00081	ND		0.015	0.00098	ND		0.012	0.00082	ND		0.012	0.00081
Bromochloromethane	74-97-5	NA	ND		0.0061	0.00034	ND		0.0073	0.0004	ND		0.0061	0.00034	ND		0.0061	0.00033
1,2-Dibromoethane	106-93-4	NA	ND		0.0049	0.00021	ND		0.0058	0.00026	ND		0.0049	0.00021	ND		0.0048	0.00021
1,2-Dibromo-3-chloropropane	96-12-8	NA	ND		0.0061	0.00048	ND		0.0073	0.00058	ND		0.0061	0.00048	ND		0.0061	0.00048
Isopropylbenzene	98-82-8	NA	ND		0.0012	0.00013	ND		0.0015	0.00015	ND		0.0012	0.00013	ND		0.0012	0.00012
1,2,3-Trichlorobenzene	87-61-6	NA	ND		0.0061	0.00018	ND		0.0073	0.00022	ND		0.0061	0.00018	ND		0.0061	0.00018
1,2,4-Trichlorobenzene	120-82-1	NA	ND		0.0061	0.00022	ND		0.0073	0.00027	ND		0.0061	0.00022	ND		0.0061	0.00022
Methyl Acetate	79-20-9	NA	ND		0.024	0.00033	ND		0.029	0.0004	ND		0.024	0.00033	ND		0.024	0.00033
Cyclohexane	110-82-7	NA	ND		0.024	0.00018	ND		0.029	0.00021	ND		0.024	0.00018	ND		0.024	0.00018
1,4-Dioxane	123-91-1	250	ND		0.12	0.018	ND		0.15	0.021	ND		0.12	0.018	ND		0.12	0.018
Freon-113	76-13-1	NA	ND		0.024	0.00033	ND		0.029	0.0004	ND		0.024	0.00034	ND		0.024	0.00033
Methyl cyclohexane	108-87-2	NA	ND		0.0049	0.00019	ND		0.0058	0.00023	ND		0.0049	0.00019	ND		0.0048	0.00019
Total VOCs			-	-	-	-	0.00148	-	-	-	0.00107	-	-	-	0.00206	-	-	-
Total TIC Compounds		NA	-		-	-	0.031	J	0	0	0.00275	J	0	0	0.01971	J	0	0

Notes:
ND = Not detected above reporting limit (RL).
SCO IND = Soil cleanup Objective for Industrial Property.
MDL = Method detection limit.
J = Compound detected below RL concentration.
mg/Kg = Milligrams per kilogram.

TABLE 2 BERM DATA
Former Freedman Sons Property
Green Island, NY

	SAMPLE ID:		BERM-1 (6)				BERM-2 (4)				BERM-2 (4) DUP				BERM-3 (5)			
	LAB ID:		L1642026-16				L1642026-17				L1642026-18				L1642026-19			
	COLLECTION DATE:		12/22/2016				12/22/2016				12/22/2016				12/22/2016			
	SAMPLE DEPTH:																	
	SAMPLE MATRIX:		SOIL				SOIL				SOIL				SOIL			
		NY-RESI																
ANALYTE SEMIVOLATILE ORGANICS BY GC/MS	CAS	(mg/kg)	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
Acenaphthene	83-32-9	1000	ND		0.16	0.021	0.79		0.38	0.05	ND		0.81	0.1	ND		0.16	0.02
Hexachlorobenzene	118-74-1	12	ND		0.12	0.023	ND		0.29	0.054	ND		0.61	0.11	0.18		0.12	0.022
Bis(2-chloroethyl)ether	111-44-4	NA	ND		0.18	0.028	ND		0.43	0.065	ND		0.91	0.14	ND		0.18	0.027
2-Chloronaphthalene	91-58-7	NA	ND		0.2	0.02	ND		0.48	0.048	ND		1	0.1	ND		0.2	0.019
3,3'-Dichlorobenzidine	91-94-1	NA	ND		0.2	0.054	ND		0.48	0.13	ND		1	0.27	ND		0.2	0.052
2,4-Dinitrotoluene	121-14-2	NA	ND		0.2	0.041	ND		0.48	0.096	ND		1	0.2	ND		0.2	0.039
2,6-Dinitrotoluene	606-20-2	NA	ND		0.2	0.035	ND		0.48	0.082	ND		1	0.17	ND		0.2	0.034
Fluoranthene	206-44-0	1000	0.023	J	0.12	0.023	16		0.29	0.055	1.3		0.61	0.12	0.2		0.12	0.022
4-Chlorophenyl phenyl ether	7005-72-3	NA	ND		0.2	0.022	ND		0.48	0.051	ND		1	0.11	ND		0.2	0.021
4-Bromophenyl phenyl ether	101-55-3	NA	ND		0.2	0.031	ND		0.48	0.073	ND		1	0.15	ND		0.2	0.03
Bis(2-chloroisopropyl)ether	108-60-1	NA	ND		0.24	0.035	ND		0.58	0.082	ND		1.2	0.17	ND		0.24	0.034
Bis(2-chloroethoxy)methane	111-91-1	NA	ND		0.22	0.02	ND		0.52	0.048	ND		1.1	0.1	ND		0.21	0.02
Hexachlorobutadiene	87-68-3	NA	ND		0.2	0.03	ND		0.48	0.07	ND		1	0.15	ND		0.2	0.029
Hexachlorocyclopentadiene	77-47-4	NA	ND		0.58	0.18	ND		1.4	0.43	ND		2.9	0.92	ND		0.56	0.18
Hexachloroethane	67-72-1	NA	ND		0.16	0.033	ND		0.38	0.078	ND		0.81	0.16	ND		0.16	0.032
Isophorone	78-59-1	NA	ND		0.18	0.026	ND		0.43	0.062	ND		0.91	0.13	ND		0.18	0.025
Naphthalene	91-20-3	1000	ND		0.2	0.025	0.17	J	0.48	0.058	0.13	J	1	0.12	0.041	J	0.2	0.024
Nitrobenzene	98-95-3	140	ND		0.18	0.03	ND		0.43	0.071	ND		0.91	0.15	ND		0.18	0.029
NDPA/DPA	86-30-6	NA	ND		0.16	0.023	ND		0.38	0.054	ND		0.81	0.12	ND		0.16	0.022
n-Nitrosodi-n-propylamine	621-64-7	NA	ND		0.2	0.031	ND		0.48	0.074	ND		1	0.16	ND		0.2	0.03
Bis(2-ethylhexyl)phthalate	117-81-7	NA	0.14	J	0.2	0.07	2.4		0.48	0.16	34		1	0.35	1.7		0.2	0.068
Butyl benzyl phthalate	85-68-7	NA	ND		0.2	0.051	1.2		0.48	0.12	1.6		1	0.26	1		0.2	0.049
Di-n-butylphthalate	84-74-2	NA	ND		0.2	0.038	0.27	J	0.48	0.091	0.35	J	1	0.19	0.12	J	0.2	0.037
Di-n-octylphthalate	117-84-0	NA	0.35		0.2	0.069	ND		0.48	0.16	ND		1	0.34	ND		0.2	0.067
Diethyl phthalate	84-66-2	NA	ND		0.2	0.019	ND		0.48	0.044	0.095	J	1	0.094	ND		0.2	0.018
Dimethyl phthalate	131-11-3	NA	ND		0.2	0.043	0.21	J	0.48	0.1	0.9	J	1	0.21	ND		0.2	0.041
Benzo(a)anthracene	56-55-3	11	0.028	J	0.12	0.023	6.3		0.29	0.054	0.7		0.61	0.11	0.13		0.12	0.022
Benzo(a)pyrene	50-32-8	1.1	ND		0.16	0.05	**3**		**0.38**	**0.12**	0.72	J	0.81	0.25	0.16		0.16	0.048
Benzo(b)fluoranthene	205-99-2	11	ND		0.12	0.034	4.4		0.29	0.081	0.93		0.61	0.17	0.21		0.12	0.033
Benzo(k)fluoranthene	207-08-9	110	ND		0.12	0.032	1.8		0.29	0.077	0.29	J	0.61	0.16	0.078	J	0.12	0.031
Chrysene	218-01-9	110	0.022	J	0.12	0.021	5.5		0.29	0.05	0.68		0.61	0.1	0.13		0.12	0.02
Acenaphthylene	208-96-8	1000	ND		0.16	0.031	0.078	J	0.38	0.074	ND		0.81	0.16	ND		0.16	0.03
Anthracene	120-12-7	1000	ND		0.12	0.04	2.8		0.29	0.093	0.24	J	0.61	0.2	ND		0.12	0.038
Benzo(ghi)perylene	191-24-2	1000	ND		0.16	0.024	1.1		0.38	0.056	0.51	J	0.81	0.12	0.16		0.16	0.023
Fluorene	86-73-7	1000	ND		0.2	0.02	1.1		0.48	0.046	0.1	J	1	0.098	ND		0.2	0.019

Notes:
ND = Not detected above reporting limit (RL).
SCO IND = Soil cleanup Objective for Industrial Property.
MDL = Method detection limit.
J = Compound detected below RL concentration.
mg/Kg = Milligrams per kilogram.

TABLE 2 BERM DATA
Former Freedman Sons Property
Green Island, NY

	SAMPLE ID:		BERM-1 (6)				BERM-2 (4)				BERM-2 (4) DUP				BERM-3 (5)			
	LAB ID:		L1642026-16				L1642026-17				L1642026-18				L1642026-19			
	COLLECTION DATE:		12/22/2016				12/22/2016				12/22/2016				12/22/2016			
	SAMPLE DEPTH:																	
	SAMPLE MATRIX:		SOIL				SOIL				SOIL				SOIL			
		NY-RESI																
ANALYTE	CAS	(mg/kg)	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
Phenanthrene	85-01-8	1000	ND		0.12	0.025	9.5		0.29	0.058	0.75		0.61	0.12	0.093	J	0.12	0.024
Dibenzo(a,h)anthracene	53-70-3	1.1	ND		0.12	0.023	0.37		0.29	0.055	ND		0.61	0.12	0.031	J	0.12	0.023
Indeno(1,2,3-cd)pyrene	193-39-5	11	ND		0.16	0.028	1.4		0.38	0.067	0.52	J	0.81	0.14	0.15	J	0.16	0.027
Pyrene	129-00-0	1000	0.022	J	0.12	0.02	12		0.29	0.048	1.1		0.61	0.1	0.18		0.12	0.02
Biphenyl	92-52-4	NA	ND		0.46	0.047	ND		1.1	0.11	ND		2.3	0.24	ND		0.45	0.046
4-Chloroaniline	106-47-8	NA	ND		0.2	0.037	ND		0.48	0.087	ND		1	0.18	ND		0.2	0.036
2-Nitroaniline	88-74-4	NA	ND		0.2	0.039	ND		0.48	0.092	ND		1	0.2	ND		0.2	0.038
3-Nitroaniline	99-09-2	NA	ND		0.2	0.038	ND		0.48	0.09	ND		1	0.19	ND		0.2	0.037
4-Nitroaniline	100-01-6	NA	ND		0.2	0.084	ND		0.48	0.2	ND		1	0.42	ND		0.2	0.081
Dibenzofuran	132-64-9	1000	ND		0.2	0.019	0.51		0.48	0.045	ND		1	0.096	ND		0.2	0.018
2-Methylnaphthalene	91-57-6	NA	ND		0.24	0.024	0.15	J	0.58	0.058	0.12	J	1.2	0.12	0.048	J	0.24	0.024
1,2,4,5-Tetrachlorobenzene	95-94-3	NA	ND		0.2	0.021	ND		0.48	0.05	ND		1	0.1	0.042	J	0.2	0.02
Acetophenone	98-86-2	NA	ND		0.2	0.025	0.18	J	0.48	0.059	0.39	J	1	0.12	ND		0.2	0.024
2,4,6-Trichlorophenol	88-06-2	NA	ND		0.12	0.038	ND		0.29	0.091	ND		0.61	0.19	ND		0.12	0.037
p-Chloro-m-cresol	59-50-7	NA	ND		0.2	0.03	ND		0.48	0.071	ND		1	0.15	ND		0.2	0.029
2-Chlorophenol	95-57-8	NA	ND		0.2	0.024	ND		0.48	0.057	ND		1	0.12	ND		0.2	0.023
2,4-Dichlorophenol	120-83-2	NA	ND		0.18	0.033	ND		0.43	0.077	ND		0.91	0.16	ND		0.18	0.032
2,4-Dimethylphenol	105-67-9	NA	ND		0.2	0.067	ND		0.48	0.16	ND		1	0.33	ND		0.2	0.065
2-Nitrophenol	88-75-5	NA	ND		0.44	0.076	ND		1	0.18	ND		2.2	0.38	ND		0.42	0.074
4-Nitrophenol	100-02-7	NA	ND		0.28	0.083	ND		0.67	0.2	ND		1.4	0.41	ND		0.27	0.08
2,4-Dinitrophenol	51-28-5	NA	ND		0.98	0.095	ND		2.3	0.22	ND		4.9	0.47	ND		0.94	0.091
4,6-Dinitro-o-cresol	534-52-1	NA	ND		0.53	0.098	ND		1.2	0.23	ND		2.6	0.49	ND		0.51	0.094
Pentachlorophenol	87-86-5	55	ND		0.16	0.045	ND		0.38	0.1	ND		0.81	0.22	ND		0.16	0.043
Phenol	108-95-2	1000	ND		0.2	0.031	ND		0.48	0.072	0.61	J	1	0.15	ND		0.2	0.03
2-Methylphenol	95-48-7	1000	ND		0.2	0.032	ND		0.48	0.074	ND		1	0.16	ND		0.2	0.03
3-Methylphenol/4-Methylphenol	108-39-4	1000	ND		0.29	0.032	ND		0.69	0.075	ND		1.5	0.16	ND		0.28	0.031
2,4,5-Trichlorophenol	95-95-4	NA	ND		0.2	0.039	ND		0.48	0.092	ND		1	0.19	ND		0.2	0.038
Carbazole	86-74-8	NA	ND		0.2	0.02	1.2		0.48	0.046	0.13	J	1	0.098	ND		0.2	0.019
Atrazine	1912-24-9	NA	ND		0.16	0.071	ND		0.38	0.17	ND		0.81	0.35	ND		0.16	0.069
Benzaldehyde	100-52-7	NA	ND		0.27	0.055	ND		0.63	0.13	1.1	J	1.3	0.27	ND		0.26	0.053
Caprolactam	105-60-2	NA	ND		0.2	0.062	0.38	J	0.48	0.14	ND		1	0.31	ND		0.2	0.06
2,3,4,6-Tetrachlorophenol	58-90-2	NA	ND		0.2	0.041	ND		0.48	0.097	ND		1	0.2	ND		0.2	0.04
Total SVOCs			0.585	-	-	-	72.808	-	-	-	47.265	-	-	-	4.653	-	-	-
Total TIC Compounds			0.688	-	-	-	11.921	-	-	-	19.59	-	-	-	1.458	-	-	-

Notes:
ND = Not detected above reporting limit (RL).
SCO IND = Soil cleanup Objective for Industrial Property.
MDL = Method detection limit.
J = Compound detected below RL concentration.
mg/Kg = Milligrams per kilogram.

TABLE 2 BERM DATA
Former Freedman Sons Property
Green Island, NY

	SAMPLE ID:		BERM-1 (6)				BERM-2 (4)				BERM-2 (4) DUP				BERM-3 (5)			
	LAB ID:		L1642026-16				L1642026-17				L1642026-18				L1642026-19			
	COLLECTION DATE:		12/22/2016				12/22/2016				12/22/2016				12/22/2016			
	SAMPLE DEPTH:																	
	SAMPLE MATRIX:		SOIL				SOIL				SOIL				SOIL			
		NY-RESI																
ANALYTE	**CAS**	**(mg/kg)**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
CHLORINATED HERBICIDES BY GC																		
MCPP	93-65-2	NA	ND		3.98	1.25	ND		4.84	1.52	ND		4.06	1.28	ND		3.94	1.24
MCPA	94-74-6	NA	ND		3.98	1.13	ND		4.84	1.37	ND		4.06	1.15	ND		3.94	1.12
Dalapon	75-99-0	NA	ND		0.0398	0.013	ND		0.0484	0.0158	ND		0.0406	0.0133	ND		0.0394	0.0129
Dicamba	1918-00-9	NA	ND		0.0398	0.00669	ND		0.0484	0.00812	ND		0.0406	0.00682	ND		0.0394	0.00663
Dichloroprop	120-36-5	NA	ND		0.0398	0.0114	ND		0.0484	0.0139	ND		0.0406	0.0116	ND		0.0394	0.0113
2,4-D	94-75-7	NA	ND		0.199	0.0125	ND		0.242	0.0152	ND		0.203	0.0128	ND		0.197	0.0124
2,4-DB	94-82-6	NA	ND		0.199	0.0102	ND		0.242	0.0124	ND		0.203	0.0104	ND		0.197	0.0101
2,4,5-T	93-76-5	NA	ND		0.199	0.00617	ND		0.242	0.00749	ND		0.203	0.00629	ND		0.197	0.00611
2,4,5-TP (Silvex)	93-72-1	1000	ND		0.199	0.0053	ND		0.242	0.00643	ND		0.203	0.0054	ND		0.197	0.00524
Dinoseb	88-85-7	NA	ND		0.0398	0.0049	ND		0.0484	0.00595	ND		0.0406	0.005	ND		0.0394	0.00485
ORGANOCHLORINE PESTICIDES BY GC																		
Delta-BHC	319-86-8	1000	ND		0.00191	0.000374	ND		0.00224	0.00044	ND		0.00191	0.000374	ND		0.00185	0.000362
Lindane	58-89-9	23	ND		0.000796	0.000356	ND		0.000936	0.000418	ND		0.000796	0.000356	ND		0.00077	0.000344
Alpha-BHC	319-84-6	6.8	ND		0.000796	0.000226	ND		0.000936	0.000266	ND		0.000796	0.000226	ND		0.00077	0.000218
Beta-BHC	319-85-7	14	ND		0.00191	0.000724	ND		0.00224	0.000851	ND		0.00191	0.000725	ND		0.00185	0.0007
Heptachlor	76-44-8	29	ND		0.000955	0.000428	ND		0.00112	0.000503	ND		0.000956	0.000428	ND		0.000923	0.000414
Aldrin	309-00-2	1.4	ND		0.00191	0.000672	ND		0.00224	0.00079	ND		0.00191	0.000673	ND		0.00185	0.00065
Heptachlor epoxide	1024-57-3	NA	ND		0.00358	0.00107	ND		0.00421	0.00126	ND		0.00358	0.00108	0.0394	PI	0.00346	0.00104
Endrin	72-20-8	410	ND		0.000796	0.000326	ND		0.000936	0.000384	ND		0.000796	0.000326	0.066	P	0.00077	0.000316
Endrin aldehyde	7421-93-4	NA	ND		0.00239	0.000836	ND		0.00281	0.000982	ND		0.00239	0.000836	ND		0.00231	0.000808
Endrin ketone	53494-70-5	NA	ND		0.00191	0.000492	ND		0.00224	0.000578	ND		0.00191	0.000492	ND		0.00185	0.000476
Dieldrin	60-57-1	2.8	0.00132	P	0.00119	0.000597	0.0611	P	0.0014	0.000702	0.0396		0.00119	0.000597	0.17	E	0.00115	0.000577
4,4'-DDE	72-55-9	120	ND		0.00191	0.000442	ND		0.00224	0.000519	ND		0.00191	0.000442	ND		0.00185	0.000427
4,4'-DDD	72-54-8	180	ND		0.00191	0.000681	ND		0.00224	0.000801	ND		0.00191	0.000682	ND		0.00185	0.000659
4,4'-DDT	50-29-3	94	ND		0.00358	0.00154	ND		0.00421	0.0018	ND		0.00358	0.00154	ND		0.00346	0.00148
Endosulfan I	959-98-8	920	ND		0.00191	0.000451	ND		0.00224	0.00053	ND		0.00191	0.000452	ND		0.00185	0.000436
Endosulfan II	33213-65-9	920	ND		0.00191	0.000638	0.00829	PI	0.00224	0.00075	0.141	P	0.00191	0.000639	0.0189	PI	0.00185	0.000617
Endosulfan sulfate	1031-07-8	920	ND		0.000796	0.000379	ND		0.000936	0.000445	ND		0.000796	0.000379	ND		0.00077	0.000366
Methoxychlor	72-43-5	NA	ND		0.00358	0.00111	ND		0.00421	0.00131	ND		0.00358	0.00111	ND		0.00346	0.00108
Toxaphene	8001-35-2	NA	ND		0.0358	0.01	ND		0.0421	0.0118	ND		0.0358	0.01	ND		0.0346	0.0097
cis-Chlordane	5103-71-9	47	ND		0.00239	0.000665	ND		0.00281	0.000782	ND		0.00239	0.000666	ND		0.00231	0.000643
trans-Chlordane	5103-74-2	NA	ND		0.00239	0.00063	ND		0.00281	0.000741	ND		0.00239	0.000631	ND		0.00231	0.000609
Chlordane	57-74-9	NA	ND		0.0155	0.00633	ND		0.0182	0.00744	ND		0.0155	0.00633	ND		0.015	0.00612
POLYCHLORINATED BIPHENYLS BY GC																		
Aroclor 1016	12674-11-2	25	ND		0.0388	0.00306	ND		0.46	0.0364	ND		0.4	0.0316	ND		0.402	0.0318
Aroclor 1221	11104-28-2	25	ND		0.0388	0.00358	ND		0.46	0.0424	ND		0.4	0.0369	ND		0.402	0.0371
Aroclor 1232	11141-16-5	25	ND		0.0388	0.00454	ND		0.46	0.0539	ND		0.4	0.0469	ND		0.402	0.0472
Aroclor 1242	53469-21-9	25	0.027	J	0.0388	0.00475	4.18		0.46	0.0563	3.85	P	0.4	0.049	2.8		0.402	0.0492
Aroclor 1248	12672-29-6	25	ND		0.0388	0.00327	ND		0.46	0.0388	ND		0.4	0.0338	ND		0.402	0.034
Aroclor 1254	11097-69-1	25	0.066		0.0388	0.00319	3.33		0.46	0.0378	2.86		0.4	0.0329	5.35		0.402	0.0331
Aroclor 1260	11096-82-5	25	0.0135	J	0.0388	0.00296	1.26		0.46	0.0351	1.08		0.4	0.0305	2.8		0.402	0.0307
Aroclor 1262	37324-23-5	25	ND		0.0388	0.00192	ND		0.46	0.0228	ND		0.4	0.0198	ND		0.402	0.02
Aroclor 1268	11100-14-4	25	ND		0.0388	0.00562	ND		0.46	0.0667	ND		0.4	0.058	ND		0.402	0.0583
PCBs, Total	1336-36-3	25	0.107	J	0.0388	0.00296	8.77		0.46	0.0351	7.79		0.4	0.0305	11		0.402	0.0307

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mg/Kg = Milligrams per kilogram.

TABLE 2 BERM DATA
Former Freedman Sons Property
Green Island, NY

	SAMPLE ID:		BERM-1 (6)				BERM-2 (4)				BERM-2 (4) DUP				BERM-3 (5)			
	LAB ID:		L1642026-16				L1642026-17				L1642026-18				L1642026-19			
	COLLECTION DATE:		12/22/2016				12/22/2016				12/22/2016				12/22/2016			
	SAMPLE DEPTH:																	
	SAMPLE MATRIX:		SOIL				SOIL				SOIL				SOIL			
		NY-RESI																
ANALYTE	**CAS**	**(mg/kg)**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
TOTAL METALS																		
Aluminum, Total	7429-90-5	NA	11000		9.4	2.5	9900		11	3.1	8100		9.5	2.6	15000		9.7	2.6
Antimony, Total	7440-36-0	NA	1.3	J	4.7	0.36	18		5.7	0.44	17		4.8	0.36	33		4.8	0.37
Arsenic, Total	7440-38-2	16	6.5		0.94	0.2	9.3		1.1	0.24	8.7		0.95	0.2	13		0.97	0.2
Barium, Total	7440-39-3	10000	130		0.94	0.16	220		1.1	0.2	210		0.95	0.16	850		0.97	0.17
Beryllium, Total	7440-41-7	2700	0.43	J	0.47	0.03	0.24	J	0.57	0.04	0.21	J	0.48	0.03	0.44	J	0.48	0.03
Cadmium, Total	7440-43-9	60	ND		0.94	0.09	9.2		1.1	0.11	15		0.95	0.09	9.1		0.97	0.1
Calcium, Total	7440-70-2	NA	19000		9.4	3.3	26000		11	4	19000		9.5	3.3	13000		9.7	3.4
Chromium, Total	7440-47-3	NA	23		0.94	0.09	110		1.1	0.11	140		0.95	0.09	130		0.97	0.09
Cobalt, Total	7440-48-4	NA	11		1.9	0.16	15		2.3	0.19	16		1.9	0.16	18		1.9	0.16
Copper, Total	7440-50-8	10000	400		0.94	0.24	1200		1.1	0.3	1000		0.95	0.24	2800		0.97	0.25
Iron, Total	7439-89-6	NA	23000		4.7	0.85	95000		57	10	100000		48	8.6	100000		48	8.7
Lead, Total	7439-92-1	3900	62		4.7	0.25	1000		5.7	0.31	810		4.8	0.26	2600		4.8	0.26
Magnesium, Total	7439-95-4	NA	12000		9.4	1.4	6800		11	1.8	4900		9.5	1.5	4100		9.7	1.5
Manganese, Total	7439-96-5	10000	740		0.94	0.15	750		1.1	0.18	740		0.95	0.15	910		0.97	0.15
Mercury, Total	7439-97-6	5.7	0.1		0.08	0.02	3.8		0.11	0.02	2.8		0.09	0.02	3.2		0.09	0.02
Nickel, Total	7440-02-0	10000	27		2.4	0.23	160		2.9	0.28	130		2.4	0.23	200		2.4	0.23
Potassium, Total	7440-09-7	NA	500		240	14	590		290	16	480		240	14	1400		240	14
Selenium, Total	7782-49-2	6800	ND		1.9	0.24	ND		2.3	0.3	ND		1.9	0.24	ND		1.9	0.25
Silver, Total	7440-22-4	6800	ND		0.94	0.27	3.1		1.1	0.32	1.4		0.95	0.27	1.8		0.97	0.27
Sodium, Total	7440-23-5	NA	85	J	190	3	260		230	3.6	200		190	3	1700		190	3
Thallium, Total	7440-28-0	NA	ND		1.9	0.3	ND		2.3	0.36	ND		1.9	0.3	ND		1.9	0.3
Vanadium, Total	7440-62-2	NA	18		0.94	0.19	25		1.1	0.23	21		0.95	0.19	24		0.97	0.2
Zinc, Total	7440-66-6	10000	95		4.7	0.28	4400		57	3.4	3500		48	2.8	5200		48	2.8
GENERAL CHEMISTRY																		
Solids, Total	NONE	NA	81.8		0.1	NA	68.3		0.1	NA	81.7		0.1	NA	82.4		0.1	NA
Cyanide, Total	57-12-5	10000	ND		1.1	0.19	ND		1.4	0.24	0.23	J	1.2	0.2	0.31	J	1.2	0.2

Notes:
ND = Not detected above reporting limit (RL).
SCO IND = Soil cleanup Objective for Industrial Property.
MDL = Method detection limit.
J = Compound detected below RL concentration.
mg/Kg = Milligrams per kilogram.

TABLE 2 BERM DATA
Former Freedman Sons Property
Green Island, NY

	BERM-3 (5)				BERM-4 (7)				BERM-5 (6)				BERM-6 (6)			
	L1642026-19 R1				L1642026-20				L1642026-21				L1642026-22			
	12/22/2016				12/22/2016				12/22/2016				12/22/2016			
	SOIL				SOIL				SOIL				SOIL			
ANALYTE	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
VOLATILE ORGANICS BY GC/MS	-	-	-	-												
Methylene chloride	-		-	-	ND		0.012	0.0014	ND		0.012	0.0013	ND		0.012	0.0013
1,1-Dichloroethane	-		-	-	ND		0.0018	0.0001	ND		0.0018	0.0001	ND		0.0018	0.0001
Chloroform	-		-	-	ND		0.0018	0.00046	ND		0.0018	0.00044	ND		0.0018	0.00045
Carbon tetrachloride	-		-	-	ND		0.0012	0.00026	ND		0.0012	0.00025	ND		0.0012	0.00025
1,2-Dichloropropane	-		-	-	ND		0.0043	0.00028	ND		0.0041	0.00027	ND		0.0042	0.00028
Dibromochloromethane	-		-	-	ND		0.0012	0.00019	ND		0.0012	0.00018	ND		0.0012	0.00019
1,1,2-Trichloroethane	-		-	-	ND		0.0018	0.00038	ND		0.0018	0.00036	ND		0.0018	0.00037
Tetrachloroethene	-		-	-	ND		0.0012	0.00017	ND		0.0012	0.00016	ND		0.0012	0.00017
Chlorobenzene	-		-	-	ND		0.0012	0.00043	ND		0.0012	0.00041	ND		0.0012	0.00042
Trichlorofluoromethane	-		-	-	0.00066	J	0.0062	0.00048	ND		0.0059	0.00046	ND		0.0061	0.00047
1,2-Dichloroethane	-		-	-	ND		0.0012	0.00014	ND		0.0012	0.00013	ND		0.0012	0.00014
1,1,1-Trichloroethane	-		-	-	ND		0.0012	0.00014	ND		0.0012	0.00013	ND		0.0012	0.00013
Bromodichloromethane	-		-	-	ND		0.0012	0.00021	ND		0.0012	0.0002	ND		0.0012	0.00021
trans-1,3-Dichloropropene	-		-	-	ND		0.0012	0.00015	ND		0.0012	0.00014	ND		0.0012	0.00015
cis-1,3-Dichloropropene	-		-	-	ND		0.0012	0.00014	ND		0.0012	0.00014	ND		0.0012	0.00014
Bromoform	-		-	-	ND		0.005	0.00029	ND		0.0047	0.00028	ND		0.0048	0.00029
1,1,2,2-Tetrachloroethane	-		-	-	ND		0.0012	0.00012	ND		0.0012	0.00012	ND		0.0012	0.00012
Benzene	-		-	-	ND		0.0012	0.00015	ND		0.0012	0.00014	ND		0.0012	0.00014
Toluene	-		-	-	ND		0.0018	0.00024	0.0007	J	0.0018	0.00023	0.00052	J	0.0018	0.00024
Ethylbenzene	-		-	-	ND		0.0012	0.00016	ND		0.0012	0.00015	ND		0.0012	0.00015
Chloromethane	-		-	-	ND		0.0062	0.00036	ND		0.0059	0.00034	ND		0.0061	0.00036
Bromomethane	-		-	-	ND		0.0025	0.00042	ND		0.0024	0.0004	ND		0.0024	0.00041
Vinyl chloride	-		-	-	ND		0.0025	0.00014	ND		0.0024	0.00014	ND		0.0024	0.00014
Chloroethane	-		-	-	ND		0.0025	0.00039	ND		0.0024	0.00037	ND		0.0024	0.00038
1,1-Dichloroethene	-		-	-	ND		0.0012	0.00032	ND		0.0012	0.00031	ND		0.0012	0.00032
trans-1,2-Dichloroethene	-		-	-	ND		0.0018	0.00026	ND		0.0018	0.00025	ND		0.0018	0.00026
Trichloroethene	-		-	-	ND		0.0012	0.00015	ND		0.0012	0.00015	ND		0.0012	0.00015
1,2-Dichlorobenzene	-		-	-	ND		0.0062	0.00019	ND		0.0059	0.00018	ND		0.0061	0.00018
1,3-Dichlorobenzene	-		-	-	ND		0.0062	0.00017	ND		0.0059	0.00016	ND		0.0061	0.00016
1,4-Dichlorobenzene	-		-	-	ND		0.0062	0.00017	ND		0.0059	0.00016	ND		0.0061	0.00017
Methyl tert butyl ether	-		-	-	ND		0.0025	0.0001	ND		0.0024	0.0001	ND		0.0024	0.0001
p/m-Xylene	-		-	-	ND		0.0025	0.00043	ND		0.0024	0.00041	ND		0.0024	0.00042
o-Xylene	-		-	-	ND		0.0025	0.00042	ND		0.0024	0.0004	ND		0.0024	0.00041
cis-1,2-Dichloroethene	-		-	-	ND		0.0012	0.00018	ND		0.0012	0.00017	ND		0.0012	0.00017
Styrene	-		-	-	ND		0.0025	0.0005	ND		0.0024	0.00047	ND		0.0024	0.00049
Dichlorodifluoromethane	-		-	-	ND		0.012	0.00024	ND		0.012	0.00022	ND		0.012	0.00023
Acetone	-		-	-	ND		0.012	0.0013	ND		0.012	0.0012	ND		0.012	0.0012
Carbon disulfide	-		-	-	ND		0.012	0.0014	ND		0.012	0.0013	ND		0.012	0.0013
2-Butanone	-		-	-	ND		0.012	0.00034	ND		0.012	0.00032	ND		0.012	0.00033
4-Methyl-2-pentanone	-		-	-	ND		0.012	0.0003	ND		0.012	0.00029	ND		0.012	0.0003
2-Hexanone	-		-	-	ND		0.012	0.00082	ND		0.012	0.00078	ND		0.012	0.00081
Bromochloromethane	-		-	-	ND		0.0062	0.00034	ND		0.0059	0.00032	ND		0.0061	0.00033
1,2-Dibromoethane	-		-	-	ND		0.005	0.00022	ND		0.0047	0.0002	ND		0.0048	0.00021
1,2-Dibromo-3-chloropropane	-		-	-	ND		0.0062	0.00049	ND		0.0059	0.00046	ND		0.0061	0.00048
Isopropylbenzene	-		-	-	ND		0.0012	0.00013	ND		0.0012	0.00012	ND		0.0012	0.00012
1,2,3-Trichlorobenzene	-		-	-	ND		0.0062	0.00018	ND		0.0059	0.00017	ND		0.0061	0.00018
1,2,4-Trichlorobenzene	-		-	-	ND		0.0062	0.00022	ND		0.0059	0.00021	ND		0.0061	0.00022
Methyl Acetate	-		-	-	ND		0.025	0.00033	ND		0.024	0.00032	ND		0.024	0.00033
Cyclohexane	-		-	-	ND		0.025	0.00018	ND		0.024	0.00017	ND		0.024	0.00018
1,4-Dioxane	-		-	-	ND		0.12	0.018	ND		0.12	0.017	ND		0.12	0.018
Freon-113	-		-	-	ND		0.025	0.00034	ND		0.024	0.00032	ND		0.024	0.00033
Methyl cyclohexane	-		-	-	ND		0.005	0.00019	ND		0.0047	0.00018	ND		0.0048	0.00019
Total VOCs	-	-	-	-	0.00066	-	-	-	0.0007	-	-	-	0.00052	-	-	-
Total TIC Compounds	-		-	-	-		-	-	0.04277	J	0	0	0.05334	J	0	0

Notes:
ND = Not detected above reporting limit (RL).
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MDL = Method detection limit.
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mg/Kg = Milligrams per kilogram.

TABLE 2 BERM DATA
Former Freedman Sons Property
Green Island, NY

	BERM-3 (5)				BERM-4 (7)				BERM-5 (6)				BERM-6 (6)			
	L1642026-19 R1				L1642026-20				L1642026-21				L1642026-22			
	12/22/2016				12/22/2016				12/22/2016				12/22/2016			
	SOIL				SOIL				SOIL				SOIL			
ANALYTE	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
SEMIVOLATILE ORGANICS BY GC/MS	-	-	-	-												
Acenaphthene	-		-	-	0.057	J	0.16	0.021	0.045	J	0.16	0.02	0.17		0.16	0.02
Hexachlorobenzene	-	-	-	-	0.051	J	0.12	0.023	ND		0.12	0.022	0.074	J	0.12	0.022
Bis(2-chloroethyl)ether	-		-	-	ND		0.18	0.028	ND		0.18	0.026	ND		0.18	0.026
2-Chloronaphthalene	-		-	-	ND		0.2	0.02	ND		0.2	0.019	ND		0.2	0.019
3,3'-Dichlorobenzidine	-		-	-	ND		0.2	0.054	ND		0.2	0.052	ND		0.2	0.052
2,4-Dinitrotoluene	-		-	-	ND		0.2	0.041	ND		0.2	0.039	ND		0.2	0.039
2,6-Dinitrotoluene	-		-	-	ND		0.2	0.035	ND		0.2	0.034	ND		0.2	0.034
Fluoranthene	-	-	-	-	0.48		0.12	0.023	1.1		0.12	0.022	0.68		0.12	0.022
4-Chlorophenyl phenyl ether	-		-	-	ND		0.2	0.022	ND		0.2	0.021	ND		0.2	0.021
4-Bromophenyl phenyl ether	-		-	-	ND		0.2	0.031	ND		0.2	0.03	ND		0.2	0.03
Bis(2-chloroisopropyl)ether	-		-	-	ND		0.24	0.035	ND		0.23	0.033	ND		0.24	0.033
Bis(2-chloroethoxy)methane	-		-	-	ND		0.22	0.02	ND		0.21	0.02	ND		0.21	0.02
Hexachlorobutadiene	-		-	-	ND		0.2	0.03	ND		0.2	0.029	ND		0.2	0.029
Hexachlorocyclopentadiene	-		-	-	ND		0.58	0.18	ND		0.56	0.18	ND		0.56	0.18
Hexachloroethane	-		-	-	ND		0.16	0.033	ND		0.16	0.032	ND		0.16	0.032
Isophorone	-		-	-	ND		0.18	0.026	ND		0.18	0.025	ND		0.18	0.025
Naphthalene	-		-	-	0.092	J	0.2	0.025	0.08	J	0.2	0.024	0.033	J	0.2	0.024
Nitrobenzene	-		-	-	ND		0.18	0.03	ND		0.18	0.029	ND		0.18	0.029
NDPA/DPA	-		-	-	ND		0.16	0.023	ND		0.16	0.022	ND		0.16	0.022
n-Nitrosodi-n-propylamine	-		-	-	ND		0.2	0.032	ND		0.2	0.03	ND		0.2	0.03
Bis(2-ethylhexyl)phthalate	-	-	-	-	1.6		0.2	0.071	2.2		0.2	0.068	0.13	J	0.2	0.068
Butyl benzyl phthalate	-	-	-	-	0.46		0.2	0.052	0.16	J	0.2	0.049	0.05	J	0.2	0.049
Di-n-butylphthalate	-		-	-	0.094	J	0.2	0.039	0.074	J	0.2	0.037	ND		0.2	0.037
Di-n-octylphthalate	-		-	-	ND		0.2	0.07	ND		0.2	0.066	ND		0.2	0.067
Diethyl phthalate	-		-	-	ND		0.2	0.019	ND		0.2	0.018	ND		0.2	0.018
Dimethyl phthalate	-		-	-	1.6		0.2	0.043	0.06	J	0.2	0.041	0.063	J	0.2	0.041
Benzo(a)anthracene	-	-	-	-	0.31		0.12	0.023	0.48		0.12	0.022	0.35		0.12	0.022
Benzo(a)pyrene	-	-	-	-	0.23		0.16	0.05	0.28		0.16	0.048	0.22		0.16	0.048
Benzo(b)fluoranthene	-	-	-	-	0.4		0.12	0.034	0.4		0.12	0.033	0.38		0.12	0.033
Benzo(k)fluoranthene	-		-	-	0.12		0.12	0.033	0.21		0.12	0.031	0.24		0.12	0.031
Chrysene	-	-	-	-	0.35		0.12	0.021	0.64		0.12	0.02	0.43		0.12	0.02
Acenaphthylene	-		-	-	0.033	J	0.16	0.032	0.035	J	0.16	0.03	0.049	J	0.16	0.03
Anthracene	-		-	-	0.094	J	0.12	0.04	0.19		0.12	0.038	0.15		0.12	0.038
Benzo(ghi)perylene	-	-	-	-	0.16		0.16	0.024	0.16		0.16	0.023	0.11	J	0.16	0.023
Fluorene	-		-	-	0.042	J	0.2	0.02	0.055	J	0.2	0.019	0.11	J	0.2	0.019

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TABLE 2 BERM DATA
Former Freedman Sons Property
Green Island, NY

	BERM-3 (5)				BERM-4 (7)				BERM-5 (6)				BERM-6 (6)			
	L1642026-19 R1				L1642026-20				L1642026-21				L1642026-22			
	12/22/2016				12/22/2016				12/22/2016				12/22/2016			
	SOIL				SOIL				SOIL				SOIL			
ANALYTE	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
Phenanthrene	-		-	-	0.28		0.12	0.025	0.73		0.12	0.024	0.31		0.12	0.024
Dibenzo(a,h)anthracene	-		-	-	0.036	J	0.12	0.024	0.039	J	0.12	0.023	0.039	J	0.12	0.023
Indeno(1,2,3-cd)pyrene	-		-	-	0.19		0.16	0.028	0.2		0.16	0.027	0.15	J	0.16	0.027
Pyrene	-	-	-	-	0.46		0.12	0.02	0.96		0.12	0.019	0.55		0.12	0.019
Biphenyl	-		-	-	ND		0.47	0.047	ND		0.44	0.045	ND		0.45	0.045
4-Chloroaniline	-		-	-	ND		0.2	0.037	ND		0.2	0.036	ND		0.2	0.036
2-Nitroaniline	-		-	-	ND		0.2	0.039	ND		0.2	0.038	ND		0.2	0.038
3-Nitroaniline	-		-	-	ND		0.2	0.038	ND		0.2	0.037	ND		0.2	0.037
4-Nitroaniline	-		-	-	ND		0.2	0.085	ND		0.2	0.081	ND		0.2	0.081
Dibenzofuran	-		-	-	0.041	J	0.2	0.019	0.042	J	0.2	0.018	0.088	J	0.2	0.018
2-Methylnaphthalene	-		-	-	0.1	J	0.24	0.025	0.094	J	0.23	0.024	0.055	J	0.24	0.024
1,2,4,5-Tetrachlorobenzene	-		-	-	ND		0.2	0.021	ND		0.2	0.02	ND		0.2	0.02
Acetophenone	-		-	-	0.076	J	0.2	0.025	ND		0.2	0.024	ND		0.2	0.024
2,4,6-Trichlorophenol	-		-	-	ND		0.12	0.039	ND		0.12	0.037	ND		0.12	0.037
p-Chloro-m-cresol	-		-	-	ND		0.2	0.03	ND		0.2	0.029	ND		0.2	0.029
2-Chlorophenol	-		-	-	ND		0.2	0.024	ND		0.2	0.023	ND		0.2	0.023
2,4-Dichlorophenol	-		-	-	ND		0.18	0.033	ND		0.18	0.031	ND		0.18	0.032
2,4-Dimethylphenol	-		-	-	ND		0.2	0.067	ND		0.2	0.064	ND		0.2	0.065
2-Nitrophenol	-		-	-	ND		0.44	0.077	ND		0.42	0.074	ND		0.42	0.074
4-Nitrophenol	-		-	-	ND		0.29	0.083	ND		0.27	0.08	ND		0.27	0.08
2,4-Dinitrophenol	-		-	-	ND		0.98	0.095	ND		0.94	0.091	ND		0.94	0.091
4,6-Dinitro-o-cresol	-		-	-	ND		0.53	0.098	ND		0.51	0.094	ND		0.51	0.094
Pentachlorophenol	-		-	-	ND		0.16	0.045	ND		0.16	0.043	ND		0.16	0.043
Phenol	-		-	-	ND		0.2	0.031	ND		0.2	0.03	ND		0.2	0.03
2-Methylphenol	-		-	-	ND		0.2	0.032	ND		0.2	0.03	ND		0.2	0.03
3-Methylphenol/4-Methylphenol	-		-	-	ND		0.29	0.032	ND		0.28	0.031	ND		0.28	0.031
2,4,5-Trichlorophenol	-		-	-	ND		0.2	0.039	ND		0.2	0.037	ND		0.2	0.038
Carbazole	-		-	-	0.043	J	0.2	0.02	0.078	J	0.2	0.019	0.034	J	0.2	0.019
Atrazine	-		-	-	ND		0.16	0.072	ND		0.16	0.068	ND		0.16	0.069
Benzaldehyde	-		-	-	ND		0.27	0.055	ND		0.26	0.053	ND		0.26	0.053
Caprolactam	-		-	-	ND		0.2	0.062	ND		0.2	0.059	ND		0.2	0.06
2,3,4,6-Tetrachlorophenol	-		-	-	ND		0.2	0.041	ND		0.2	0.04	ND		0.2	0.04
Total SVOCs	-	-	-	-	7.399	-	-	-	8.312	-	-	-	4.465	-	-	-
Total TIC Compounds	-	-	-	-	18.802	-	-	-	2.246	-	-	-	1.43	-	-	-

Notes:
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TABLE 2 BERM DATA
Former Freedman Sons Property
Green Island, NY

	BERM-3 (5)				BERM-4 (7)				BERM-5 (6)				BERM-6 (6)			
	L1642026-19 R1				L1642026-20				L1642026-21				L1642026-22			
	12/22/2016				12/22/2016				12/22/2016				12/22/2016			
	SOIL				SOIL				SOIL				SOIL			
ANALYTE	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
CHLORINATED HERBICIDES BY GC	-	-	-	-												
MCPP	-		-	-	ND		4.04	1.27	ND		3.81	1.2	ND		3.97	1.25
MCPA	-		-	-	ND		4.04	1.14	ND		3.81	1.08	ND		3.97	1.12
Dalapon	-		-	-	ND		0.0404	0.0132	ND		0.0381	0.0124	ND		0.0397	0.013
Dicamba	-		-	-	ND		0.0404	0.00679	ND		0.0381	0.0064	ND		0.0397	0.00667
Dichloroprop	-		-	-	ND		0.0404	0.0116	ND		0.0381	0.0109	ND		0.0397	0.0114
2,4-D	-		-	-	ND		0.202	0.0127	ND		0.19	0.012	ND		0.199	0.0125
2,4-DB	-		-	-	ND		0.202	0.0104	ND		0.19	0.00978	ND		0.199	0.0102
2,4,5-T	-		-	-	ND		0.202	0.00626	ND		0.19	0.0059	ND		0.199	0.00616
2,4,5-TP (Silvex)	-		-	-	ND		0.202	0.00537	ND		0.19	0.00506	ND		0.199	0.00528
Dinoseb	-		-	-	ND		0.0404	0.00497	ND		0.0381	0.00468	ND		0.0397	0.00489
ORGANOCHLORINE PESTICIDES BY G	-	-	-	-												
Delta-BHC	-		-	-	ND		0.0019	0.000371	ND		0.00179	0.00035	ND		0.00187	0.000367
Lindane	-		-	-	ND		0.00079	0.000353	ND		0.000745	0.000333	ND		0.000781	0.000349
Alpha-BHC	-		-	-	ND		0.00079	0.000224	ND		0.000745	0.000211	ND		0.000781	0.000222
Beta-BHC	-		-	-	ND		0.0019	0.000719	ND		0.00179	0.000678	ND		0.00187	0.000711
Heptachlor	-		-	-	ND		0.000948	0.000425	ND		0.000894	0.0004	ND		0.000937	0.00042
Aldrin	-		-	-	ND		0.0019	0.000668	ND		0.00179	0.000629	ND		0.00187	0.00066
Heptachlor epoxide	-		-	-	ND		0.00356	0.00107	ND		0.00335	0.001	ND		0.00351	0.00105
Endrin	-		-	-	ND		0.00079	0.000324	ND		0.000745	0.000305	ND		0.000781	0.00032
Endrin aldehyde	-		-	-	ND		0.00237	0.00083	ND		0.00223	0.000782	ND		0.00234	0.00082
Endrin ketone	-		-	-	ND		0.0019	0.000488	ND		0.00179	0.00046	ND		0.00187	0.000483
Dieldrin	0.313	P	0.00577	0.00288	ND		0.00118	0.000593	ND		0.00112	0.000558	ND		0.00117	0.000586
4,4'-DDE	-		-	-	ND		0.0019	0.000439	ND		0.00179	0.000413	ND		0.00187	0.000433
4,4'-DDD	-		-	-	0.0162		0.0019	0.000676	0.00353		0.00179	0.000637	ND		0.00187	0.000668
4,4'-DDT	-		-	-	ND		0.00356	0.00152	ND		0.00335	0.00144	ND		0.00351	0.00151
Endosulfan I	-		-	-	ND		0.0019	0.000448	ND		0.00179	0.000422	ND		0.00187	0.000443
Endosulfan II	-		-	-	ND		0.0019	0.000634	ND		0.00179	0.000597	ND		0.00187	0.000626
Endosulfan sulfate	-		-	-	ND		0.00079	0.000376	ND		0.000745	0.000354	ND		0.000781	0.000372
Methoxychlor	-		-	-	ND		0.00356	0.00111	ND		0.00335	0.00104	ND		0.00351	0.00109
Toxaphene	-		-	-	ND		0.0356	0.00996	ND		0.0335	0.00938	ND		0.0351	0.00984
cis-Chlordane	-		-	-	ND		0.00237	0.000661	ND		0.00223	0.000622	ND		0.00234	0.000653
trans-Chlordane	-		-	-	ND		0.00237	0.000626	ND		0.00223	0.00059	ND		0.00234	0.000618
Chlordane	-		-	-	ND		0.0154	0.00628	ND		0.0145	0.00592	ND		0.0152	0.00621
POLYCHLORINATED BIPHENYLS BY G	-	-	-	-												
Aroclor 1016	-		-	-	ND		0.404	0.0319	ND		0.0378	0.00298	ND		0.0388	0.00307
Aroclor 1221	-		-	-	ND		0.404	0.0372	ND		0.0378	0.00348	ND		0.0388	0.00358
Aroclor 1232	-		-	-	ND		0.404	0.0473	ND		0.0378	0.00443	ND		0.0388	0.00455
Aroclor 1242	-	-	-	-	1.85		0.404	0.0494	0.185	PI	0.0378	0.00462	0.154	PI	0.0388	0.00475
Aroclor 1248	-		-	-	ND		0.404	0.0341	ND		0.0378	0.00319	ND		0.0388	0.00328
Aroclor 1254	-	-	-	-	2.57		0.404	0.0332	0.413		0.0378	0.0031	0.289		0.0388	0.00319
Aroclor 1260	-	-	-	-	2.04		0.404	0.0308	0.169		0.0378	0.00288	0.108		0.0388	0.00296
Aroclor 1262	-		-	-	ND		0.404	0.02	ND		0.0378	0.00187	ND		0.0388	0.00193
Aroclor 1268	-		-	-	ND		0.404	0.0586	ND		0.0378	0.00548	ND		0.0388	0.00563
PCBs, Total	-	-	-	-	6.46		0.404	0.0308	0.767		0.0378	0.00187	0.551		0.0388	0.00193

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mg/Kg = Milligrams per kilogram.

TABLE 2 BERM DATA
Former Freedman Sons Property
Green Island, NY

	BERM-3 (5)				BERM-4 (7)				BERM-5 (6)				BERM-6 (6)			
	L1642026-19 R1				L1642026-20				L1642026-21				L1642026-22			
	12/22/2016				12/22/2016				12/22/2016				12/22/2016			
	SOIL				SOIL				SOIL				SOIL			
ANALYTE	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
TOTAL METALS	-	-	-	-												
Aluminum, Total	-	-	-	-	9900		9.4	2.5	8100		8.9	2.4	7600		9.3	2.5
Antimony, Total	-	-	-	-	27		4.7	0.36	12		4.5	0.34	8.6		4.6	0.35
Arsenic, Total	-	-	-	-	12		0.94	0.2	7.4		0.89	0.19	9		0.93	0.19
Barium, Total	-	-	-	-	200		0.94	0.16	90		0.89	0.16	82		0.93	0.16
Beryllium, Total	-		-	-	0.3	J	0.47	0.03	0.3	J	0.45	0.03	0.34	J	0.46	0.03
Cadmium, Total	-	-	-	-	12		0.94	0.09	0.98		0.89	0.09	1.2		0.93	0.09
Calcium, Total	-	-	-	-	24000		9.4	3.3	3200		8.9	3.1	3400		9.3	3.2
Chromium, Total	-	-	-	-	140		0.94	0.09	25		0.89	0.09	40		0.93	0.09
Cobalt, Total	-	-	-	-	16		1.9	0.16	8.2		1.8	0.15	11		1.8	0.15
Copper, Total	-	-	-	-	2200		0.94	0.24	230		0.89	0.23	290		0.93	0.24
Iron, Total	-	-	-	-	100000		47	8.5	29000		4.5	0.81	30000		4.6	0.84
Lead, Total	-	-	-	-	1500		4.7	0.25	370		4.5	0.24	330		4.6	0.25
Magnesium, Total	-	-	-	-	6300		9.4	1.4	3400		8.9	1.4	3200		9.3	1.4
Manganese, Total	-	-	-	-	840		0.94	0.15	820		0.89	0.14	620		0.93	0.15
Mercury, Total	-	-	-	-	4.1		0.39	0.08	0.69		0.08	0.02	0.73		0.1	0.02
Nickel, Total	-	-	-	-	140		2.4	0.23	32		2.2	0.22	47		2.3	0.22
Potassium, Total	-	-	-	-	530		240	14	350		220	13	290		230	13
Selenium, Total	-		-	-	ND		1.9	0.24	ND		1.8	0.23	ND		1.8	0.24
Silver, Total	-	-	-	-	4.2		0.94	0.27	ND		0.89	0.25	ND		0.93	0.26
Sodium, Total	-	-	-	-	230		190	3	67	J	180	2.8	48	J	180	2.9
Thallium, Total	-		-	-	ND		1.9	0.3	ND		1.8	0.28	ND		1.8	0.29
Vanadium, Total	-	-	-	-	30		0.94	0.19	17		0.89	0.18	23		0.93	0.19
Zinc, Total	-	-	-	-	3600		47	2.8	320		4.5	0.26	370		4.6	0.27
GENERAL CHEMISTRY	-	-	-	-												
Solids, Total	-	-	-	-	80.8		0.1	NA	85		0.1	NA	82.4		0.1	NA
Cyanide, Total	-		-	-	0.63	J	1.2	0.2	ND		1.1	0.19	ND		1.2	0.2

Notes:
ND = Not detected above reporting limit (RL).
SCO IND = Soil cleanup Objective for Industrial Property.
MDL = Method detection limit.
J = Compound detected below RL concentration.
mg/Kg = Milligrams per kilogram.

TABLE 2 BERM DATA
Former Freedman Sons Property
Green Island, NY

	BERM-7 (6)				BERM-7 (6)				BERM-8 (6)				BERM-9 (6)			
	L1642026-23				L1642026-23 R1				L1642026-24				L1642026-25			
	12/22/2016				12/22/2016				12/22/2016				12/22/2016			
	SOIL				SOIL				SOIL				SOIL			
ANALYTE	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
VOLATILE ORGANICS BY GC/MS					-	-	-	-								
Methylene chloride	ND		0.012	0.0013	-		-	-	ND		0.011	0.0012	ND		0.013	0.0014
1,1-Dichloroethane	ND		0.0018	0.0001	-		-	-	ND		0.0016	0.00009	ND		0.002	0.00011
Chloroform	ND		0.0018	0.00045	-		-	-	ND		0.0016	0.00041	ND		0.002	0.00048
Carbon tetrachloride	ND		0.0012	0.00025	-		-	-	ND		0.0011	0.00023	ND		0.0013	0.00028
1,2-Dichloropropane	ND		0.0042	0.00028	-		-	-	ND		0.0038	0.00025	ND		0.0046	0.0003
Dibromochloromethane	ND		0.0012	0.00018	-		-	-	ND		0.0011	0.00017	ND		0.0013	0.0002
1,1,2-Trichloroethane	ND		0.0018	0.00037	-		-	-	ND		0.0016	0.00033	ND		0.002	0.0004
Tetrachloroethene	ND		0.0012	0.00017	-		-	-	ND		0.0011	0.00015	0.0096		0.0013	0.00018
Chlorobenzene	ND		0.0012	0.00042	-		-	-	ND		0.0011	0.00038	0.0018		0.0013	0.00046
Trichlorofluoromethane	ND		0.006	0.00047	-		-	-	ND		0.0055	0.00043	ND		0.0066	0.00051
1,2-Dichloroethane	ND		0.0012	0.00014	-		-	-	ND		0.0011	0.00012	ND		0.0013	0.00015
1,1,1-Trichloroethane	ND		0.0012	0.00013	-		-	-	ND		0.0011	0.00012	ND		0.0013	0.00014
Bromodichloromethane	ND		0.0012	0.00021	-		-	-	ND		0.0011	0.00019	ND		0.0013	0.00023
trans-1,3-Dichloropropene	ND		0.0012	0.00014	-		-	-	ND		0.0011	0.00013	ND		0.0013	0.00016
cis-1,3-Dichloropropene	ND		0.0012	0.00014	-		-	-	ND		0.0011	0.00013	ND		0.0013	0.00015
Bromoform	ND		0.0048	0.00028	-		-	-	ND		0.0044	0.00026	ND		0.0052	0.00031
1,1,2,2-Tetrachloroethane	ND		0.0012	0.00012	-		-	-	ND		0.0011	0.00011	ND		0.0013	0.00013
Benzene	ND		0.0012	0.00014	-		-	-	ND		0.0011	0.00013	ND		0.0013	0.00015
Toluene	0.00023	J	0.0018	0.00023	-		-	-	ND		0.0016	0.00021	0.0011	J	0.002	0.00026
Ethylbenzene	ND		0.0012	0.00015	-		-	-	ND		0.0011	0.00014	ND		0.0013	0.00017
Chloromethane	ND		0.006	0.00035	-		-	-	ND		0.0055	0.00032	ND		0.0066	0.00038
Bromomethane	ND		0.0024	0.00041	-		-	-	ND		0.0022	0.00037	ND		0.0026	0.00044
Vinyl chloride	ND		0.0024	0.00014	-		-	-	ND		0.0022	0.00013	ND		0.0026	0.00015
Chloroethane	ND		0.0024	0.00038	-		-	-	ND		0.0022	0.00035	ND		0.0026	0.00041
1,1-Dichloroethene	ND		0.0012	0.00032	-		-	-	ND		0.0011	0.00029	ND		0.0013	0.00034
trans-1,2-Dichloroethene	ND		0.0018	0.00026	-		-	-	ND		0.0016	0.00023	ND		0.002	0.00028
Trichloroethene	ND		0.0012	0.00015	-		-	-	ND		0.0011	0.00014	ND		0.0013	0.00016
1,2-Dichlorobenzene	ND		0.006	0.00018	-		-	-	ND		0.0055	0.00017	0.00021	J	0.0066	0.0002
1,3-Dichlorobenzene	ND		0.006	0.00016	-		-	-	ND		0.0055	0.00015	0.0026	J	0.0066	0.00018
1,4-Dichlorobenzene	ND		0.006	0.00017	-		-	-	ND		0.0055	0.00015	0.0011	J	0.0066	0.00018
Methyl tert butyl ether	ND		0.0024	0.0001	-		-	-	ND		0.0022	0.00009	ND		0.0026	0.00011
p/m-Xylene	ND		0.0024	0.00042	-		-	-	ND		0.0022	0.00039	ND		0.0026	0.00046
o-Xylene	ND		0.0024	0.00041	-		-	-	ND		0.0022	0.00037	ND		0.0026	0.00044
cis-1,2-Dichloroethene	ND		0.0012	0.00017	-		-	-	ND		0.0011	0.00016	ND		0.0013	0.00019
Styrene	ND		0.0024	0.00048	-		-	-	ND		0.0022	0.00044	ND		0.0026	0.00053
Dichlorodifluoromethane	ND		0.012	0.00023	-		-	-	ND		0.011	0.00021	ND		0.013	0.00025
Acetone	ND		0.012	0.0012	-		-	-	ND		0.011	0.0011	ND		0.013	0.0014
Carbon disulfide	ND		0.012	0.0013	-		-	-	ND		0.011	0.0012	ND		0.013	0.0014
2-Butanone	ND		0.012	0.00033	-		-	-	ND		0.011	0.0003	ND		0.013	0.00036
4-Methyl-2-pentanone	ND		0.012	0.00029	-		-	-	ND		0.011	0.00027	ND		0.013	0.00032
2-Hexanone	ND		0.012	0.0008	-		-	-	ND		0.011	0.00073	ND		0.013	0.00087
Bromochloromethane	ND		0.006	0.00033	-		-	-	ND		0.0055	0.0003	ND		0.0066	0.00036
1,2-Dibromoethane	ND		0.0048	0.00021	-		-	-	ND		0.0044	0.00019	ND		0.0052	0.00023
1,2-Dibromo-3-chloropropane	ND		0.006	0.00048	-		-	-	ND		0.0055	0.00044	ND		0.0066	0.00052
Isopropylbenzene	ND		0.0012	0.00012	-		-	-	ND		0.0011	0.00011	ND		0.0013	0.00014
1,2,3-Trichlorobenzene	ND		0.006	0.00018	-		-	-	ND		0.0055	0.00016	0.0012	J	0.0066	0.00019
1,2,4-Trichlorobenzene	ND		0.006	0.00022	-		-	-	ND		0.0055	0.0002	0.0014	J	0.0066	0.00024
Methyl Acetate	ND		0.024	0.00032	-		-	-	ND		0.022	0.0003	ND		0.026	0.00035
Cyclohexane	ND		0.024	0.00018	-		-	-	ND		0.022	0.00016	ND		0.026	0.00019
1,4-Dioxane	ND		0.12	0.017	-		-	-	ND		0.11	0.016	ND		0.13	0.019
Freon-113	ND		0.024	0.00033	-		-	-	ND		0.022	0.0003	ND		0.026	0.00036
Methyl cyclohexane	ND		0.0048	0.00019	-		-	-	ND		0.0044	0.00017	ND		0.0052	0.0002
Total VOCs	0.00023	-	-	-	-	-	-	-	-	-	-	-	0.01901	-	-	-
Total TIC Compounds	0.02699	J	0	0	-		-	-	0.03563	J	0	0	0.01936	J	0	0

Notes:
ND = Not detected above reporting limit (RL).
SCO IND = Soil cleanup Objective for Industrial Property.
MDL = Method detection limit.
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mg/Kg = Milligrams per kilogram.

TABLE 2 BERM DATA
Former Freedman Sons Property
Green Island, NY

	BERM-7 (6)				BERM-7 (6)				BERM-8 (6)				BERM-9 (6)			
	L1642026-23				L1642026-23 R1				L1642026-24				L1642026-25			
	12/22/2016				12/22/2016				12/22/2016				12/22/2016			
	SOIL				SOIL				SOIL				SOIL			
ANALYTE	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
SEMIVOLATILE ORGANICS BY GC/MS					-	-	-	-								
Acenaphthene	0.062	J	0.16	0.021	-		-	-	ND		0.29	0.037	0.08	J	0.17	0.022
Hexachlorobenzene	ND		0.12	0.022	-		-	-	ND		0.21	0.04	0.14		0.13	0.024
Bis(2-chloroethyl)ether	ND		0.18	0.027	-		-	-	ND		0.32	0.048	ND		0.2	0.029
2-Chloronaphthalene	ND		0.2	0.02	-		-	-	ND		0.36	0.035	ND		0.22	0.022
3,3'-Dichlorobenzidine	ND		0.2	0.053	-		-	-	ND		0.36	0.095	ND		0.22	0.058
2,4-Dinitrotoluene	ND		0.2	0.04	-		-	-	ND		0.36	0.072	ND		0.22	0.043
2,6-Dinitrotoluene	ND		0.2	0.034	-		-	-	ND		0.36	0.061	ND		0.22	0.037
Fluoranthene	0.92		0.12	0.023	-	-	-	-	0.28		0.21	0.041	3		0.13	0.025
4-Chlorophenyl phenyl ether	ND		0.2	0.021	-		-	-	ND		0.36	0.038	ND		0.22	0.023
4-Bromophenyl phenyl ether	ND		0.2	0.03	-		-	-	ND		0.36	0.055	ND		0.22	0.033
Bis(2-chloroisopropyl)ether	ND		0.24	0.034	-		-	-	ND		0.43	0.061	ND		0.26	0.037
Bis(2-chloroethoxy)methane	ND		0.22	0.02	-		-	-	ND		0.39	0.036	ND		0.23	0.022
Hexachlorobutadiene	ND		0.2	0.029	-		-	-	ND		0.36	0.052	ND		0.22	0.032
Hexachlorocyclopentadiene	ND		0.57	0.18	-		-	-	ND		1	0.32	ND		0.62	0.2
Hexachloroethane	ND		0.16	0.032	-		-	-	ND		0.29	0.058	ND		0.17	0.035
Isophorone	ND		0.18	0.026	-		-	-	ND		0.32	0.046	ND		0.2	0.028
Naphthalene	0.12	J	0.2	0.024	-		-	-	ND		0.36	0.044	0.12	J	0.22	0.026
Nitrobenzene	ND		0.18	0.03	-		-	-	ND		0.32	0.053	ND		0.2	0.032
NDPA/DPA	ND		0.16	0.023	-		-	-	ND		0.29	0.041	ND		0.17	0.025
n-Nitrosodi-n-propylamine	ND		0.2	0.031	-		-	-	ND		0.36	0.055	ND		0.22	0.034
Bis(2-ethylhexyl)phthalate	9.1	E	0.2	0.069	9.9		0.4	0.14	0.86		0.36	0.12	4.1		0.22	0.075
Butyl benzyl phthalate	0.36		0.2	0.05	-	-	-	-	0.12	J	0.36	0.09	2.2		0.22	0.055
Di-n-butylphthalate	0.095	J	0.2	0.038	-		-	-	ND		0.36	0.068	0.48		0.22	0.041
Di-n-octylphthalate	ND		0.2	0.068	-		-	-	0.4		0.36	0.12	0.43		0.22	0.074
Diethyl phthalate	ND		0.2	0.018	-		-	-	ND		0.36	0.033	ND		0.22	0.02
Dimethyl phthalate	0.14	J	0.2	0.042	-		-	-	ND		0.36	0.075	0.33		0.22	0.046
Benzo(a)anthracene	0.49		0.12	0.022	-	-	-	-	0.14	J	0.21	0.04	1.5		0.13	0.024
Benzo(a)pyrene	0.46		0.16	0.049	-	-	-	-	0.093	J	0.29	0.087	**1.3**		**0.17**	**0.053**
Benzo(b)fluoranthene	0.73		0.12	0.034	-	-	-	-	0.13	J	0.21	0.06	1.8		0.13	0.036
Benzo(k)fluoranthene	0.19		0.12	0.032	-	-	-	-	0.077	J	0.21	0.057	0.44		0.13	0.035
Chrysene	0.52		0.12	0.021	-	-	-	-	0.2	J	0.21	0.037	1.4		0.13	0.022
Acenaphthylene	0.083	J	0.16	0.031	-		-	-	ND		0.29	0.055	0.08	J	0.17	0.034
Anthracene	0.18		0.12	0.039	-	-	-	-	ND		0.21	0.07	0.46		0.13	0.042
Benzo(ghi)perylene	0.29		0.16	0.024	-	-	-	-	0.17	J	0.29	0.042	0.59		0.17	0.026
Fluorene	0.078	J	0.2	0.019	-		-	-	ND		0.36	0.035	0.13	J	0.22	0.021

Notes:
ND = Not detected above reporting limit (RL).
SCO IND = Soil cleanup Objective for Industrial Property.
MDL = Method detection limit.
J = Compound detected below RL concentration.
mg/Kg = Milligrams per kilogram.

TABLE 2 BERM DATA
Former Freedman Sons Property
Green Island, NY

	BERM-7 (6)				BERM-7 (6)				BERM-8 (6)				BERM-9 (6)			
	L1642026-23				L1642026-23 R1				L1642026-24				L1642026-25			
	12/22/2016				12/22/2016				12/22/2016				12/22/2016			
	SOIL				SOIL				SOIL				SOIL			
ANALYTE	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
Phenanthrene	0.54		0.12	0.024	-	-	-	-	0.16	J	0.21	0.044	1.4		0.13	0.026
Dibenzo(a,h)anthracene	0.074	J	0.12	0.023	-		-	-	ND		0.21	0.041	0.16		0.13	0.025
Indeno(1,2,3-cd)pyrene	0.3		0.16	0.028	-	-	-	-	0.15	J	0.29	0.05	0.61		0.17	0.03
Pyrene	0.8		0.12	0.02	-	-	-	-	0.26		0.21	0.036	2.6		0.13	0.022
Biphenyl	ND		0.46	0.046	-		-	-	ND		0.82	0.083	ND		0.5	0.05
4-Chloroaniline	ND		0.2	0.036	-		-	-	ND		0.36	0.065	ND		0.22	0.04
2-Nitroaniline	ND		0.2	0.038	-		-	-	ND		0.36	0.069	ND		0.22	0.042
3-Nitroaniline	ND		0.2	0.038	-		-	-	ND		0.36	0.067	ND		0.22	0.041
4-Nitroaniline	ND		0.2	0.083	-		-	-	ND		0.36	0.15	ND		0.22	0.09
Dibenzofuran	0.075	J	0.2	0.019	-		-	-	ND		0.36	0.034	0.073	J	0.22	0.02
2-Methylnaphthalene	0.14	J	0.24	0.024	-		-	-	ND		0.43	0.043	0.11	J	0.26	0.026
1,2,4,5-Tetrachlorobenzene	ND		0.2	0.021	-		-	-	ND		0.36	0.037	0.054	J	0.22	0.023
Acetophenone	0.11	J	0.2	0.025	-		-	-	ND		0.36	0.044	ND		0.22	0.027
2,4,6-Trichlorophenol	ND		0.12	0.038	-		-	-	ND		0.21	0.068	ND		0.13	0.041
p-Chloro-m-cresol	ND		0.2	0.03	-		-	-	ND		0.36	0.053	ND		0.22	0.032
2-Chlorophenol	ND		0.2	0.024	-		-	-	ND		0.36	0.042	ND		0.22	0.026
2,4-Dichlorophenol	ND		0.18	0.032	-		-	-	ND		0.32	0.058	ND		0.2	0.035
2,4-Dimethylphenol	ND		0.2	0.066	-		-	-	ND		0.36	0.12	ND		0.22	0.072
2-Nitrophenol	ND		0.43	0.075	-		-	-	ND		0.77	0.13	ND		0.47	0.082
4-Nitrophenol	ND		0.28	0.082	-		-	-	ND		0.5	0.14	ND		0.3	0.089
2,4-Dinitrophenol	ND		0.96	0.093	-		-	-	ND		1.7	0.17	ND		1	0.1
4,6-Dinitro-o-cresol	ND		0.52	0.096	-		-	-	ND		0.93	0.17	ND		0.56	0.1
Pentachlorophenol	ND		0.16	0.044	-		-	-	ND		0.29	0.079	ND		0.17	0.048
Phenol	ND		0.2	0.03	-		-	-	ND		0.36	0.054	0.11	J	0.22	0.033
2-Methylphenol	ND		0.2	0.031	-		-	-	ND		0.36	0.055	ND		0.22	0.034
3-Methylphenol/4-Methylphenol	ND		0.29	0.031	-		-	-	ND		0.52	0.056	0.038	J	0.31	0.034
2,4,5-Trichlorophenol	ND		0.2	0.038	-		-	-	ND		0.36	0.068	ND		0.22	0.042
Carbazole	0.082	J	0.2	0.019	-		-	-	ND		0.36	0.035	0.15	J	0.22	0.021
Atrazine	ND		0.16	0.07	-		-	-	ND		0.29	0.12	ND		0.17	0.076
Benzaldehyde	ND		0.26	0.054	-		-	-	ND		0.47	0.097	ND		0.29	0.059
Caprolactam	ND		0.2	0.061	-		-	-	ND		0.36	0.11	0.22		0.22	0.066
2,3,4,6-Tetrachlorophenol	ND		0.2	0.04	-		-	-	ND		0.36	0.072	ND		0.22	0.044
Total SVOCs	15.939	-	-	-	9.9	-	-	-	3.04	-	-	-	24.105	-	-	-
Total TIC Compounds	19.839	-	-	-	-	-	-	-	0.724	-	-	-	6.065	-	-	-

Notes:
ND = Not detected above reporting limit (RL).
SCO IND = Soil cleanup Objective for Industrial Property.
MDL = Method detection limit.
J = Compound detected below RL concentration.
mg/Kg = Milligrams per kilogram.

TABLE 2 BERM DATA
Former Freedman Sons Property
Green Island, NY

	BERM-7 (6)				BERM-7 (6)				BERM-8 (6)				BERM-9 (6)			
	L1642026-23				L1642026-23 R1				L1642026-24				L1642026-25			
	12/22/2016				12/22/2016				12/22/2016				12/22/2016			
	SOIL				SOIL				SOIL				SOIL			
ANALYTE	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
CHLORINATED HERBICIDES BY GC	-		-	-	-	-	-	-								
MCPP	ND		3.98	1.25	-		-	-	ND		3.65	1.15	ND		4.3	1.36
MCPA	ND		3.98	1.12	-		-	-	ND		3.65	1.03	ND		4.3	1.22
Dalapon	ND		0.0398	0.013	-		-	-	ND		0.0365	0.0119	ND		0.043	0.0141
Dicamba	ND		0.0398	0.00668	-		-	-	ND		0.0365	0.00613	ND		0.043	0.00723
Dichloroprop	ND		0.0398	0.0114	-		-	-	ND		0.0365	0.0105	ND		0.043	0.0124
2,4-D	ND		0.199	0.0125	-		-	-	ND		0.182	0.0115	ND		0.215	0.0136
2,4-DB	ND		0.199	0.0102	-		-	-	ND		0.182	0.00938	ND		0.215	0.0111
2,4,5-T	ND		0.199	0.00616	-		-	-	ND		0.182	0.00566	ND		0.215	0.00667
2,4,5-TP (Silvex)	ND		0.199	0.00529	-		-	-	ND		0.182	0.00486	ND		0.215	0.00572
Dinoseb	ND		0.0398	0.00489	-		-	-	ND		0.0365	0.00449	ND		0.043	0.00529
ORGANOCHLORINE PESTICIDES BY G					-	-	-	-								
Delta-BHC	ND		0.00187	0.000366	-		-	-	ND		0.00169	0.000331	ND		0.00207	0.000405
Lindane	ND		0.000778	0.000348	-		-	-	ND		0.000704	0.000315	ND		0.000861	0.000385
Alpha-BHC	ND		0.000778	0.000221	-		-	-	ND		0.000704	0.0002	ND		0.000861	0.000244
Beta-BHC	ND		0.00187	0.000708	-		-	-	ND		0.00169	0.000641	ND		0.00207	0.000784
Heptachlor	ND		0.000933	0.000418	-		-	-	ND		0.000845	0.000379	ND		0.00103	0.000463
Aldrin	ND		0.00187	0.000657	-		-	-	ND		0.00169	0.000595	ND		0.00207	0.000728
Heptachlor epoxide	ND		0.0035	0.00105	-		-	-	ND		0.00317	0.000951	ND		0.00388	0.00116
Endrin	ND		0.000778	0.000319	-		-	-	ND		0.000704	0.000289	ND		0.000861	0.000353
Endrin aldehyde	ND		0.00233	0.000817	-		-	-	ND		0.00211	0.000739	ND		0.00258	0.000904
Endrin ketone	ND		0.00187	0.000481	-		-	-	ND		0.00169	0.000435	ND		0.00207	0.000532
Dieldrin	ND		0.00117	0.000583	-		-	-	ND		0.00106	0.000528	ND		0.00129	0.000646
4,4'-DDE	ND		0.00187	0.000432	-		-	-	ND		0.00169	0.000391	ND		0.00207	0.000478
4,4'-DDD	0.0148		0.00187	0.000666	-	-	-	-	0.00293	P	0.00169	0.000603	0.0596		0.00207	0.000737
4,4'-DDT	ND		0.0035	0.0015	-		-	-	ND		0.00317	0.00136	ND		0.00388	0.00166
Endosulfan I	0.00189	PI	0.00187	0.000441	-		-	-	ND		0.00169	0.000399	ND		0.00207	0.000488
Endosulfan II	ND		0.00187	0.000624	-		-	-	ND		0.00169	0.000565	ND		0.00207	0.000691
Endosulfan sulfate	ND		0.000778	0.00037	-		-	-	ND		0.000704	0.000335	ND		0.000861	0.00041
Methoxychlor	ND		0.0035	0.00109	-		-	-	ND		0.00317	0.000986	ND		0.00388	0.0012
Toxaphene	ND		0.035	0.0098	-		-	-	ND		0.0317	0.00887	ND		0.0388	0.0108
cis-Chlordane	ND		0.00233	0.00065	-		-	-	ND		0.00211	0.000589	ND		0.00258	0.00072
trans-Chlordane	ND		0.00233	0.000616	-		-	-	ND		0.00211	0.000558	ND		0.00258	0.000682
Chlordane	ND		0.0152	0.00618	-		-	-	ND		0.0137	0.0056	ND		0.0168	0.00684
POLYCHLORINATED BIPHENYLS BY G					-	-	-	-								
Aroclor 1016	ND		0.382	0.0302	-		-	-	ND		0.0362	0.00286	ND		0.869	0.0686
Aroclor 1221	ND		0.382	0.0352	-		-	-	ND		0.0362	0.00333	ND		0.869	0.0801
Aroclor 1232	ND		0.382	0.0447	-		-	-	ND		0.0362	0.00424	ND		0.869	0.102
Aroclor 1242	1.38		0.382	0.0467	-	-	-	-	0.0951	P	0.0362	0.00442	5.23		0.869	0.106
Aroclor 1248	ND		0.382	0.0322	-		-	-	ND		0.0362	0.00305	ND		0.869	0.0734
Aroclor 1254	1.91		0.382	0.0314	-	-	-	-	0.333		0.0362	0.00297	5.23		0.869	0.0714
Aroclor 1260	0.926		0.382	0.0291	-	-	-	-	0.168		0.0362	0.00276	1.68		0.869	0.0662
Aroclor 1262	ND		0.382	0.0189	-		-	-	ND		0.0362	0.00179	ND		0.869	0.0431
Aroclor 1268	ND		0.382	0.0554	-		-	-	ND		0.0362	0.00524	ND		0.869	0.126
PCBs, Total	4.22		0.382	0.0291	-	-	-	-	0.596		0.0362	0.00276	12.1		0.869	0.0662

Notes:
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mg/Kg = Milligrams per kilogram.

TABLE 2 BERM DATA
Former Freedman Sons Property
Green Island, NY

	BERM-7 (6)				BERM-7 (6)				BERM-8 (6)				BERM-9 (6)			
	L1642026-23				L1642026-23 R1				L1642026-24				L1642026-25			
	12/22/2016				12/22/2016				12/22/2016				12/22/2016			
	SOIL				SOIL				SOIL				SOIL			
ANALYTE	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
TOTAL METALS					-	-	-	-								
Aluminum, Total	8200		9.4	2.5	-	-	-	-	6500		8.4	2.3	11000		10	2.7
Antimony, Total	16		4.7	0.36	-	-	-	-	3.1	J	4.2	0.32	26		5	0.38
Arsenic, Total	12		0.94	0.2	-	-	-	-	5.3		0.84	0.17	11		1	0.21
Barium, Total	170		0.94	0.16	-	-	-	-	83		0.84	0.14	320		1	0.18
Beryllium, Total	0.24	J	0.47	0.03	-		-	-	0.21	J	0.42	0.03	0.27	J	0.5	0.03
Cadmium, Total	7		0.94	0.09	-	-	-	-	2		0.84	0.08	19		1	0.1
Calcium, Total	28000		9.4	3.3	-	-	-	-	45000		8.4	2.9	15000		10	3.5
Chromium, Total	120		0.94	0.09	-	-	-	-	110		0.84	0.08	190		1	0.1
Cobalt, Total	12		1.9	0.16	-	-	-	-	7.3		1.7	0.14	19		2	0.17
Copper, Total	1400		0.94	0.24	-	-	-	-	270		0.84	0.22	2200		1	0.26
Iron, Total	120000		47	8.5	-	-	-	-	25000		4.2	0.76	100000		50	9.1
Lead, Total	1000		4.7	0.25	-	-	-	-	210		4.2	0.22	1300		5	0.27
Magnesium, Total	8700		9.4	1.4	-	-	-	-	21000		8.4	1.3	3800		10	1.6
Manganese, Total	990		0.94	0.15	-	-	-	-	450		0.84	0.13	770		1	0.16
Mercury, Total	2.7		0.08	0.02	-	-	-	-	0.74		0.08	0.02	5.4		0.43	0.09
Nickel, Total	100		2.4	0.23	-	-	-	-	90		2.1	0.2	160		2.5	0.24
Potassium, Total	520		240	14	-	-	-	-	460		210	12	550		250	14
Selenium, Total	ND		1.9	0.24	-		-	-	ND		1.7	0.22	ND		2	0.26
Silver, Total	1.5		0.94	0.27	-	-	-	-	0.31	J	0.84	0.24	1.8		1	0.28
Sodium, Total	270		190	3	-	-	-	-	170		170	2.6	310		200	3.2
Thallium, Total	ND		1.9	0.3	-		-	-	ND		1.7	0.26	ND		2	0.32
Vanadium, Total	28		0.94	0.19	-	-	-	-	18		0.84	0.17	37		1	0.2
Zinc, Total	1700		4.7	0.28	-	-	-	-	310		4.2	0.24	3900		50	3
GENERAL CHEMISTRY					-	-	-	-								
Solids, Total	82.9		0.1	NA	-	-	-	-	90.8		0.1	NA	76.2		0.1	NA
Cyanide, Total	0.53	J	2.4	0.4	-		-	-	ND		1	0.17	0.43	J	1.2	0.2

Notes:
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mg/Kg = Milligrams per kilogram.

TABLE 2 BERM DATA
Former Freedman Sons Property
Green Island, NY

	BERM-10 (5)				BERM-11 (4)				BERM-11 (4)				BERM-11 (4) DUP			
	L1642026-30				L1642026-26				L1642026-26 R1				L1642026-28			
	12/23/2016				12/23/2016				12/23/2016				12/23/2016			
	SOIL				SOIL				SOIL				SOIL			
ANALYTE	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
VOLATILE ORGANICS BY GC/MS									-	-	-	-				
Methylene chloride	ND		0.012	0.0013	ND		0.013	0.0014	-		-	-	ND		0.013	0.0014
1,1-Dichloroethane	ND		0.0018	0.0001	ND		0.0019	0.00011	-		-	-	ND		0.0019	0.00011
Chloroform	ND		0.0018	0.00045	ND		0.0019	0.00047	-		-	-	ND		0.0019	0.00048
Carbon tetrachloride	ND		0.0012	0.00025	ND		0.0013	0.00026	-		-	-	ND		0.0013	0.00027
1,2-Dichloropropane	ND		0.0042	0.00028	ND		0.0044	0.00029	-		-	-	ND		0.0045	0.00029
Dibromochloromethane	ND		0.0012	0.00019	ND		0.0013	0.00019	-		-	-	ND		0.0013	0.0002
1,1,2-Trichloroethane	ND		0.0018	0.00037	ND		0.0019	0.00038	-		-	-	ND		0.0019	0.00039
Tetrachloroethene	ND		0.0012	0.00017	ND		0.0013	0.00018	-		-	-	ND		0.0013	0.00018
Chlorobenzene	ND		0.0012	0.00042	ND		0.0013	0.00044	-		-	-	ND		0.0013	0.00045
Trichlorofluoromethane	ND		0.0061	0.00047	ND		0.0063	0.00049	-		-	-	ND		0.0064	0.0005
1,2-Dichloroethane	ND		0.0012	0.00014	ND		0.0013	0.00014	-		-	-	ND		0.0013	0.00015
1,1,1-Trichloroethane	ND		0.0012	0.00013	ND		0.0013	0.00014	-		-	-	ND		0.0013	0.00014
Bromodichloromethane	ND		0.0012	0.00021	ND		0.0013	0.00022	-		-	-	ND		0.0013	0.00022
trans-1,3-Dichloropropene	ND		0.0012	0.00015	ND		0.0013	0.00015	-		-	-	ND		0.0013	0.00016
cis-1,3-Dichloropropene	ND		0.0012	0.00014	ND		0.0013	0.00015	-		-	-	ND		0.0013	0.00015
Bromoform	ND		0.0048	0.00029	ND		0.005	0.0003	-		-	-	ND		0.0052	0.0003
1,1,2,2-Tetrachloroethane	ND		0.0012	0.00012	ND		0.0013	0.00013	-		-	-	ND		0.0013	0.00013
Benzene	ND		0.0012	0.00014	0.00015	J	0.0013	0.00015	-		-	-	0.00017	J	0.0013	0.00015
Toluene	ND		0.0018	0.00024	0.00052	J	0.0019	0.00024	-		-	-	0.00065	J	0.0019	0.00025
Ethylbenzene	ND		0.0012	0.00015	0.00029	J	0.0013	0.00016	-		-	-	0.00073	J	0.0013	0.00016
Chloromethane	ND		0.0061	0.00036	ND		0.0063	0.00037	-		-	-	ND		0.0064	0.00038
Bromomethane	ND		0.0024	0.00041	ND		0.0025	0.00043	-		-	-	ND		0.0026	0.00044
Vinyl chloride	ND		0.0024	0.00014	ND		0.0025	0.00015	-		-	-	ND		0.0026	0.00015
Chloroethane	ND		0.0024	0.00038	ND		0.0025	0.0004	-		-	-	ND		0.0026	0.00041
1,1-Dichloroethene	ND		0.0012	0.00032	ND		0.0013	0.00033	-		-	-	ND		0.0013	0.00034
trans-1,2-Dichloroethene	ND		0.0018	0.00026	ND		0.0019	0.00027	-		-	-	ND		0.0019	0.00027
Trichloroethene	ND		0.0012	0.00015	ND		0.0013	0.00016	-		-	-	ND		0.0013	0.00016
1,2-Dichlorobenzene	ND		0.0061	0.00018	ND		0.0063	0.00019	-		-	-	ND		0.0064	0.0002
1,3-Dichlorobenzene	ND		0.0061	0.00016	ND		0.0063	0.00017	-		-	-	ND		0.0064	0.00017
1,4-Dichlorobenzene	ND		0.0061	0.00017	ND		0.0063	0.00017	-		-	-	ND		0.0064	0.00018
Methyl tert butyl ether	ND		0.0024	0.0001	ND		0.0025	0.00011	-		-	-	ND		0.0026	0.00011
p/m-Xylene	ND		0.0024	0.00042	0.00044	J	0.0025	0.00044	-		-	-	0.001	J	0.0026	0.00045
o-Xylene	ND		0.0024	0.00041	ND		0.0025	0.00043	-		-	-	0.0011	J	0.0026	0.00044
cis-1,2-Dichloroethene	ND		0.0012	0.00017	ND		0.0013	0.00018	-		-	-	ND		0.0013	0.00018
Styrene	ND		0.0024	0.00049	ND		0.0025	0.00051	-		-	-	ND		0.0026	0.00052
Dichlorodifluoromethane	ND		0.012	0.00023	ND		0.013	0.00024	-		-	-	ND		0.013	0.00025
Acetone	ND		0.012	0.0012	0.0055	J	0.013	0.0013	-		-	-	0.0085	J	0.013	0.0013
Carbon disulfide	ND		0.012	0.0013	ND		0.013	0.0014	-		-	-	0.0015	J	0.013	0.0014
2-Butanone	ND		0.012	0.00033	ND		0.013	0.00034	-		-	-	ND		0.013	0.00035
4-Methyl-2-pentanone	ND		0.012	0.0003	ND		0.013	0.00031	-		-	-	ND		0.013	0.00032
2-Hexanone	ND		0.012	0.00081	ND		0.013	0.00084	-		-	-	ND		0.013	0.00086
Bromochloromethane	ND		0.0061	0.00033	ND		0.0063	0.00035	-		-	-	ND		0.0064	0.00036
1,2-Dibromoethane	ND		0.0048	0.00021	ND		0.005	0.00022	-		-	-	ND		0.0052	0.00022
1,2-Dibromo-3-chloropropane	ND		0.0061	0.00048	ND		0.0063	0.0005	-		-	-	ND		0.0064	0.00051
Isopropylbenzene	ND		0.0012	0.00012	0.00014	J	0.0013	0.00013	-		-	-	0.00035	J	0.0013	0.00013
1,2,3-Trichlorobenzene	ND		0.0061	0.00018	ND		0.0063	0.00019	-		-	-	ND		0.0064	0.00019
1,2,4-Trichlorobenzene	ND		0.0061	0.00022	ND		0.0063	0.00023	-		-	-	ND		0.0064	0.00023
Methyl Acetate	ND		0.024	0.00033	ND		0.025	0.00034	-		-	-	ND		0.026	0.00035
Cyclohexane	ND		0.024	0.00018	ND		0.025	0.00018	-		-	-	ND		0.026	0.00019
1,4-Dioxane	ND		0.12	0.018	ND		0.13	0.018	-		-	-	ND		0.13	0.019
Freon-113	ND		0.024	0.00033	ND		0.025	0.00034	-		-	-	ND		0.026	0.00035
Methyl cyclohexane	ND		0.0048	0.00019	ND		0.005	0.0002	-		-	-	ND		0.0052	0.0002
Total VOCs	-	-	-	-	0.00704	-	-	-	-	-	-	-	0.014	-	-	-
Total TIC Compounds	0.02192	J	0	0	0.03954	J	0	0	-		-	-	0.04868	J	0	0

Notes:
ND = Not detected above reporting limit (RL).
SCO IND = Soil cleanup Objective for Industrial Property.
MDL = Method detection limit.
J = Compound detected below RL concentration.
mg/Kg = Milligrams per kilogram.

TABLE 2 BERM DATA
Former Freedman Sons Property
Green Island, NY

	BERM-10 (5)				BERM-11 (4)				BERM-11 (4)				BERM-11 (4) DUP			
	L1642026-30				L1642026-26				L1642026-26 R1				L1642026-28			
	12/23/2016				12/23/2016				12/23/2016				12/23/2016			
	SOIL				SOIL				SOIL				SOIL			
ANALYTE	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
SEMIVOLATILE ORGANICS BY GC/MS									-	-	-	-				
Acenaphthene	0.042	J	0.16	0.021	0.034	J	0.17	0.022	-		-	-	1	J	3.4	0.44
Hexachlorobenzene	ND		0.12	0.022	ND		0.13	0.024	-		-	-	ND		2.6	0.48
Bis(2-chloroethyl)ether	ND		0.18	0.027	ND		0.19	0.028	-		-	-	ND		3.8	0.58
2-Chloronaphthalene	ND		0.2	0.02	ND		0.21	0.021	-		-	-	ND		4.3	0.42
3,3'-Dichlorobenzidine	ND		0.2	0.053	ND		0.21	0.056	-		-	-	ND		4.3	1.1
2,4-Dinitrotoluene	ND		0.2	0.04	ND		0.21	0.042	-		-	-	ND		4.3	0.86
2,6-Dinitrotoluene	ND		0.2	0.034	ND		0.21	0.036	-		-	-	ND		4.3	0.74
Fluoranthene	0.86		0.12	0.023	0.28		0.13	0.024	-	-	-	-	5.8		2.6	0.49
4-Chlorophenyl phenyl ether	ND		0.2	0.021	ND		0.21	0.022	-		-	-	ND		4.3	0.46
4-Bromophenyl phenyl ether	ND		0.2	0.03	ND		0.21	0.032	-		-	-	ND		4.3	0.65
Bis(2-chloroisopropyl)ether	ND		0.24	0.034	ND		0.25	0.036	-		-	-	ND		5.1	0.73
Bis(2-chloroethoxy)methane	ND		0.22	0.02	ND		0.23	0.021	-		-	-	ND		4.6	0.43
Hexachlorobutadiene	ND		0.2	0.029	ND		0.21	0.031	-		-	-	ND		4.3	0.63
Hexachlorocyclopentadiene	ND		0.57	0.18	ND		0.6	0.19	-		-	-	ND		12	3.9
Hexachloroethane	ND		0.16	0.032	ND		0.17	0.034	-		-	-	ND		3.4	0.69
Isophorone	ND		0.18	0.026	ND		0.19	0.027	-		-	-	ND		3.8	0.56
Naphthalene	0.18	J	0.2	0.024	0.11	J	0.21	0.026	-		-	-	1.1	J	4.3	0.52
Nitrobenzene	ND		0.18	0.03	ND		0.19	0.031	-		-	-	ND		3.8	0.63
NDPA/DPA	ND		0.16	0.023	ND		0.17	0.024	-		-	-	ND		3.4	0.49
n-Nitrosodi-n-propylamine	ND		0.2	0.031	ND		0.21	0.032	-		-	-	ND		4.3	0.66
Bis(2-ethylhexyl)phthalate	2.2		0.2	0.069	14	E	0.21	0.073	15		0.84	0.29	210	E	4.3	1.5
Butyl benzyl phthalate	0.99		0.2	0.05	1.9		0.21	0.053	-	-	-	-	1.1	J	4.3	1.1
Di-n-butylphthalate	0.11	J	0.2	0.038	ND		0.21	0.04	-		-	-	ND		4.3	0.81
Di-n-octylphthalate	ND		0.2	0.068	0.6		0.21	0.071	-	-	-	-	1.4	J	4.3	1.4
Diethyl phthalate	0.044	J	0.2	0.018	ND		0.21	0.019	-		-	-	ND		4.3	0.4
Dimethyl phthalate	0.17	J	0.2	0.042	0.27		0.21	0.044	-	-	-	-	ND		4.3	0.9
Benzo(a)anthracene	0.47		0.12	0.022	0.14		0.13	0.024	-	-	-	-	2.7		2.6	0.48
Benzo(a)pyrene	0.33		0.16	0.049	0.17		0.17	0.051	-	-	-	-	**2.3**	**J**	**3.4**	**1**
Benzo(b)fluoranthene	0.41		0.12	0.034	0.24		0.13	0.035	-	-	-	-	2.9		2.6	0.72
Benzo(k)fluoranthene	0.23		0.12	0.032	0.069	J	0.13	0.034	-		-	-	0.96	J	2.6	0.68
Chrysene	0.53		0.12	0.021	0.17		0.13	0.022	-	-	-	-	2.4	J	2.6	0.44
Acenaphthylene	0.077	J	0.16	0.031	ND		0.17	0.032	-		-	-	ND		3.4	0.66
Anthracene	0.15		0.12	0.039	0.054	J	0.13	0.041	-		-	-	1.6	J	2.6	0.84
Benzo(ghi)perylene	0.24		0.16	0.023	0.12	J	0.17	0.025	-		-	-	1.5	J	3.4	0.5
Fluorene	0.066	J	0.2	0.019	0.044	J	0.21	0.02	-		-	-	0.7	J	4.3	0.42

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MDL = Method detection limit.
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TABLE 2 BERM DATA
Former Freedman Sons Property
Green Island, NY

	BERM-10 (5)				BERM-11 (4)				BERM-11 (4)				BERM-11 (4) DUP			
	L1642026-30				L1642026-26				L1642026-26 R1				L1642026-28			
	12/23/2016				12/23/2016				12/23/2016				12/23/2016			
	SOIL				SOIL				SOIL				SOIL			
ANALYTE	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
Phenanthrene	0.58		0.12	0.024	0.19		0.13	0.026	-	-	-	-	5.5		2.6	0.52
Dibenzo(a,h)anthracene	0.054	J	0.12	0.023	0.03	J	0.13	0.024	-		-	-	ND		2.6	0.5
Indeno(1,2,3-cd)pyrene	0.25		0.16	0.028	0.11	J	0.17	0.029	-		-	-	1.6	J	3.4	0.6
Pyrene	0.74		0.12	0.02	0.27		0.13	0.021	-	-	-	-	4.8		2.6	0.43
Biphenyl	0.05	J	0.46	0.046	ND		0.48	0.049	-		-	-	ND		9.8	0.99
4-Chloroaniline	ND		0.2	0.036	ND		0.21	0.038	-		-	-	ND		4.3	0.78
2-Nitroaniline	ND		0.2	0.038	ND		0.21	0.04	-		-	-	ND		4.3	0.83
3-Nitroaniline	ND		0.2	0.038	ND		0.21	0.04	-		-	-	ND		4.3	0.81
4-Nitroaniline	ND		0.2	0.083	ND		0.21	0.087	-		-	-	ND		4.3	1.8
Dibenzofuran	0.06	J	0.2	0.019	0.036	J	0.21	0.02	-		-	-	0.6	J	4.3	0.4
2-Methylnaphthalene	0.21	J	0.24	0.024	0.11	J	0.25	0.025	-		-	-	ND		5.1	0.52
1,2,4,5-Tetrachlorobenzene	0.072	J	0.2	0.021	0.043	J	0.21	0.022	-		-	-	ND		4.3	0.45
Acetophenone	0.072	J	0.2	0.025	1.2		0.21	0.026	-	-	-	-	ND		4.3	0.53
2,4,6-Trichlorophenol	ND		0.12	0.038	ND		0.13	0.04	-		-	-	ND		2.6	0.81
p-Chloro-m-cresol	ND		0.2	0.03	ND		0.21	0.031	-		-	-	ND		4.3	0.64
2-Chlorophenol	ND		0.2	0.024	ND		0.21	0.025	-		-	-	ND		4.3	0.51
2,4-Dichlorophenol	ND		0.18	0.032	ND		0.19	0.034	-		-	-	ND		3.8	0.69
2,4-Dimethylphenol	ND		0.2	0.066	ND		0.21	0.069	-		-	-	ND		4.3	1.4
2-Nitrophenol	ND		0.43	0.075	ND		0.45	0.079	-		-	-	ND		9.2	1.6
4-Nitrophenol	ND		0.28	0.081	ND		0.29	0.086	-		-	-	ND		6	1.7
2,4-Dinitrophenol	ND		0.96	0.093	ND		1	0.098	-		-	-	ND		20	2
4,6-Dinitro-o-cresol	ND		0.52	0.096	ND		0.55	0.1	-		-	-	ND		11	2
Pentachlorophenol	ND		0.16	0.044	ND		0.17	0.046	-		-	-	ND		3.4	0.94
Phenol	ND		0.2	0.03	0.2	J	0.21	0.032	-		-	-	ND		4.3	0.65
2-Methylphenol	ND		0.2	0.031	ND		0.21	0.032	-		-	-	ND		4.3	0.66
3-Methylphenol/4-Methylphenol	0.039	J	0.29	0.031	0.11	J	0.3	0.033	-		-	-	ND		6.2	0.67
2,4,5-Trichlorophenol	ND		0.2	0.038	ND		0.21	0.04	-		-	-	ND		4.3	0.82
Carbazole	0.083	J	0.2	0.019	ND		0.21	0.02	-		-	-	0.86	J	4.3	0.42
Atrazine	ND		0.16	0.07	ND		0.17	0.074	-		-	-	ND		3.4	1.5
Benzaldehyde	ND		0.26	0.054	ND		0.28	0.057	-		-	-	ND		5.6	1.2
Caprolactam	ND		0.2	0.061	ND		0.21	0.064	-		-	-	ND		4.3	1.3
2,3,4,6-Tetrachlorophenol	ND		0.2	0.04	ND		0.21	0.042	-		-	-	ND		4.3	0.86
Total SVOCs	9.309	-	-	-	20.5	-	-	-	15	-	-	-	248.82	-	-	-
Total TIC Compounds	13.763	-	-	-	21.322	-	-	-	-	-	-	-	72	-	-	-

Notes:
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mg/Kg = Milligrams per kilogram.

TABLE 2 BERM DATA
Former Freedman Sons Property
Green Island, NY

	BERM-10 (5)				BERM-11 (4)				BERM-11 (4)				BERM-11 (4) DUP			
	L1642026-30				L1642026-26				L1642026-26 R1				L1642026-28			
	12/23/2016				12/23/2016				12/23/2016				12/23/2016			
	SOIL				SOIL				SOIL				SOIL			
ANALYTE	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
CHLORINATED HERBICIDES BY GC									-	-	-	-				
MCPP	ND		3.98	1.26	ND		4.17	1.31	-		-	-	ND		4.18	1.32
MCPA	ND		3.98	1.13	ND		4.17	1.18	-		-	-	ND		4.18	1.18
Dalapon	ND		0.0398	0.013	ND		0.0417	0.0136	-		-	-	ND		0.0418	0.0137
Dicamba	ND		0.0398	0.00669	ND		0.0417	0.00701	-		-	-	ND		0.0418	0.00703
Dichloroprop	ND		0.0398	0.0114	ND		0.0417	0.012	-		-	-	ND		0.0418	0.012
2,4-D	ND		0.199	0.0126	ND		0.208	0.0131	-		-	-	ND		0.209	0.0132
2,4-DB	ND		0.199	0.0102	ND		0.208	0.0107	-		-	-	ND		0.209	0.0108
2,4,5-T	ND		0.199	0.00618	ND		0.208	0.00646	-		-	-	ND		0.209	0.00649
2,4,5-TP (Silvex)	ND		0.199	0.0053	ND		0.208	0.00555	-		-	-	ND		0.209	0.00557
Dinoseb	ND		0.0398	0.0049	ND		0.0417	0.00513	-		-	-	ND		0.0418	0.00515
ORGANOCHLORINE PESTICIDES BY G									-	-	-	-				
Delta-BHC	ND		0.0019	0.000372	ND		0.00195	0.000381	-		-	-	ND		0.00203	0.000398
Lindane	ND		0.000791	0.000353	ND		0.000811	0.000363	-		-	-	ND		0.000847	0.000378
Alpha-BHC	ND		0.000791	0.000224	ND		0.000811	0.00023	-		-	-	ND		0.000847	0.00024
Beta-BHC	ND		0.0019	0.000719	ND		0.00195	0.000738	-		-	-	ND		0.00203	0.00077
Heptachlor	ND		0.000949	0.000425	ND		0.000974	0.000436	-		-	-	ND		0.00102	0.000455
Aldrin	ND		0.0019	0.000668	ND		0.00195	0.000686	-		-	-	ND		0.00203	0.000715
Heptachlor epoxide	ND		0.00356	0.00107	ND		0.00365	0.0011	-		-	-	ND		0.00381	0.00114
Endrin	ND		0.000791	0.000324	ND		0.000811	0.000333	-		-	-	ND		0.000847	0.000347
Endrin aldehyde	ND		0.00237	0.00083	ND		0.00243	0.000852	-		-	-	ND		0.00254	0.000889
Endrin ketone	ND		0.0019	0.000488	ND		0.00195	0.000501	-		-	-	ND		0.00203	0.000523
Dieldrin	ND		0.00118	0.000593	ND		0.00122	0.000608	-		-	-	ND		0.00127	0.000635
4,4'-DDE	ND		0.0019	0.000439	ND		0.00195	0.00045	-		-	-	ND		0.00203	0.00047
4,4'-DDD	ND		0.0019	0.000677	0.00849		0.00195	0.000695	-	-	-	-	ND		0.00203	0.000725
4,4'-DDT	ND		0.00356	0.00152	ND		0.00365	0.00157	-		-	-	ND		0.00381	0.00163
Endosulfan I	ND		0.0019	0.000448	ND		0.00195	0.00046	-		-	-	ND		0.00203	0.00048
Endosulfan II	ND		0.0019	0.000634	ND		0.00195	0.000651	-		-	-	ND		0.00203	0.000679
Endosulfan sulfate	ND		0.000791	0.000376	ND		0.000811	0.000386	-		-	-	ND		0.000847	0.000403
Methoxychlor	ND		0.00356	0.00111	ND		0.00365	0.00114	-		-	-	ND		0.00381	0.00118
Toxaphene	ND		0.0356	0.00996	ND		0.0365	0.0102	-		-	-	ND		0.0381	0.0107
cis-Chlordane	ND		0.00237	0.000661	ND		0.00243	0.000678	-		-	-	ND		0.00254	0.000708
trans-Chlordane	ND		0.00237	0.000626	ND		0.00243	0.000643	-		-	-	ND		0.00254	0.00067
Chlordane	ND		0.0154	0.00628	ND		0.0158	0.00645	-		-	-	ND		0.0165	0.00673
POLYCHLORINATED BIPHENYLS BY G									-	-	-	-				
Aroclor 1016	ND		3.94	0.311	ND		0.83	0.0656	-		-	-	ND		2.12	0.168
Aroclor 1221	ND		3.94	0.364	ND		0.83	0.0765	-		-	-	ND		2.12	0.196
Aroclor 1232	ND		3.94	0.462	ND		0.83	0.0973	-		-	-	ND		2.12	0.249
Aroclor 1242	4.25		3.94	0.482	9.1		0.83	0.102	-	-	-	-	7.84		2.12	0.26
Aroclor 1248	ND		3.94	0.333	ND		0.83	0.0701	-		-	-	ND		2.12	0.179
Aroclor 1254	ND		3.94	0.324	4.47		0.83	0.0682	-	-	-	-	5.74		2.12	0.174
Aroclor 1260	**37.1**		**3.94**	**0.3**	2.35		0.83	0.0632	-	-	-	-	1.75	J	2.12	0.162
Aroclor 1262	ND		3.94	0.196	ND		0.83	0.0412	-		-	-	ND		2.12	0.105
Aroclor 1268	ND		3.94	0.572	ND		0.83	0.12	-		-	-	ND		2.12	0.308
PCBs, Total	**41.4**		**3.94**	**0.3**	15.9		0.83	0.0632	-	-	-	-	15.3	J	2.12	0.26

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TABLE 2 BERM DATA
Former Freedman Sons Property
Green Island, NY

	BERM-10 (5)				BERM-11 (4)				BERM-11 (4)				BERM-11 (4) DUP			
	L1642026-30				L1642026-26				L1642026-26 R1				L1642026-28			
	12/23/2016				12/23/2016				12/23/2016				12/23/2016			
	SOIL				SOIL				SOIL				SOIL			
ANALYTE	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
TOTAL METALS									-	-	-	-				
Aluminum, Total	7500		9.5	2.6	22000		9.6	2.6	-	-	-	-	29000		10	2.7
Antimony, Total	12		4.8	0.36	39		4.8	0.36	-	-	-	-	39		5	0.38
Arsenic, Total	6.4		0.95	0.2	15		0.96	0.2	-	-	-	-	10		1	0.21
Barium, Total	210		0.95	0.17	420		0.96	0.17	-	-	-	-	410		1	0.17
Beryllium, Total	0.34	J	0.48	0.03	0.3	J	0.48	0.03	-		-	-	0.34	J	0.5	0.03
Cadmium, Total	7.4		0.95	0.09	14		0.96	0.09	-	-	-	-	19		1	0.1
Calcium, Total	9800		9.5	3.3	24000		9.6	3.4	-	-	-	-	31000		10	3.5
Chromium, Total	91		0.95	0.09	160		0.96	0.09	-	-	-	-	150		1	0.1
Cobalt, Total	10		1.9	0.16	22		1.9	0.16	-	-	-	-	23		2	0.17
Copper, Total	400		0.95	0.25	2300		0.96	0.25	-	-	-	-	2800		1	0.26
Iron, Total	38000		4.8	0.86	130000		48	8.6	-	-	-	-	110000		50	9
Lead, Total	810		4.8	0.26	1700		4.8	0.26	-	-	-	-	2800		5	0.27
Magnesium, Total	3300		9.5	1.5	5300		9.6	1.5	-	-	-	-	5600		10	1.5
Manganese, Total	580		0.95	0.15	880		0.96	0.15	-	-	-	-	830		1	0.16
Mercury, Total	0.99		0.08	0.02	4.8		0.48	0.1	-	-	-	-	3.3		0.09	0.02
Nickel, Total	57		2.4	0.23	210		2.4	0.23	-	-	-	-	210		2.5	0.24
Potassium, Total	570		240	14	800		240	14	-	-	-	-	790		250	14
Selenium, Total	ND		1.9	0.25	ND		1.9	0.25	-		-	-	ND		2	0.26
Silver, Total	1.4		0.95	0.27	3.8		0.96	0.27	-	-	-	-	4.1		1	0.28
Sodium, Total	220		190	3	960		190	3	-	-	-	-	1100		200	3.2
Thallium, Total	ND		1.9	0.3	ND		1.9	0.3	-		-	-	ND		2	0.32
Vanadium, Total	21		0.95	0.19	26		0.96	0.19	-	-	-	-	21		1	0.2
Zinc, Total	1000		4.8	0.28	9100		48	2.8	-	-	-	-	9200		50	2.9
GENERAL CHEMISTRY									-	-	-	-				
Solids, Total	82.4		0.1	NA	79.2		0.1	NA	-	-	-	-	77.4		0.1	NA
Cyanide, Total	0.98	J	1.2	0.2	0.32	J	1.2	0.21	-		-	-	0.56	J	1.3	0.21

Notes:
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J = Compound detected below RL concentration.
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TABLE 2 BERM DATA
Former Freedman Sons Property
Green Island, NY

	BERM-11 (4) DUP				BERM-12 (5)				BERM-12 (5)				BERM-13 (5)				BERM-13 (5)			
	L1642026-28 R2				L1642026-27				L1642026-27 R2				L1642026-29				L1642026-29 R1			
	12/23/2016				12/23/2016				12/23/2016				12/23/2016				12/23/2016			
	SOIL				SOIL				SOIL				SOIL				SOIL			
ANALYTE	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
VOLATILE ORGANICS BY GC/MS	-	-	-	-					-	-	-	-					-	-	-	-
Methylene chloride	-		-	-	ND		0.012	0.0014	-		-	-	ND		0.012	0.0014	-		-	-
1,1-Dichloroethane	-		-	-	ND		0.0019	0.00011	-		-	-	ND		0.0019	0.00011	-		-	-
Chloroform	-		-	-	ND		0.0019	0.00046	-		-	-	ND		0.0019	0.00046	-		-	-
Carbon tetrachloride	-		-	-	ND		0.0012	0.00026	-		-	-	ND		0.0012	0.00026	-		-	-
1,2-Dichloropropane	-		-	-	ND		0.0044	0.00029	-		-	-	ND		0.0044	0.00029	-		-	-
Dibromochloromethane	-		-	-	ND		0.0012	0.00019	-		-	-	ND		0.0012	0.00019	-		-	-
1,1,2-Trichloroethane	-		-	-	ND		0.0019	0.00038	-		-	-	ND		0.0019	0.00038	-		-	-
Tetrachloroethene	-		-	-	ND		0.0012	0.00018	-		-	-	ND		0.0012	0.00018	-		-	-
Chlorobenzene	-		-	-	ND		0.0012	0.00044	-		-	-	ND		0.0012	0.00044	-		-	-
Trichlorofluoromethane	-		-	-	ND		0.0063	0.00049	-		-	-	ND		0.0063	0.00049	-		-	-
1,2-Dichloroethane	-		-	-	ND		0.0012	0.00014	-		-	-	ND		0.0012	0.00014	-		-	-
1,1,1-Trichloroethane	-		-	-	ND		0.0012	0.00014	-		-	-	ND		0.0012	0.00014	-		-	-
Bromodichloromethane	-		-	-	ND		0.0012	0.00022	-		-	-	ND		0.0012	0.00022	-		-	-
trans-1,3-Dichloropropene	-		-	-	ND		0.0012	0.00015	-		-	-	ND		0.0012	0.00015	-		-	-
cis-1,3-Dichloropropene	-		-	-	ND		0.0012	0.00015	-		-	-	ND		0.0012	0.00015	-		-	-
Bromoform	-		-	-	ND		0.005	0.0003	-		-	-	ND		0.005	0.0003	-		-	-
1,1,2,2-Tetrachloroethane	-		-	-	ND		0.0012	0.00013	-		-	-	ND		0.0012	0.00013	-		-	-
Benzene	-		-	-	ND		0.0012	0.00015	-		-	-	0.00023	J	0.0012	0.00015	-		-	-
Toluene	-		-	-	ND		0.0019	0.00024	-		-	-	0.0018	J	0.0019	0.00024	-		-	-
Ethylbenzene	-		-	-	ND		0.0012	0.00016	-		-	-	ND		0.0012	0.00016	-		-	-
Chloromethane	-		-	-	ND		0.0063	0.00037	-		-	-	ND		0.0063	0.00037	-		-	-
Bromomethane	-		-	-	ND		0.0025	0.00042	-		-	-	ND		0.0025	0.00042	-		-	-
Vinyl chloride	-		-	-	ND		0.0025	0.00015	-		-	-	ND		0.0025	0.00015	-		-	-
Chloroethane	-		-	-	ND		0.0025	0.0004	-		-	-	ND		0.0025	0.0004	-		-	-
1,1-Dichloroethene	-		-	-	ND		0.0012	0.00033	-		-	-	ND		0.0012	0.00033	-		-	-
trans-1,2-Dichloroethene	-		-	-	ND		0.0019	0.00026	-		-	-	ND		0.0019	0.00027	-		-	-
Trichloroethene	-		-	-	ND		0.0012	0.00016	-		-	-	ND		0.0012	0.00016	-		-	-
1,2-Dichlorobenzene	-		-	-	ND		0.0063	0.00019	-		-	-	ND		0.0063	0.00019	-		-	-
1,3-Dichlorobenzene	-		-	-	ND		0.0063	0.00017	-		-	-	ND		0.0063	0.00017	-		-	-
1,4-Dichlorobenzene	-		-	-	ND		0.0063	0.00017	-		-	-	ND		0.0063	0.00017	-		-	-
Methyl tert butyl ether	-		-	-	ND		0.0025	0.0001	-		-	-	ND		0.0025	0.00011	-		-	-
p/m-Xylene	-		-	-	ND		0.0025	0.00044	-		-	-	ND		0.0025	0.00044	-		-	-
o-Xylene	-		-	-	ND		0.0025	0.00042	-		-	-	ND		0.0025	0.00042	-		-	-
cis-1,2-Dichloroethene	-		-	-	ND		0.0012	0.00018	-		-	-	ND		0.0012	0.00018	-		-	-
Styrene	-		-	-	ND		0.0025	0.0005	-		-	-	ND		0.0025	0.0005	-		-	-
Dichlorodifluoromethane	-		-	-	ND		0.012	0.00024	-		-	-	ND		0.012	0.00024	-		-	-
Acetone	-		-	-	ND		0.012	0.0013	-		-	-	ND		0.012	0.0013	-		-	-
Carbon disulfide	-		-	-	ND		0.012	0.0014	-		-	-	ND		0.012	0.0014	-		-	-
2-Butanone	-		-	-	ND		0.012	0.00034	-		-	-	ND		0.012	0.00034	-		-	-
4-Methyl-2-pentanone	-		-	-	ND		0.012	0.00031	-		-	-	ND		0.012	0.00031	-		-	-
2-Hexanone	-		-	-	ND		0.012	0.00084	-		-	-	ND		0.012	0.00084	-		-	-
Bromochloromethane	-		-	-	ND		0.0063	0.00035	-		-	-	ND		0.0063	0.00035	-		-	-
1,2-Dibromoethane	-		-	-	ND		0.005	0.00022	-		-	-	ND		0.005	0.00022	-		-	-
1,2-Dibromo-3-chloropropane	-		-	-	ND		0.0063	0.0005	-		-	-	ND		0.0063	0.0005	-		-	-
Isopropylbenzene	-		-	-	ND		0.0012	0.00013	-		-	-	ND		0.0012	0.00013	-		-	-
1,2,3-Trichlorobenzene	-		-	-	ND		0.0063	0.00018	-		-	-	ND		0.0063	0.00018	-		-	-
1,2,4-Trichlorobenzene	-		-	-	ND		0.0063	0.00023	-		-	-	ND		0.0063	0.00023	-		-	-
Methyl Acetate	-		-	-	ND		0.025	0.00034	-		-	-	ND		0.025	0.00034	-		-	-
Cyclohexane	-		-	-	ND		0.025	0.00018	-		-	-	ND		0.025	0.00018	-		-	-
1,4-Dioxane	-		-	-	ND		0.12	0.018	-		-	-	ND		0.12	0.018	-		-	-
Freon-113	-		-	-	ND		0.025	0.00034	-		-	-	ND		0.025	0.00034	-		-	-
Methyl cyclohexane	-		-	-	ND		0.005	0.00019	-		-	-	ND		0.005	0.00019	-		-	-
Total VOCs	-	-	-	-	-	-	-	-	-	-	-	-	0.00203	-	-	-	-	-	-	-
Total TIC Compounds	-		-	-	0.01675	J	0	0	-		-	-	0.03804	J	0	0	-		-	-

Notes:
ND = Not detected above reporting limit (RL).
SCO IND = Soil cleanup Objective for Industrial Property.
MDL = Method detection limit.
J = Compound detected below RL concentration.
mg/Kg = Milligrams per kilogram.

TABLE 2 BERM DATA
Former Freedman Sons Property
Green Island, NY

	BERM-11 (4) DUP				BERM-12 (5)				BERM-12 (5)				BERM-13 (5)				BERM-13 (5)			
	L1642026-28 R2				L1642026-27				L1642026-27 R2				L1642026-29				L1642026-29 R1			
	12/23/2016				12/23/2016				12/23/2016				12/23/2016				12/23/2016			
	SOIL				SOIL				SOIL				SOIL				SOIL			
ANALYTE	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
SEMIVOLATILE ORGANICS BY GC/MS	-	-	-	-					-	-	-	-					-	-	-	-
Acenaphthene	-		-	-	0.04	J	0.17	0.022	-		-	-	ND		0.16	0.021	-		-	-
Hexachlorobenzene	-		-	-	ND		0.12	0.023	-		-	-	ND		0.12	0.023	-		-	-
Bis(2-chloroethyl)ether	-		-	-	ND		0.19	0.028	-		-	-	ND		0.18	0.028	-		-	-
2-Chloronaphthalene	-		-	-	ND		0.21	0.021	-		-	-	ND		0.2	0.02	-		-	-
3,3'-Dichlorobenzidine	-		-	-	ND		0.21	0.055	-		-	-	ND		0.2	0.054	-		-	-
2,4-Dinitrotoluene	-		-	-	ND		0.21	0.042	-		-	-	ND		0.2	0.041	-		-	-
2,6-Dinitrotoluene	-		-	-	ND		0.21	0.036	-		-	-	ND		0.2	0.035	-		-	-
Fluoranthene	-	-	-	-	0.72		0.12	0.024	-	-	-	-	0.49		0.12	0.023	-	-	-	-
4-Chlorophenyl phenyl ether	-		-	-	ND		0.21	0.022	-		-	-	ND		0.2	0.022	-		-	-
4-Bromophenyl phenyl ether	-		-	-	ND		0.21	0.032	-		-	-	ND		0.2	0.031	-		-	-
Bis(2-chloroisopropyl)ether	-		-	-	ND		0.25	0.035	-		-	-	ND		0.24	0.035	-		-	-
Bis(2-chloroethoxy)methane	-		-	-	ND		0.22	0.021	-		-	-	ND		0.22	0.02	-		-	-
Hexachlorobutadiene	-		-	-	ND		0.21	0.03	-		-	-	ND		0.2	0.03	-		-	-
Hexachlorocyclopentadiene	-		-	-	ND		0.59	0.19	-		-	-	ND		0.58	0.18	-		-	-
Hexachloroethane	-		-	-	ND		0.17	0.034	-		-	-	ND		0.16	0.033	-		-	-
Isophorone	-		-	-	ND		0.19	0.027	-		-	-	ND		0.18	0.026	-		-	-
Naphthalene	-		-	-	0.086	J	0.21	0.025	-		-	-	0.082	J	0.2	0.025	-		-	-
Nitrobenzene	-		-	-	ND		0.19	0.031	-		-	-	ND		0.18	0.03	-		-	-
NDPA/DPA	-		-	-	ND		0.17	0.024	-		-	-	ND		0.16	0.023	-		-	-
n-Nitrosodi-n-propylamine	-		-	-	ND		0.21	0.032	-		-	-	ND		0.2	0.031	-		-	-
Bis(2-ethylhexyl)phthalate	220		8.6	3	11	E	0.21	0.072	11		0.42	0.14	57	E	0.2	0.07	99		4.1	1.4
Butyl benzyl phthalate	-		-	-	1.1		0.21	0.052	-	-	-	-	1		0.2	0.051	-	-	-	-
Di-n-butylphthalate	-		-	-	0.14	J	0.21	0.039	-		-	-	0.23		0.2	0.038	-	-	-	-
Di-n-octylphthalate	-		-	-	0.23		0.21	0.071	-	-	-	-	2.7		0.2	0.069	-	-	-	-
Diethyl phthalate	-		-	-	ND		0.21	0.019	-		-	-	ND		0.2	0.019	-		-	-
Dimethyl phthalate	-		-	-	0.18	J	0.21	0.044	-		-	-	0.19	J	0.2	0.043	-		-	-
Benzo(a)anthracene	-	-	-	-	0.49		0.12	0.023	-	-	-	-	0.27		0.12	0.023	-	-	-	-
Benzo(a)pyrene	-		-	-	0.55		0.17	0.051	-	-	-	-	0.31		0.16	0.05	-	-	-	-
Benzo(b)fluoranthene	-	-	-	-	0.77		0.12	0.035	-	-	-	-	0.42		0.12	0.034	-	-	-	-
Benzo(k)fluoranthene	-		-	-	0.25		0.12	0.033	-	-	-	-	0.15		0.12	0.032	-	-	-	-
Chrysene	-		-	-	0.48		0.12	0.022	-	-	-	-	0.32		0.12	0.021	-	-	-	-
Acenaphthylene	-		-	-	0.054	J	0.17	0.032	-		-	-	0.04	J	0.16	0.031	-		-	-
Anthracene	-		-	-	0.13		0.12	0.04	-	-	-	-	0.094	J	0.12	0.04	-		-	-
Benzo(ghi)perylene	-		-	-	0.39		0.17	0.024	-	-	-	-	0.27		0.16	0.024	-	-	-	-
Fluorene	-		-	-	0.045	J	0.21	0.02	-		-	-	0.032	J	0.2	0.02	-		-	-

Notes:
ND = Not detected above reporting limit (RL).
SCO IND = Soil cleanup Objective for Industrial Property.
MDL = Method detection limit.
J = Compound detected below RL concentration.
mg/Kg = Milligrams per kilogram.

TABLE 2 BERM DATA
Former Freedman Sons Property
Green Island, NY

	BERM-11 (4) DUP				BERM-12 (5)				BERM-12 (5)				BERM-13 (5)				BERM-13 (5)			
	L1642026-28 R2				L1642026-27				L1642026-27 R2				L1642026-29				L1642026-29 R1			
	12/23/2016				12/23/2016				12/23/2016				12/23/2016				12/23/2016			
	SOIL				SOIL				SOIL				SOIL				SOIL			
ANALYTE	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
Phenanthrene	-	-	-	-	0.34		0.12	0.025	-	-	-	-	0.28		0.12	0.025	-	-	-	-
Dibenzo(a,h)anthracene	-		-	-	0.091	J	0.12	0.024	-		-	-	0.06	J	0.12	0.024	-		-	-
Indeno(1,2,3-cd)pyrene	-		-	-	0.42		0.17	0.029	-	-	-	-	0.26		0.16	0.028	-	-	-	-
Pyrene	-	-	-	-	0.67		0.12	0.021	-	-	-	-	0.47		0.12	0.02	-	-	-	-
Biphenyl	-		-	-	ND		0.47	0.048	-		-	-	ND		0.46	0.047	-		-	-
4-Chloroaniline	-		-	-	ND		0.21	0.038	-		-	-	ND		0.2	0.037	-		-	-
2-Nitroaniline	-		-	-	ND		0.21	0.04	-		-	-	ND		0.2	0.039	-		-	-
3-Nitroaniline	-		-	-	ND		0.21	0.039	-		-	-	ND		0.2	0.038	-		-	-
4-Nitroaniline	-		-	-	ND		0.21	0.086	-		-	-	ND		0.2	0.084	-		-	-
Dibenzofuran	-		-	-	0.034	J	0.21	0.02	-		-	-	0.029	J	0.2	0.019	-		-	-
2-Methylnaphthalene	-		-	-	0.11	J	0.25	0.025	-		-	-	0.11	J	0.24	0.024	-		-	-
1,2,4,5-Tetrachlorobenzene	-		-	-	0.13	J	0.21	0.022	-		-	-	ND		0.2	0.021	-		-	-
Acetophenone	-		-	-	0.48		0.21	0.026	-	-	-	-	0.13	J	0.2	0.025	-		-	-
2,4,6-Trichlorophenol	-		-	-	ND		0.12	0.039	-		-	-	ND		0.12	0.038	-		-	-
p-Chloro-m-cresol	-		-	-	ND		0.21	0.031	-		-	-	ND		0.2	0.03	-		-	-
2-Chlorophenol	-		-	-	ND		0.21	0.024	-		-	-	ND		0.2	0.024	-		-	-
2,4-Dichlorophenol	-		-	-	ND		0.19	0.033	-		-	-	ND		0.18	0.033	-		-	-
2,4-Dimethylphenol	-		-	-	ND		0.21	0.068	-		-	-	ND		0.2	0.067	-		-	-
2-Nitrophenol	-		-	-	ND		0.45	0.078	-		-	-	ND		0.44	0.076	-		-	-
4-Nitrophenol	-		-	-	ND		0.29	0.085	-		-	-	ND		0.28	0.083	-		-	-
2,4-Dinitrophenol	-		-	-	ND		1	0.097	-		-	-	ND		0.98	0.095	-		-	-
4,6-Dinitro-o-cresol	-		-	-	ND		0.54	0.1	-		-	-	ND		0.53	0.098	-		-	-
Pentachlorophenol	-		-	-	ND		0.17	0.046	-		-	-	ND		0.16	0.045	-		-	-
Phenol	-		-	-	0.16	J	0.21	0.031	-		-	-	0.14	J	0.2	0.031	-		-	-
2-Methylphenol	-		-	-	ND		0.21	0.032	-		-	-	ND		0.2	0.032	-		-	-
3-Methylphenol/4-Methylphenol	-		-	-	ND		0.3	0.032	-		-	-	ND		0.29	0.032	-		-	-
2,4,5-Trichlorophenol	-		-	-	ND		0.21	0.04	-		-	-	ND		0.2	0.039	-		-	-
Carbazole	-		-	-	0.061	J	0.21	0.02	-		-	-	0.047	J	0.2	0.02	-		-	-
Atrazine	-		-	-	ND		0.17	0.073	-		-	-	ND		0.16	0.071	-		-	-
Benzaldehyde	-		-	-	ND		0.27	0.056	-		-	-	ND		0.27	0.055	-		-	-
Caprolactam	-		-	-	ND		0.21	0.063	-		-	-	0.22		0.2	0.062	-	-	-	-
2,3,4,6-Tetrachlorophenol	-		-	-	ND		0.21	0.042	-		-	-	ND		0.2	0.041	-		-	-
Total SVOCs	220	-	-	-	19.151	-	-	-	11	-	-	-	65.344	-	-	-	99	-	-	-
Total TIC Compounds	-	-	-	-	11.222	-	-	-	-	-	-	-	13.693	-	-	-	-	-	-	-

Notes:
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mg/Kg = Milligrams per kilogram.

TABLE 2 BERM DATA
Former Freedman Sons Property
Green Island, NY

	BERM-11 (4) DUP				BERM-12 (5)				BERM-12 (5)				BERM-13 (5)				BERM-13 (5)			
	L1642026-28 R2				L1642026-27				L1642026-27 R2				L1642026-29				L1642026-29 R1			
	12/23/2016				12/23/2016				12/23/2016				12/23/2016				12/23/2016			
	SOIL				SOIL				SOIL				SOIL				SOIL			
ANALYTE	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
CHLORINATED HERBICIDES BY GC	-	-	-	-					-	-	-	-					-	-	-	-
MCPP	-		-	-	ND		4.13	1.3	-		-	-	ND		4.15	1.31	-		-	-
MCPA	-		-	-	ND		4.13	1.17	-		-	-	ND		4.15	1.17	-		-	-
Dalapon	-		-	-	ND		0.0413	0.0135	-		-	-	ND		0.0415	0.0136	-		-	-
Dicamba	-		-	-	ND		0.0413	0.00694	-		-	-	ND		0.0415	0.00697	-		-	-
Dichloroprop	-		-	-	ND		0.0413	0.0118	-		-	-	ND		0.0415	0.0119	-		-	-
2,4-D	-		-	-	ND		0.206	0.013	-		-	-	ND		0.207	0.0131	-		-	-
2,4-DB	-		-	-	ND		0.206	0.0106	-		-	-	ND		0.207	0.0107	-		-	-
2,4,5-T	-		-	-	ND		0.206	0.0064	-		-	-	ND		0.207	0.00643	-		-	-
2,4,5-TP (Silvex)	-		-	-	ND		0.206	0.00549	-		-	-	ND		0.207	0.00552	-		-	-
Dinoseb	-		-	-	ND		0.0413	0.00508	-		-	-	ND		0.0415	0.0051	-		-	-
ORGANOCHLORINE PESTICIDES BY G	-	-	-	-					-	-	-	-					-	-	-	-
Delta-BHC	-		-	-	ND		0.00965	0.00189	-		-	-	ND		0.00191	0.000373	-		-	-
Lindane	-		-	-	ND		0.00402	0.0018	-		-	-	ND		0.000795	0.000355	-		-	-
Alpha-BHC	-		-	-	ND		0.00402	0.00114	-		-	-	ND		0.000795	0.000226	-		-	-
Beta-BHC	-		-	-	ND		0.00965	0.00366	-		-	-	ND		0.00191	0.000723	-		-	-
Heptachlor	-		-	-	ND		0.00482	0.00216	-		-	-	ND		0.000954	0.000427	-		-	-
Aldrin	-		-	-	ND		0.00965	0.0034	-		-	-	ND		0.00191	0.000671	-		-	-
Heptachlor epoxide	-		-	-	0.0785	PI	0.0181	0.00543	-		-	-	ND		0.00358	0.00107	-		-	-
Endrin	-		-	-	ND		0.00402	0.00165	-		-	-	ND		0.000795	0.000326	-		-	-
Endrin aldehyde	-		-	-	ND		0.0121	0.00422	-		-	-	ND		0.00238	0.000834	-		-	-
Endrin ketone	-		-	-	ND		0.00965	0.00248	-		-	-	ND		0.00191	0.000491	-		-	-
Dieldrin	-		-	-	0.286	P	0.00603	0.00302	-		-	-	ND		0.00119	0.000596	-		-	-
4,4'-DDE	-		-	-	ND		0.00965	0.00223	-		-	-	ND		0.00191	0.000441	-		-	-
4,4'-DDD	-		-	-	0.0804	PI	0.00965	0.00344	-		-	-	ND		0.00191	0.00068	-		-	-
4,4'-DDT	-		-	-	0.208	PI	0.0181	0.00776	-		-	-	ND		0.00358	0.00153	-		-	-
Endosulfan I	-		-	-	ND		0.00965	0.00228	-		-	-	ND		0.00191	0.00045	-		-	-
Endosulfan II	-		-	-	0.0506	PI	0.00965	0.00322	-		-	-	ND		0.00191	0.000637	-		-	-
Endosulfan sulfate	-		-	-	ND		0.00402	0.00191	-		-	-	ND		0.000795	0.000378	-		-	-
Methoxychlor	-		-	-	ND		0.0181	0.00563	-		-	-	ND		0.00358	0.00111	-		-	-
Toxaphene	-		-	-	ND		0.181	0.0507	-		-	-	ND		0.0358	0.01	-		-	-
cis-Chlordane	-		-	-	ND		0.0121	0.00336	-		-	-	ND		0.00238	0.000664	-		-	-
trans-Chlordane	-		-	-	ND		0.0121	0.00318	-		-	-	ND		0.00238	0.000629	-		-	-
Chlordane	-		-	-	ND		0.0784	0.032	-		-	-	ND		0.0155	0.00632	-		-	-
POLYCHLORINATED BIPHENYLS BY G	-	-	-	-					-	-	-	-					-	-	-	-
Aroclor 1016	-		-	-	ND		1.98	0.157	-		-	-	ND		0.791	0.0625	-		-	-
Aroclor 1221	-		-	-	ND		1.98	0.183	-		-	-	ND		0.791	0.0729	-		-	-
Aroclor 1232	-		-	-	ND		1.98	0.233	-		-	-	ND		0.791	0.0927	-		-	-
Aroclor 1242	-	-	-	-	6.34		1.98	0.243	-	-	-	-	3.04		0.791	0.0968	-	-	-	-
Aroclor 1248	-		-	-	ND		1.98	0.168	-		-	-	ND		0.791	0.0668	-		-	-
Aroclor 1254	-	-	-	-	8.93		1.98	0.163	-	-	-	-	2.77		0.791	0.065	-	-	-	-
Aroclor 1260	-		-	-	2.12		1.98	0.151	-	-	-	-	1.93		0.791	0.0603	-	-	-	-
Aroclor 1262	-		-	-	ND		1.98	0.0985	-		-	-	ND		0.791	0.0392	-		-	-
Aroclor 1268	-		-	-	ND		1.98	0.288	-		-	-	ND		0.791	0.115	-		-	-
PCBs, Total	-		-	-	17.4		1.98	0.243	-	-	-	-	7.74		0.791	0.0603	-	-	-	-

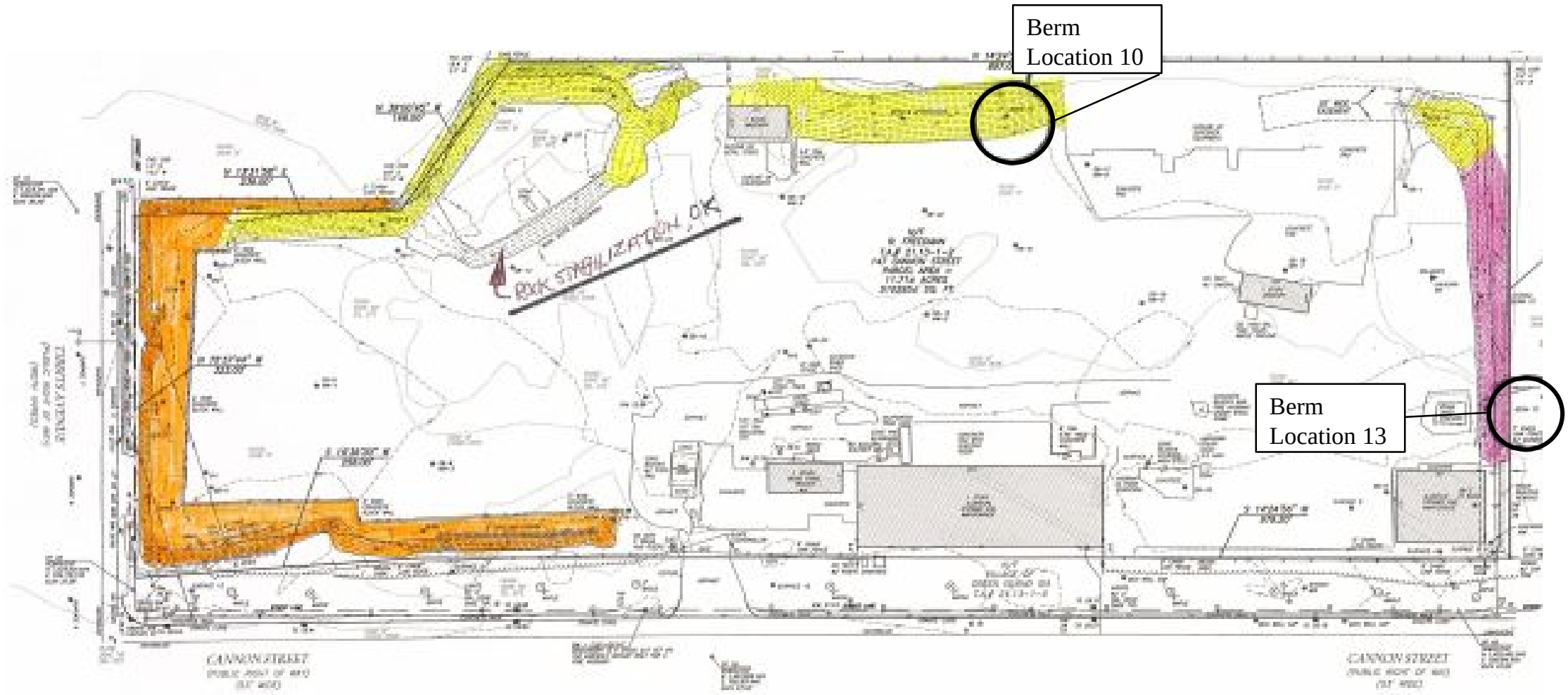
Notes:
ND = Not detected above reporting limit (RL).
SCO IND = Soil cleanup Objective for Industrial Property.
MDL = Method detection limit.
J = Compound detected below RL concentration.
mg/Kg = Milligrams per kilogram.

TABLE 2 BERM DATA
Former Freedman Sons Property
Green Island, NY

	BERM-11 (4) DUP				BERM-12 (5)				BERM-12 (5)				BERM-13 (5)				BERM-13 (5)			
	L1642026-28 R2				L1642026-27				L1642026-27 R2				L1642026-29				L1642026-29 R1			
	12/23/2016				12/23/2016				12/23/2016				12/23/2016				12/23/2016			
	SOIL				SOIL				SOIL				SOIL				SOIL			
ANALYTE	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
TOTAL METALS	-	-	-	-					-	-	-	-					-	-	-	-
Aluminum, Total	-	-	-	-	13000		9.7	2.6	-	-	-	-	14000		9.7	2.6	-	-	-	-
Antimony, Total	-	-	-	-	23		4.8	0.37	-	-	-	-	37		4.8	0.37	-	-	-	-
Arsenic, Total	-	-	-	-	12		0.97	0.2	-	-	-	-	9.2		0.97	0.2	-	-	-	-
Barium, Total	-	-	-	-	240		0.97	0.17	-	-	-	-	260		0.97	0.17	-	-	-	-
Beryllium, Total	-		-	-	0.83		0.48	0.03	-	-	-	-	0.44	J	0.48	0.03	-		-	-
Cadmium, Total	-	-	-	-	18		0.97	0.1	-	-	-	-	14		0.97	0.1	-	-	-	-
Calcium, Total	-	-	-	-	29000		9.7	3.4	-	-	-	-	23000		9.7	3.4	-	-	-	-
Chromium, Total	-	-	-	-	170		0.97	0.09	-	-	-	-	280		0.97	0.09	-	-	-	-
Cobalt, Total	-	-	-	-	19		1.9	0.16	-	-	-	-	19		1.9	0.16	-	-	-	-
Copper, Total	-	-	-	-	1700		0.97	0.25	-	-	-	-	2300		0.97	0.25	-	-	-	-
Iron, Total	-	-	-	-	150000		48	8.7	-	-	-	-	89000		48	8.8	-	-	-	-
Lead, Total	-	-	-	-	1700		4.8	0.26	-	-	-	-	1500		4.8	0.26	-	-	-	-
Magnesium, Total	-	-	-	-	3800		9.7	1.5	-	-	-	-	4300		9.7	1.5	-	-	-	-
Manganese, Total	-	-	-	-	1000		0.97	0.15	-	-	-	-	740		0.97	0.15	-	-	-	-
Mercury, Total	-	-	-	-	3.7		0.48	0.1	-	-	-	-	**82**		**4.6**	**0.98**	-	-	-	-
Nickel, Total	-	-	-	-	240		2.4	0.23	-	-	-	-	160		2.4	0.24	-	-	-	-
Potassium, Total	-	-	-	-	610		240	14	-	-	-	-	650		240	14	-	-	-	-
Selenium, Total	-		-	-	ND		1.9	0.25	-		-	-	ND		1.9	0.25	-		-	-
Silver, Total	-	-	-	-	2.2		0.97	0.27	-	-	-	-	3.2		0.97	0.27	-	-	-	-
Sodium, Total	-	-	-	-	510		190	3	-	-	-	-	420		190	3	-	-	-	-
Thallium, Total	-		-	-	ND		1.9	0.3	-		-	-	ND		1.9	0.3	-		-	-
Vanadium, Total	-	-	-	-	22		0.97	0.2	-	-	-	-	22		0.97	0.2	-	-	-	-
Zinc, Total	-	-	-	-	**12000**		**48**	**2.8**	-	-	-	-	3500		4.8	0.28	-	-	-	-
GENERAL CHEMISTRY	-	-	-	-					-	-	-	-					-	-	-	-
Solids, Total	-	-	-	-	79.7		0.1	NA	-	-	-	-	79.5		0.1	NA	-	-	-	-
Cyanide, Total	-		-	-	0.27	J	1.2	0.2	-		-	-	0.27	J	1.2	0.2	-	-	-	-

Notes:
ND = Not detected above reporting limit (RL).
SCO IND = Soil cleanup Objective for Industrial Property.
MDL = Method detection limit.
J = Compound detected below RL concentration.
mg/Kg = Milligrams per kilogram.

FIGURES



Berm needs vegetative cover.

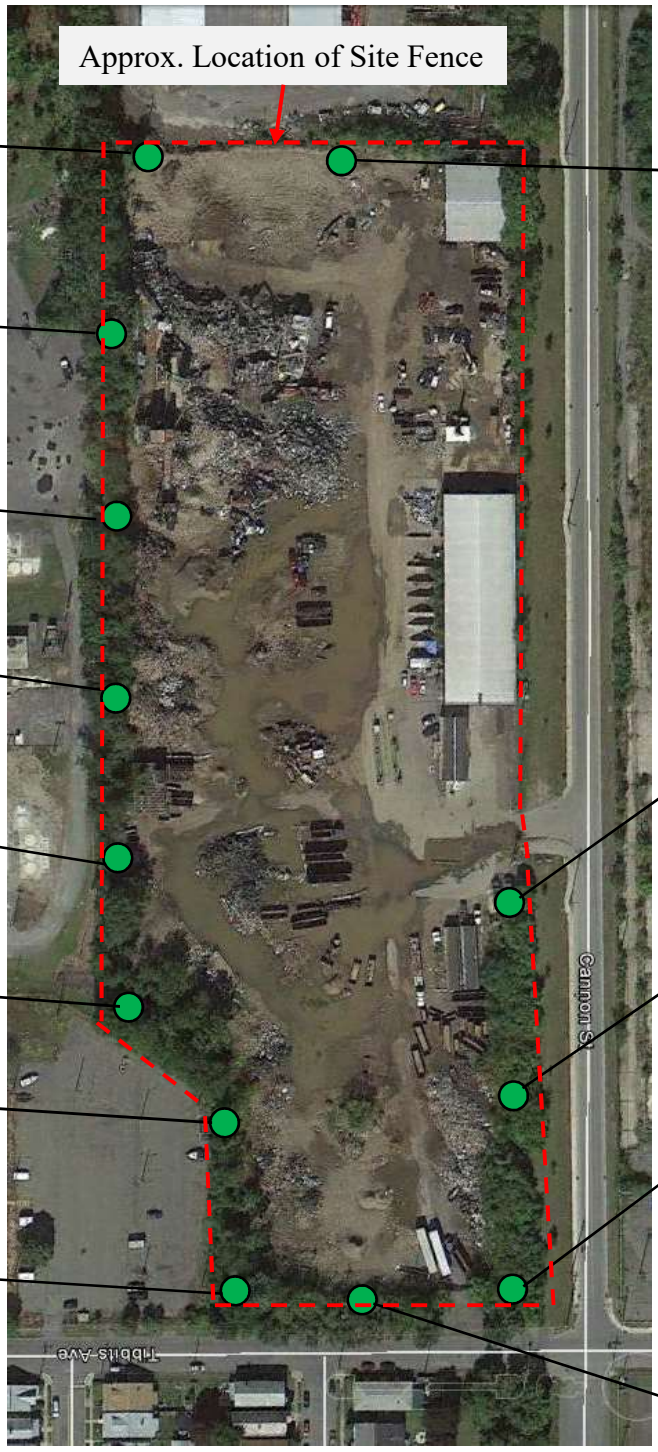
Berm needs slope stabilization and vegetative cover.

Berm not adequately vegetated.

Title	NYSDEC Vegetative Cover Requirements Former Freedman & Sons Property Green Island, New York
Prepared For	Eastern Metal Recycling, LLC 143 Harding Avenue, 1st Floor Bellmawr, New Jersey

Leader Professional Services, Inc
271 Marsh Road-Suite 2
Pittsford, New York 14534
(585) 248-2413
FAX (585) 248-2834

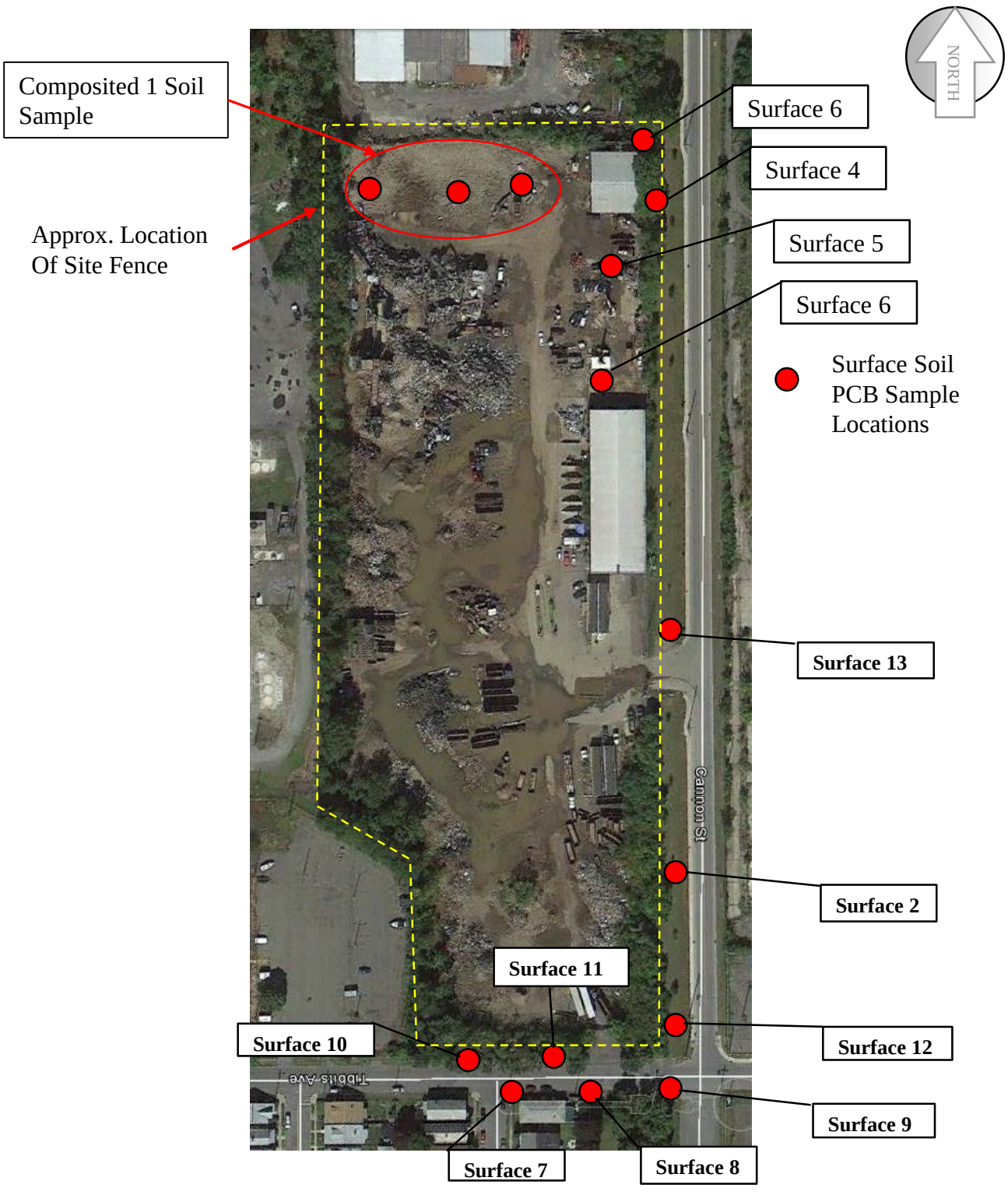
Project	842.002
Date	4/3/2018
Scale	1” = 160’
Drawn	PVS
Checked	MPR
File Name	Berm cover drawing
Figure	1



Title	PCB Concentrations Berm Soil Sampling Freedman & Sons Property, Green Island, NY
Prepared For	Eastern Metal Recycling, LLC 143 Harding Avenue, 1st. Floor Bellmawr, New Jersey 08031

Leader Professional Services
271 Marsh Road, Suite 2
Pittsford, NY 14534
(585) 248-2413
FAX (585) 248-2834

Project	842.002
Date	3/21/2017
Scale	As Shown
Drawn	PVS
Checked	MPR
File Name	Site Map
Figure	2



Title: PCB Sampling Locations, Freedman & Sons Property, Green Island, NY	Leader Professional Services, 271 Marsh Road, Suite 2, Pittsford, NY 14534, (585) 248-2413, FAX (585) 248-2834	Project: 842.002	Drawn: PVS	Figure: 3
Prepared For: Eastern Metal Recycling, LLC, 143 Harding Avenue, 1st. Floor, Bellmawr, New Jersey 08031		Date: 6/11/18	Checked: MPR	
		Scale: As Shown	File Name: Site Map	

Title PCB Surface Sampling Locations & Results
Freedman & Sons Property, Green Island, NY

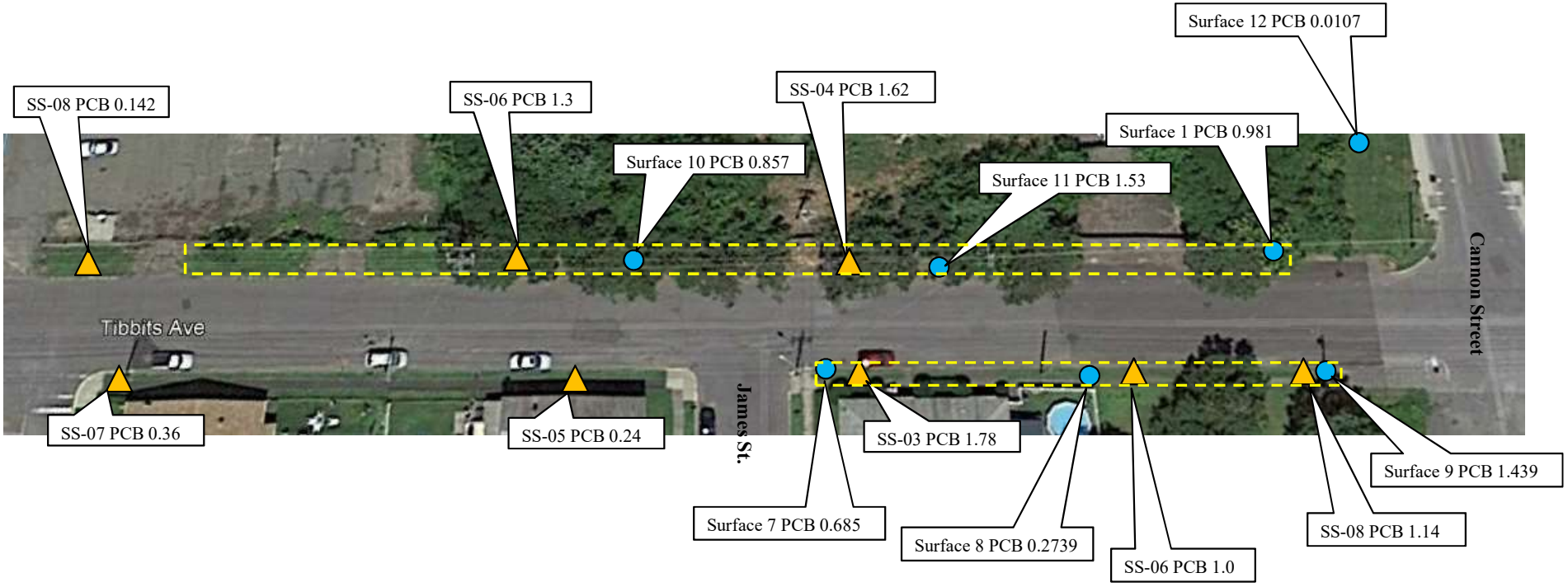
Prepared For
Eastern Metal Recycling, LLC
143 Harding Avenue, 1st. Floor
Bellmawr, New Jersey 08031

Leader Professional Services
271 Marsh Road, Suite 2
Pittsford, NY 14534
(585) 248-2413
FAX (585) 248-2834

Project 842.002
Date 6/11/18
Scale As Shown

Drawn PVS
Checked MPR
File Name Site Map

Figure 4



SS-07 PCB 0.36 Sample Id. PCB Value in milligrams per kilogram

Proposed Remediation Area

RI Surface Soil Sample Locations

Samples collected for Freedman and Sons, locations cannot be confirmed.

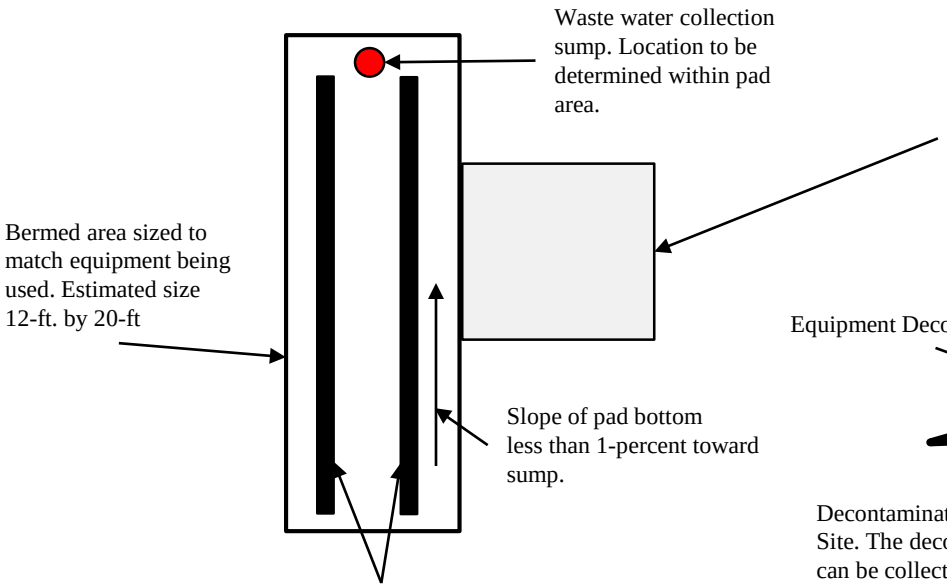
Title	Tibbits Avenue Right of Way Remediation Area Former Freedman & Sons Property Green Island, New York
Prepared For	Eastern Metal Recycling, LLC 143 Harding Avenue, 1st Floor Bellmawr, New Jersey

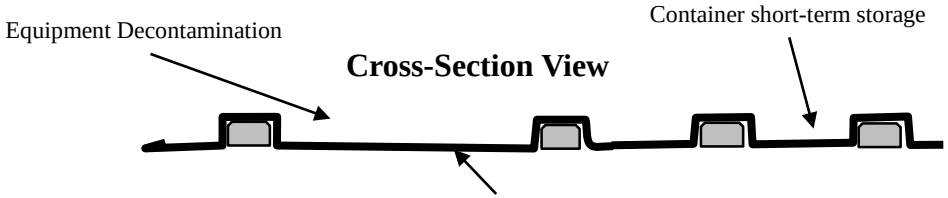
Leader Professional Services, Inc
271 Marsh Road-Suite 2
Pittsford, New York 14534
(585) 248-2413
FAX (585) 248-2834

Project	842.002
Date	4/3/2018
Scale	1" = 50'
Drawn	PVS
Checked	MPR
File Name	Off site drawing
Figure	5

Materials

Reinforced plastic sheeting: Americicover 100-ft. by 12-ft. reinforced polyethylene. Model DS212 or DS220 or equivalent as approved by Engineer.
Plastic sheeting: Husky 100-ft. by 20-ft., 20 mil. Polyethylene sheeting, Home Depot Model CF-1020B or equivalent as approved by Engineer.
Seam tape: Americover seaming tape. Grainger item 6DLT1, manufacturer model VTW or equivalent as approved by Engineer.
Planks can be used to increase the resiliency of the plastic liner for equipment to travel across.
Topsoil/sand fill we be approved by NYSDEC prior to use on the Site. Source is anticipated to be RJ Valenti Gravel, Inc. located at 118 Button Road In Waterford, NY.



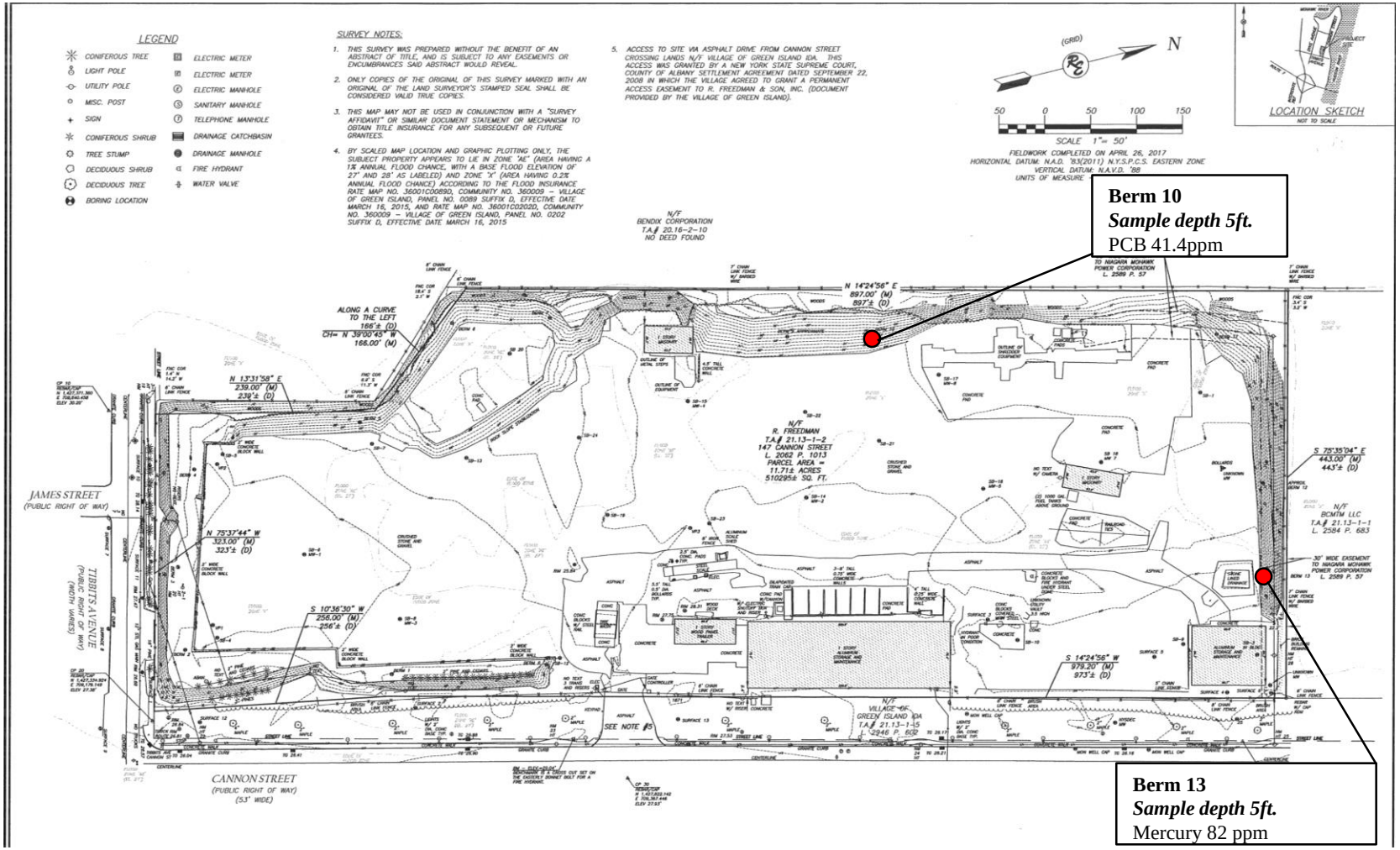


Decontamination area will be placed on topsoil/sand fill approved by NYSDEC for use on the Site. The decontamination pad will be sloped and a collection point formed where waste water can be collected for containerization. Berms will be formed from sand, sand bags, wood planks or wood timbers. The plastic liner will be composed of 20 mil. thickness stock or reinforced sheeting. If thinner un-reinforced plastic is used multiple layers will be used and taped together with a 2-foot overlap. Water collection will be done using a sump pump and, or a shop vac as needed. Water will not be allowed to accumulate within the decontamination area.

Title	Construction Detail for the Decontamination Pad Area Freedman & Sons Property Green Island, New York
Prepared For	Eastern Metal Recycling, LLC 143 Harding Avenue, 1sr. Floor Bellmawr, New Jersey 08031

Leader Professional Services, Inc
271 Marsh Road-Suite 2
Pittsford, New York 14534
(585) 248-2413
FAX (585) 248-2834

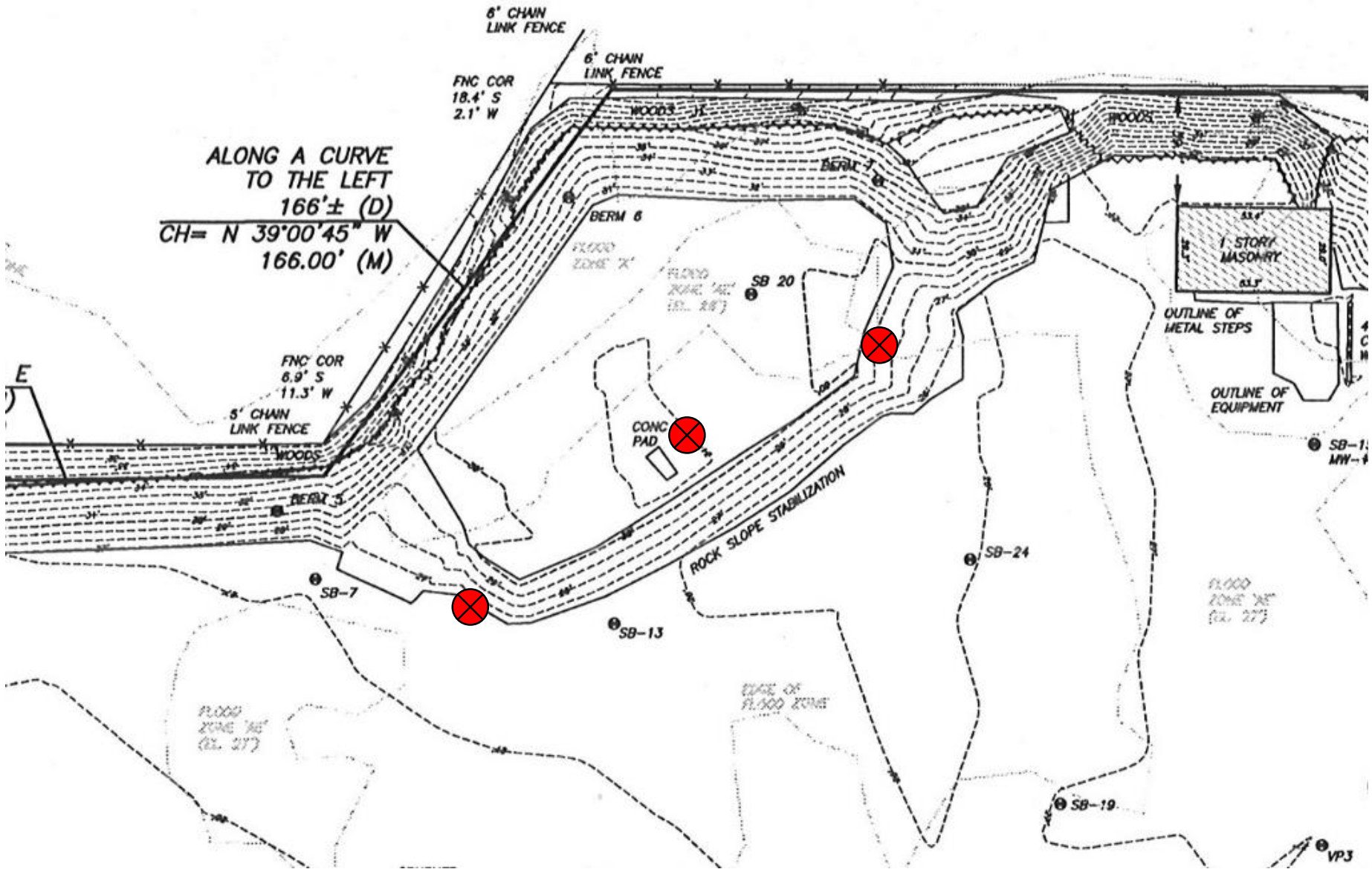
Project	842.002
Date	November 26, 2018
Scale	NTS
Drawn	PVS
Checked	
File Name	Decon drawing
Figure	6



Title	Berm IRM Locations Former Freedman & Sons Property Green Island, New York
Prepared For	Eastern Metal Recycling, LLC 143 Harding Avenue, 1st Floor Bellmawr, New Jersey

Leader Professional Services, Inc
271 Marsh Road-Suite 2
Pittsford, New York 14534
(585) 248-2413
FAX (585) 248-2834

Project	842.002
Date	4/3/2018
Scale	As shown
Drawn	PVS
Checked	MPR
File Name	Site drawing
Figure	7



Proposed test pit location

Title	Mound Area Test Pit Locations Former Freedman & Sons Property Green Island, New York
Prepared For	Eastern Metal Recycling, LLC 143 Harding Avenue, 1st Floor Bellmawr, New Jersey

Leader Professional Services, Inc
271 Marsh Road-Suite 2
Pittsford, New York 14534
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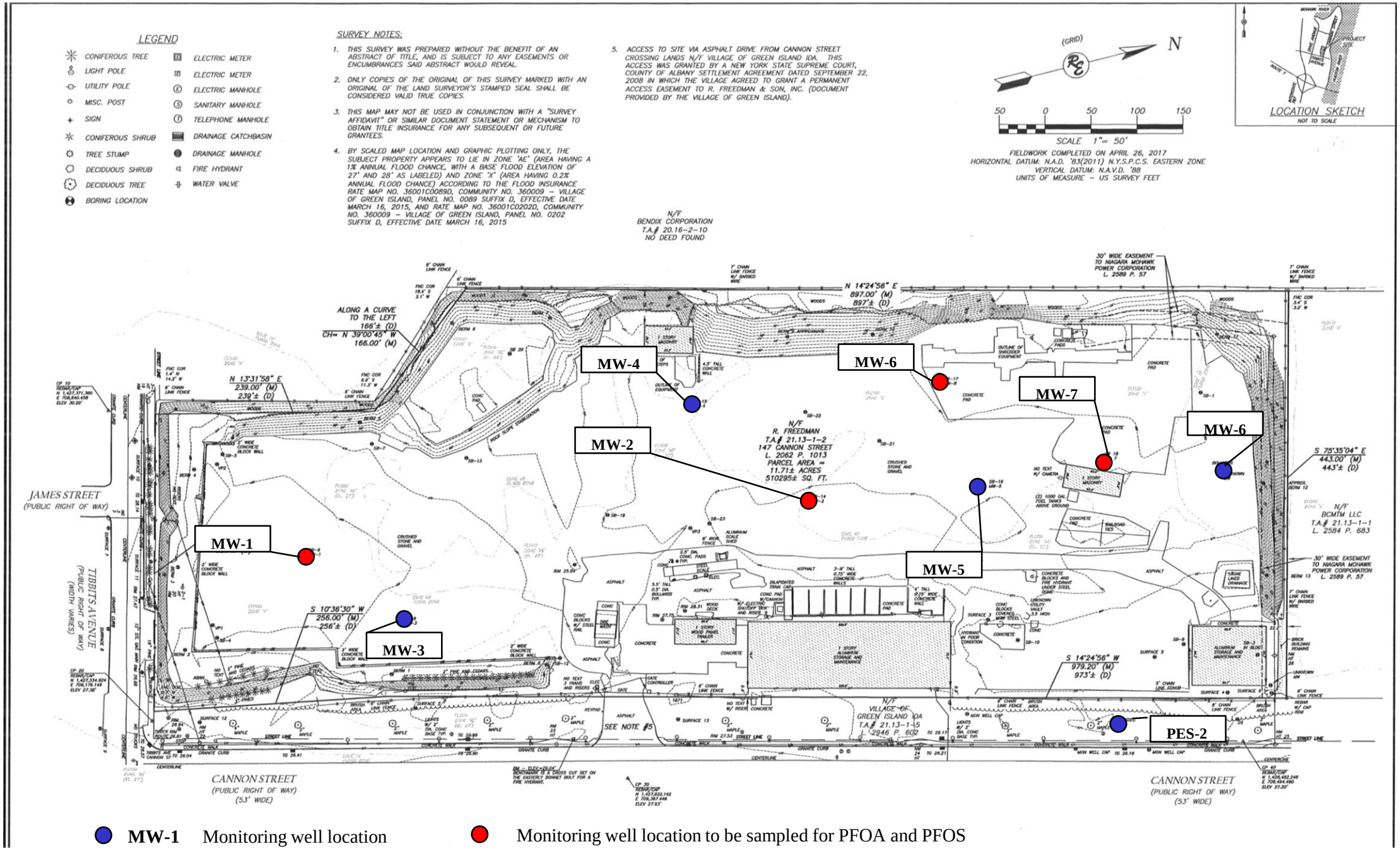
FAX (585) 248-2834

Project	842.002
Date	4/3/2018
Scale	1" = 57'
Drawn	PVS
Checked	MPR
File Name	Mound dwg
Figure	8



Title	Monitoring Well Locations for Supplemental Sampling Former Freedman & Sons Property Green Island, New York
Prepared For	Eastern Metal Recycling, LLC 143 Harding Avenue, 1st Floor Bellmawr, New Jersey

Leader Professional Services, Inc
271 Marsh Road-Suite 2
Pittsford, New York 14534
(585) 248-2413
FAX (585) 248-2834

Project	842.002
Date	4/3/2018
Scale	1" = 160'
Drawn	PVS
Checked	MPR
File Name	Well location drawing
Figure	9

Appendix 1

Health and Safety Plan

HEALTH AND SAFETY PLAN
For Supplemental Work Plan Activities

R. Freedman & Sons Property
New York State Department of Environmental Conservation
Site No. 401033

Prepared for:

Eastern Metal Recycling, LLC
143 Harding Avenue, 1st. Floor
Bellmawr, New Jersey 08031

Prepared by:

Leader Professional Services, Inc.
271 Marsh Road, Suite 2
Pittsford, New York 14534

December 2018

842.002

Leader

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APPENDICES

1.0 Project Personnel Responsibilities

Project organization is presented below in Section 1.5.

1.1 Principal-In-Charge

The Principal-In-Charge for this project will be Michael Rumrill. Mr. Rumirll will act in a supervisory capacity over Leader Professional Services, Inc. (Leader) employees and their subcontractors and the planned site activities with respect to the project site. Mr. Rumrill has the authority to direct site operations including the performance of this health and safety plan. The project manager will have the required 29CFR 1910.120 40-Hour Training and have an updated 8-Hour Refresher Training Certificate.

1.2 Project Manager

The Project Manager/QA/QC Manager will be Mr. Dixon Rollins, P.E. of Leader. If a substitute is required, the Project Supervisor will be an employee of Leader. The project supervisor oversees all field and related activities specific to the project when the project manager is not on the site. The project manager will have the required 29CFR 1910.120 40-Hour Training and have an updated 8-Hour Refresher Training Certificate.

1.3 Health and Safety Officer

Mr. Mark Perriello, CIH, CSP, the site's health and safety officer ("HSO"). Ms. Root has the authority to stop work if any operation threatens the health and safety of workers or the public. The HSO may designate a member of the work party for site health and safety responsibilities when the HSO cannot be on site. The HSO will have the required 29CFR 1910.120 40-Hour Training and have an updated 8-Hour Refresher Training Certificate.

1.4 Project Team

Personnel and subcontractors on the project team will be responsible for the completion of the Supplement Work Plan's ("Work Plan") required tasks. All personnel on the project team will comply with the site safety plan and ensure the site safety and health officer or supervisor is notified of any unsafe conditions. It is anticipated that the project team will consist of one to three individuals. This may vary due to any changes that occur during the actual site work. All personnel on the project team will have the required 29CFR 1910.120 40-Hour Training and participate in daily tailgate health and safety meetings.

1.5 Project Organization

Project Manager – Dixon Rollins, P.E.
Project Engineer – Dixon Rollins, P.E.
Site Supervisor – Robert Murphy, Leader
Health and Safety Officer – Mark Perriello, CIH, CSP, Leader

2.0 Site Standard Operating Safety Procedures

Standard operating and safety procedures include safety precautions and operating practices that all personnel will follow. These include:

2.1 Personal Precautions

- Eating, drinking, chewing gum or tobacco, smoking, or any practice that increases the probability of hand-to-mouth transfer and ingestion of material is prohibited in any area designated contaminated.

- Hands and face must be thoroughly washed upon leaving the work area.

- Whenever decontamination procedures for outer garments are in effect, the entire body should be thoroughly washed as soon as possible after the protective garment is removed.

- No facial hair, which interferes with a satisfactory fit of the mask-to-face seal, is allowed on personnel required wear respirators. Personnel will use the negative pressure fit test prior to each use of the equipment.

- Contact with contaminated or suspected contaminated surfaces should be avoided. Whenever possible, do not walk through puddles, leachate, discolored surfaces, kneel on ground, lean, sit or place equipment on drums, containers, or the ground.

- Medicine and alcohol can enhance or mask the effects from exposure to toxic chemicals. Prescribed drugs should not be taken by field personnel where the potential for absorption, inhalation, or ingestion of toxic substances exists unless specifically approved by a qualified physician. Alcoholic beverages should be avoided, in the off-duty hours, during the project.

2.2 Operations

- All personnel going on-site must be adequately trained and thoroughly briefed on anticipated hazards, equipment to be worn, safety practices to be followed, emergency procedures, and communications.

- Any required respiratory protection and chemical protective clothing must be worn by all personnel going into areas designated for wearing protective equipment.

- Personnel on-site must use the buddy system when wearing respiratory protection. As a minimum, one person, suitably equipped, is required as safety backup during initial entry.

- Visual contact must be maintained between pairs on-site and safety personnel. Entry team members should remain together to assist each other during emergencies.

- During continual operations, on-site workers act as safety backup to each other. Off-site personnel provide emergency assistance.

  Communications using radios, hand signals, signs, or other means must be maintained between team members at all times.

- Wind indicators visible to all site personnel should be strategically located throughout the site.

- Personnel and equipment in the contaminated area should be minimized to reduce the potential for cross contamination and the generation of decontamination waste.

- Work areas for various operational activities will be established by the project manager, or his designee, and the HSO.

- Procedures for leaving a contaminated area must be planned and implemented prior to going on-site. Work areas and decontamination procedures have been established based on expected site conditions and are described in the project Work Plan.

3.0 Health and Safety Hazards

The potential hazards that may be experienced during the performance of the Work Plan include: chemical exposures from contact with contaminated soil; hazards inherent to working with heavy earth moving equipment; working in within an active village street where cars and trucks are traveling; slip, trip and fall hazards; and weather-related stress (hypothermia and heat stress).

The extent of contamination is relatively well known but monitoring for the presence of organic vapors will be conducted while working on the site and offsite work areas.

To prevent unnecessary exposures to potential hazards, all work areas will be limited from general public access. While working in the street right of way, the sidewalks will be barricaded, and the street will have lane closures during work. Flagmen will be positioned to control pedestrian and vehicle traffic. On-site work areas will be designated for remedial work to reduce the potential hazards that may exist. To further reduce the potential for accidents to involve moving trucks and equipment, Leader will coordinate each field activity with the remedial contractor so equipment operators, truck drivers, and other support personnel know what activities are occurring on the site and who will be directing activities.

Table 1 lists potential health and safety hazards that may be encountered based on general site tasks. This list has been compiled based on the scheduled activities and potential site conditions.

4.0 Personal Protective Equipment

4.1 Protective Equipment

All personnel will be provided with appropriate personal safety equipment and protective clothing. Each individual will be properly trained in the use of this safety equipment before the start of field activities. Safety equipment and protective clothing shall be used as directed by the Project Manager and/or site HSO. All such equipment and clothing will be cleaned and maintained in proper condition by the personnel. The site HSO will monitor the maintenance of personnel protective equipment to ensure proper procedures are followed.

Personal protective equipment will be worn at all times designated by this Health and Safety Plan. Levels of protective clothing and equipment are not expected to exceed Level C. The results from previous groundwater investigations and analysis and on-site measurements will be used to set action levels and levels of personal protection.

The personal protective equipment levels designated below are in conformance with USEPA criteria for Level A, B, C, and D protection. All respiratory protective equipment used will be approved by the National Institute for Occupational Safety and Health ("NIOSH") and Mine Safety and Health Administration ("MSHA"). Although the conditions within the proposed work areas are well known monitoring will be completed at all times, but it is doubtful that levels of respiratory protection will exceed Level D.

4.2 Level C Protection

A. Personal Protective Equipment

- Half-face, air-purifying, canister-equipped respirator (MSHA/NIOSH approved) for acid/gas/organic vapor with particulate filter

- Chemical-resistant clothing (overalls and long sleeved jacket; coveralls or hooded, one piece or two-piece chemical-splash suit; disposable chemical resistant one-piece suits)

- Work Clothes (Long Shelve Shirt and pants)

- Gloves (outer), chemical resistant

- Gloves (inner), chemical resistant

- Boots (inner), leather work shoe with steel toe and shank

- Boots (outer), chemical resistant (disposable*)

- Hard Hat (face shield*)

- Safety Glasses or goggles

- Taping between suit and gloves, and suit and boots

- High visibility vest

*Optional

B. Criteria for Selection

Meeting all of the following criteria permits the use of Level C Protection

- Measured air concentration of identified substances will be reduced by the respirator to, at, or below the substance's Threshold Limit Value (TLV)/Permissible Exposure Limits (PEL) and the concentration is within the service limit of the canister

- Atmospheric contaminant concentrations do not exceed IDLH levels

- Atmospheric contaminants, liquid splashes, or other direct contact will not adversely affect the small area of skin left unprotected by chemical resistant clothing

4.3 Level D Protection

A. Personal Protective Equipment

- Work Clothes (Long shelve shirt and pants)

- Leather, steel-toed boots

- High visibility vest

- As required:

    - Hard hat
    - Safety glasses/goggles
    - Hearing protection
    - Gloves

B. Criteria for Selection

Meeting all of these criteria permits the use of Level D Protection

- Measured air concentrations of identified substances are below the substances Permissible Exposure Limit (PEL) or TLV

- Oxygen content is > 19.5%

- No unknown substances are present

5.0 Decontamination

It is expected that the usual level of protection to be used onsite will be Level D. Level C will be used when potential exposures to contaminants justify increased protection. A decontamination zone will be set up at the entrance of each work zone. Based on the level of expected exposure to contaminants, the following decontamination protocol will be used.

5.1 Personnel Decontamination

It is expected that a minimum of Level D decontamination will be used at the site. On the occasions when higher levels of protection are required, appropriate decontamination procedures will be used. The extent of the decontamination procedures will be at the discretion of the site Health and Safety Officer.

In general, decontamination involves removing potentially contaminated soil from gloves and clothing, followed by scrubbing with a non-phosphate soap/water solution and clean water rinses. As a general rule, protective clothing will be removed in the reverse order as it was put on: gloves and boots off first, followed by protective suits and then breathing apparatus. As the different types of waste

are generated, the team members will segregate the waste into different drums. Potentially contaminated soil will be placed into one drum or a rolloff box used to containerize remediation waste, and decontamination waste fluid into a second drum. All disposable items will be placed into a dry goods drum.

Certain parts of contaminated respirators, harness assemblies and leather or cloth components, are difficult to decontaminate. If grossly contaminated, they may be discarded. Rubber components can be soaked in soap and water and scrubbed with a brush. In addition to being decontaminated, all respirators, non-disposable protective clothing, and other personal articles must be sanitized before they can be used again unless they are assigned to individuals. The manufacturer's instruction should be followed in sanitizing the respirator masks. The site HSO will be responsible for supervising the proper protective equipment.

All decontamination wastewaters will be collected and disposed of according to applicable regulations. This disposal will be done at the direction of the Project Manager.

5.2 Equipment Decontamination

Decontamination will be applicable to all activities on site and be completed in the contamination reduction zone ("CRZ") section of the exclusion zone. All decontamination activities will be conducted on the site. Depending on the activity or location of the work, a temporary plastic lined area will be set up where truck loading or material handling will be conducted. These plastic lined areas will also serve as temporary decontamination areas where equipment can be cleaned prior to traveling back to the site from the right of way or from an on-site location back to the project's decontamination area. At the completion of each work day all equipment will be decontaminated as needed.

All equipment (i.e., tools, monitoring equipment, etc.) will receive initial decontamination. All equipment that has been in contact with contaminants shall be stored in an area within the limits of the existing exclusion zone, a designated staging area, or shall be thoroughly decontaminated prior to leaving the area. Decontamination will consist of cleaning of the entire piece of equipment to the satisfaction of the site supervisor or the HSO. Excavating equipment, where only the buckets are contacting the contaminated soil, will receive decontamination. Bulldozers, if used will have their blades and undercarriages cleaned.

Decontamination will be a multi-process task, first all loose dirt or other foreign materials will be removed from equipment surface. Scrubbing with a synthetic wire brush may be required to remove materials that adhere to the surfaces. After the loose dirt is removed, the equipment will be washed using a detergent and water solution and a wire brush followed by successive rinses with clean water.

Washing with hot water from a power washer may be substituted for a synthetic wire brush.

All dirty equipment will be stored on plastic sheeting in such a manner that decontamination waters can be collected and disposed of in accordance with applicable regulations. Clean equipment not in use will be covered with plastic and stored at a designated storage area.

Air monitoring equipment will be protected with an outer coating (i.e. plastic), if there is a potential for the equipment to come into contact with potentially contaminated materials prior to the initial entry into the exclusion zone. Decontamination will then consist of removal of the protective coating in a manner that will not contaminate the air monitoring equipment.

6.0 Site Air Monitoring

Field activities associated with the work tasks at the on and off the site may pose hazardous conditions, such as the release of hazardous substances into the worker's breathing zone. Complimentary to the HASP there is also a Community Air Monitoring Plan ("CAMP") which addresses air monitoring for on and offsite activities.

The substances present on the site may be in the form of vapors, dusts, or mists that can enter the body through ingestion, inhalation, or direct skin or eye contact. Those substances found off-site may be present in dusts and soil that can enter the body through ingestion, inhalation, or direct skin or eye contact. If the HSO, relying on instrument observations and odor, determines that a condition exists in which workers may be exposed to airborne hazardous materials, the HSO will upgrade the team's level of respiratory protection and complete chemical specific monitoring.

The following paragraphs describe the monitoring parameters to be evaluated during the start of the project. As the project continues, other site-specific monitoring will be required based on site conditions and experience at the site. This project will be completed in the winter/early spring. The proposed work areas are covered with a combination of grass and dirt or gravel, fill and dirt. There is a concern about contaminated dust being generated during the planned activities. Potentially combustible compounds or concentrations, which might be a hazard to create combustible conditions, have not been identified to date thus the necessity for oxygen and combustible gas monitors is not supported. All instruments to be used during site activities will meet the established requirements set forth by OSHA, MSHA, NIOSH, and state agencies where applicable.

On-site observations will be made during work progress with a direct reading organic vapor meter. Monitoring will take place in the work zone and workers

breathing zone, up and down-wind from the work zone, and at the site perimeter. Monitoring within the work zone will be taken at least every 15 to 30-minutes. Monitoring up and down-wind of the work zone will be completed at least every 30 to 60 minutes and monitoring at the site perimeter will be completed at least every 60 minutes. If elevated readings are obtained (elevated compared to up-wind readings or compared to site specific action levels), then the frequency of taking measurements will be increased at the monitoring stations.

Based on RI soil sampling, soil borings and monitoring well sampling data, it is anticipated that organic vapors will be below 1 ppm. Organic vapor concentrations will be the primary measure for upgrading or downgrading worker respiratory protective equipment and implementing additional precautions or procedures (See Table 2, Action Levels).

Both on and off-site, dust measurements are a larger concern because of the nature of the IRM activities planned. Portable dust monitoring stations will be set up to measure dust concentrations upwind and downwind of the work area. The HSO will instruct the site supervisor to take an appropriate level of corrective action, if visible dust is seen, or if project thresholds are exceeded at the downwind monitoring location indicating the work being conducted is the cause of the dust. The HSO or site manager will stop work and determine what is causing the problem and seek a remedy.

All site monitoring will be conducted by or under the direction of the Site HSO. All readings obtained will be recorded in a dedicated site notebook maintained by the site supervisor or designate. The Site HSO will maintain all monitoring instruments throughout the site investigation to ensure their reliability and proper operation.

7.0 Action Levels

Action levels have been established for the upgrade and downgrade in the levels of personal protective equipment. Table 2 lists the action levels, airborne concentrations and their respective personal protection for unknown sources of organic vapor concentrations. Section 8.0 discusses the minimal personal protection required for specific site activities based on current information. Changes to these specified levels are dependent on the result of air monitoring as outlined below.

8.0 Site Activities and Associated Personnel Protective Requirements

The levels of protection have been assigned anticipated site activities (below) and represent a best estimate of exposure potential and protective equipment needed for that exposure. The site HSO will revise those levels of protection, up or

down, based on air monitoring results, and on-site assessments of actual exposures.

- *Level D* - General site work with limited physical contact with contaminated soil by personnel. If workers must pick up contaminated tools or a soil samples, protective chemical resistant gloves will be worn. Respiratory protection is not required because contaminant action levels cited on Table 2 are not exceeded.

- *Modified Level C* - General site work where personnel will be in direct contact with contaminated soil or groundwater, but respiratory protection is not required because contaminant action levels cited on Table 2 are not exceeded.

- *Level C* - General site work where personnel will be in direct contact with contaminated soil or groundwater, and organic vapor measurements or dust measurements are greater than those action levels cited on Table 2.

9.0 Contingency Plan

The Project Manager/Site Supervisor or HSO is responsible for implementing the Contingency Plan whenever there is either a threat to human health or an environmental hazard. Possible Contingency Plan situations include actual or imminent fires, explosions or spills.

The individual discovering the emergency situation is to notify the Project Manager/Site Supervisor or HSO who will then notify the yard representative for Eastern Metal Recycling ("EMR") and, or the appropriate organizations as described in Table 3.

9.1 Assessment

The Project Manager/Site Supervisor is responsible for ascertaining any possible health or environmental hazards and determining the need for evacuation and notification of the proper authorities.

9.2 Control Procedures

The team member or site employee discovering a fire or another emergency is responsible for notifying emergency services as shown on Table 3, then the Site Supervisor or site HSO. Table 3 lists the information which should be obtained for every emergency. If a spill occurs, the team member or site employee should take those actions appropriate to stop or containerize the spill. If the spill threatens to leave the site or potentially cause a fire or explosion, then area emergency

services should be called for assistance. The Site Supervisor or HSO will assess the situation and notify the EMR representative as soon as practical.

Before any team member attempts to extinguish a fire, clean-up and contain a spill or take any action, he or she must be aware of the properties of the material involved and its associated hazards. All team members are familiarized with this information during the initial tail grate safety meeting and are instructed on the proper protective clothing to be worn in such a situation.

Table 3 includes a list of the organizations that are available to provide emergency assistance.

9.3 Fire and/or Explosion

The most serious emergency situation that could be faced at the site would be a chemical release or major fire. In the event of a fire or explosion, the safety of on-site personnel or those potentially impacted by the emergency should be alerted and the Fire Department notified, the Site Supervisor or HSO should then be notified. The Site Supervisor or HSO and the representative from EMR are responsible for determining follow up actions and requirements.

The Fire Department should be notified immediately once a fire is detected. Small fires can be extinguished using a fire extinguisher located at the site. Larger fires will require the assistance of the Fire Department. The Fire Department will be informed of the nature of the fire and wastes at the site, and if water can be used to extinguishing fire.

9.4 Spill and/or Material Releases

The procedure for notification of the Project Manager/Site Supervisor and, or HSO are described in Section 9.2. Immediately following the discovery of a spill the NYSDEC will be notified. In addition, the Comprehensive Environmental Response, Compensation, and Liability act of 1980 (CERCLA, or Superfund) requires that the National Response Center be notified of any release in excess of the reportable quantity of a listed material.

Spill clean-up poses no danger under normal conditions. The first step is to determine the source of the spill and correct it. This may involve patching a leaking drum, closing a valve or turning off a pump. In the event of a small spill, absorbent granules or sorbent pads will be utilized to soak up the spilled material. The granules would then be swept up and containerized in Department of Transportation approved drums.

In the event a large spill occurs, the remedial contractor be told to provide immediate assistance. Any follow up remediation will be based on the site

conditions and EMR requirements. Any waste generated during a spill response will be placed into bermed, plastic lined containment areas, roll off boxes or drums.

Any contaminated structures and equipment must be properly cleaned before being returned to service. This procedure will include use of pressure washers and sorbent materials. All affected floors and equipment, pumps and hoses, will be cleaned with an appropriate detergent and rinsed with clear clean water.

10.0 Work Areas

The Project Manager/Site Supervisor, HSO, the representative from EMR, and remedial contractor, will clearly layout and identify work areas on-site and will limit equipment, operations, and personnel as defined in the following areas:

a) "Exclusion Zone" - This area will include all areas where environmental monitoring has shown or it is suspected that a contamination may exist and be a potential exposure problem to workers. The level of personnel protective equipment required in these areas will be determined by the site HSO. The area will be clearly delineated from the decontamination area. As work within the hazardous zone proceeds, the delineating boundary will be relocated as necessary to prevent the accidental contamination of nearby people and equipment. The Exclusion Zone will be delineated by plastic caution tape, barriers, or fencing (e.g., chain link, snow, or orange plastic fencing).

b) Contamination Reduction Zone (CRZ) - This zone will occur at the interface of "Contaminated" and "Clean" areas and will provide for the decontamination of equipment and materials and the transfer of equipment from the Clean Area to the Exclusion Zone. This area will contain all required emergency equipment, etc. This area will be clearly delineated by plastic tape, barriers or fencing (e.g., chain link, snow, or orange plastic fencing).

c) Support Zone ("Clean" Area) - This area is the remainder of the work site and project site. The "Clean" area will be clearly delineated and procedures implemented to prevent active or passive contamination from the work site.

The function of the "Clean" area includes:

1) An entry area for personnel, material, and equipment to the "Contaminated Zone" area of site operations through the neutral zone.

2) An exit for decontaminated personnel, materials, and equipment from the "CRZ" area of site operations; and

3) A clean storage area for safety and work equipment.

Off-site, along the Tibbits Avenue right of way, the exclusion zone/work area will be not as formally defined, but include the following:

- On the south side of Tibbits Avenue, the area between the side walk and the street curb between James Street and Cannon Streets. The sidewalk will be barricaded and the east bound lane of Tibbits Avenue closed. Signs and flagmen will control traffic.
- On the north side of Tibbits Avenue, the area between the street curb and either the side walk or EMR fence between High Street and Cannon Streets. The sidewalk will be barricaded and the west bound lane of Tibbits Avenue closed. Signs and flagmen will control traffic.

Where waste materials are handled, a temporary liner of plastic will be used to assist in the capture of soil/waste. Prior to leaving the work zone, the remedial contractor will collected the plastic liner, sweep the work area and collect dirt on the sidewalk and street, and ensure no loose dirt will fall from equipment or tools as the equipment is returned to the site. On the site a CRZ will be formed where decontamination can occur, and waste soil will be staged prior to being transported from the site to a disposal/treatment facility. The site will also be used as a secure support zone for staging equipment.

11.0 Safety Equipment and Protective Clothing Specifications

All project team members and contractors will have the following safety equipment:

- Air purifying respirator with appropriate cartridges
- All protective clothing including, but not limited to:
  - Tyvek and washable PVC rain suits
  - Gloves
  - Boots
- Safety glasses
- Hearing protection
- Hard hats
- High visibility vest

12.0 Air Emissions Control

The Project Team and IRM Contractor shall have on site all equipment and personnel necessary to monitor and control air emissions.

It is not expected that air emissions will pose a significant risk to health and safety or to the environment due to the nature of the contaminants on this project.

The Project Manager/Site Supervisor and/or the HSO will make the determination for requiring monitoring and control of air emissions with the assistance of the following monitoring equipment and the action levels cited on Table 2. It is anticipated that an organic vapor analyzer and fugitive dust monitors will be used to measure the concentration of organic contaminants in the air and dust. These two measurement devices will handle the bulk of the real-time contaminant monitoring.

13.0 Additional Health and Safety Requirements

1) The site HSO will ensure that all safety equipment and protective clothing is kept clean and well maintained.

2) All prescription eyeglasses in use on this project will be safety glasses and will be compatible with respirators. No contact lenses shall be allowed on-site.

3) All disposable or reusable gloves worn on the site will be approved by the HSO.

4) During periods of prolonged respirator usage in contaminated areas, respirator filters will be changed upon breakthrough and at a minimum filters will be changed daily.

5) Footwear used on-site, or as needed, will be covered by rubber over-boots when entering or working in the "Exclusion Zone" area or "CRZ." Boots will be washed with water and detergents to remove dirt and contaminated sediment before leaving the "CRZ."

6) All personnel protective equipment used on-site will be decontaminated or disposed of at the end of the workday.

7) All air purifying respirators will be individually assigned and not interchanged between workers without cleaning and sanitizing.

8) Any team member or Contractor unable to pass a fit test as a result of facial hair or facial configuration shall not enter or work in an area that requires respiratory protection.

9) The Contractor will ensure that all project team members shall have vision or corrected vision to at least 20/40 in one eye.

10) Team members found to be disregarding any provision of this plan will, at the request of the HSO, be barred from the project.

11) Used disposable outerwear will be removed upon leaving CRZ and will be placed inside disposable containers labeled for that purpose. These containers will be stored at the site at the designated staging area. Leader will be responsible for proper disposal of these materials at the completion of the project.

12) Tyvek or PVC rain suits that become torn or badly soiled will be replace immediately.

13) Eating, drinking, chewing gum or tobacco, smoking, etc., will be prohibited in the exclusion zones and CRZ zones.

14) All personnel will thoroughly cleanse their hands, face, forearms, and other exposed areas prior to eating, smoking, or drinking.

15) All personnel will wash their hands, face, and forearms before using toilet facilities.

16) No alcohol, firearms, or drugs (without prescription) will be allowed on-site at any time.

14.0 Miscellaneous Health and Safety Items

14.1 Hypothermia

Pervious Clothing: When the ambient air temperature dips below 40^{o} F. the site HSO will begin to monitor employees for signs of hypothermia. Monitoring will take the form of measuring oral temperatures. The air temperature will be measured two times a day when the air temperature is expected to be below 40^{o} F or as determined by the HSO.

Impervious Clothing: When the ambient air temperature has dip below 40^{o} F. the HSO will begin to monitor employees for signs of hypothermia. Monitoring will take the form of measuring oral temperatures and checking an individual's verbal and physical responses. As the air temperature dips below 32^{o} F., oral temperatures will be measured at the direction of the HSO and, or every hour during work periods.

In the event that the oral temperature at the beginning of the rest period drops below 96^{o} F., the employee will be decontaminated and be advised to proceed to a

heated room or vehicle and remove wet clothing and to drink warm fluids. At the end of the rest period, the oral temperature will be taken again to ensure that the employee's temperature is above 96° F. If the oral temperature has remained below 96° F., the employee will be advised to take a shower to increase his/her temperature. However, if the oral temperature still remains below 96° F. after the shower, the employee will be immediately sent to consult with a physician.

A fluid/electrolyte replacement will be used as necessary to minimize fluid loss. This liquid supplement will be stored in a cooler or thermos at the edge of the decontamination zone in plastic squeeze bottles. The plastic bottles will be marked with individual's names. Disposable cups with lids and straws may be used in place of the squeeze bottles.

Prior to drinking within the decontamination zone, the project personnel shall follow the following decontamination procedures:

1) Personnel shall wash and rinse their outer gloves and remove them.

2) Personnel shall remove their hard hats and respirators and place on a table.

3) Personnel shall remove their inner gloves and place them on a table.

4) Personnel shall wash and rinse their face and hands.

5) Personnel shall carefully remove their personal bottle or cup from the cooler to ensure that their outer clothes do not touch any bottles, cups, etc.

6) The used bottle or cups will not be returned to the cooler, but will be placed in a receptacle or container to be cleaned or disposed of.

7) Personnel shall replace their respirators, hard hats, gloves, and tape gloves prior to re-entering the hazardous zone.

14.2 Retention On-Site

During the course of the project, it is expected that waste materials will be retained on-site until they are approved by the disposal facility for receipt. All waste containers will be labeled according to DOT and other regulations where appropriate. Waste materials, both drummed and bulk, will be stored in designated areas. All waste drums will be sealed before they are moved from the exclusion zone.

14.3 Equipment and Material Decontamination

All equipment and material used in this project shall be thoroughly decontaminated using procedures described in the project Work Plan or this plan before it is removed from the project site. Debris and contaminated clothing and tools which cannot be decontaminated, shall be disposed of.

14.4 Communications

Telephone communications will be available at all times on the site. A telephone will be maintained with the Project Manager or Site Supervisor.

Communication procedures are outlined in the Contingency Plan in Section 9.0 of the Health and Safety Plan.

Table 3 contains an emergency call list and will be posted in one of the team member's vehicles and in the EMR's office.

14.5 On-Site Hygiene Facilities

The office lavatories will be available for decontaminated team members and subcontractors. Water will be available in the CRZ for decontamination.

A first aid kit will be kept in the support zone at the Site at all times.

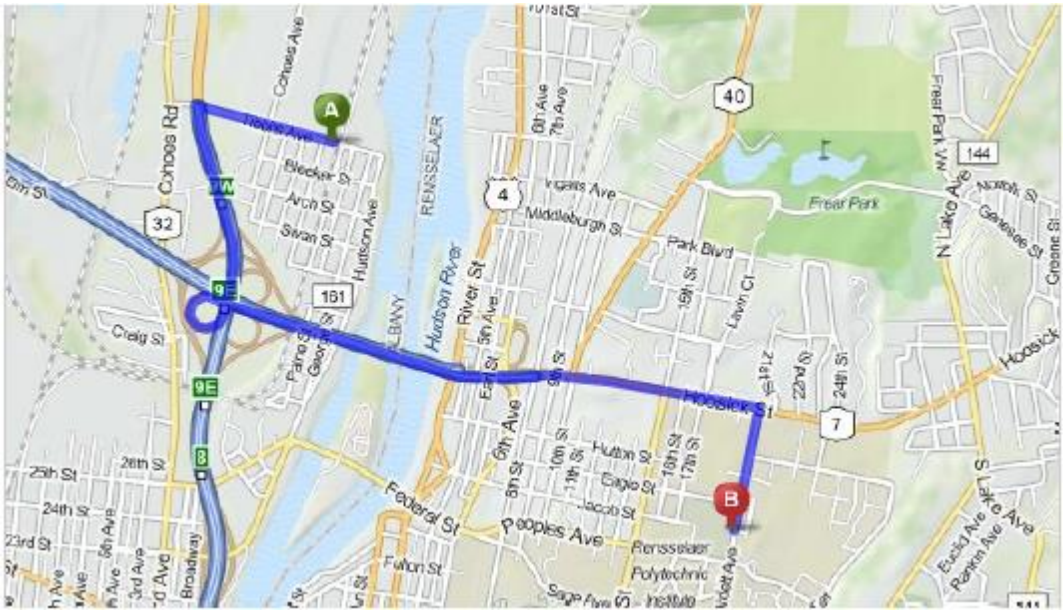
15.0 Tailgate Safety Meetings

The HSO or the designated representative will conduct daily tailgate safety meetings each workday and will be mandatory for all project personnel. The meetings will provide information on the anticipated site conditions and the work to be completed that day. Appendix A contains a form for documenting Safety Meetings. Completed forms will be retained in Leader's project file.

Additional safety meetings will be held on an as required basis.

16.0 Medical Surveillance

All team members and subcontractors that may potentially have contact with hazardous substances at concentrations above the permissible exposure level (PEL) will be part of a Medical Monitoring Program as outlined in 29CFR 1910.134 and 29CFR 1910.120.



1. Exit site and turn right on to Cannon Street.
2. Turn right onto Tibbits Avenue (stop sign) and drive approximately 0.4-miles to Rt. 787
3. Turn left on to Rt. 787 and drive south approximately 0.9 miles to Rt. 7
4. Take turn off and follow signs for Rt. 7 E (Troy/Bennington)
5. Take Rt. 7E east approximately 1.4 miles to Burdett Avenue
6. Turn right on to Burdett Avenue and drive south approximately 0.3-miles to hospital.
7. Hospital is on the right.

Title	Route to Hospital 25 Tibbits Avenue Green Island, NY
Prepared For	Eastern Metal Recycling, LLC 143 Harding Avenue, 1st. Floor Bellmawr, New Jersey 08031

LEADER
Leader Professional Services
271 Marsh Road, Suite 2
Pittsford, NY 14534
(585) 248-2413
FAX (585) 248-2834

Project	842.001
Date	12/4/15
Scale	Not to Scale
Drawn	PVS
Checked	MPR
File Name	Site Map
Figure	1

TABLE 1

KNOWN AND POTENTIAL HEALTH AND SAFETY HAZARDS
FREEDMAN & SONS PROPERTY
GREEN ISLAND, NEW YORK

Known and Potential Site Hazards: *Chemical* (See Appendix B for information sheets and/or MSDSs)

1) Contaminants

- PCB
- Mercury

2) Review of Symptoms

Symptoms of exposure to hazardous wastes and in particular to the contaminants above will be reviewed with all site personnel. Symptoms of both acute and chronic exposures will be covered. In addition, the on-site coordinators will be advised to watch for outward evidence of changes in workers' health. These outward symptoms may include fatigue, tremor, insomnia, skin irritations or discoloration, eye, nose and throat irritation, cough, or abdominal soreness.

Note the number and nature of potential contaminants mandate that contact of waste materials with the exposed skin must not be allowed to occur under any circumstances.

Known and Potential Site Hazards: *Non-Chemical*

- General Physical Hazards. Since the project will take place at an active truck terminal, the physical hazards include:

  Vehicular traffic
  Sharps (metals and glass)
  Underground and aboveground utilities
  Slip, trip, and fall

TABLE 2

ACTION LEVELS
FREEDMAN & SONS PROPERTY
GREEN ISLAND, NEW YORK

Unknown Organic Vapor Concentrations (ppm)[1]	Level of Protection
< 1	Level D
≥ 1 < 10	Level C
>10	Level B
Anticipated Chemical Contaminants[2]	**Time Weight Average (ppm)**
Metals (as Mercury dust)	<0.025 mg/cubic meter
PCBs	0.5 mg/cubic meter

Note:

1 Unknown organic vapor action levels are based on the lowest known exposure limits for chlorine (PEL = 1 ppm, IDLH = 30 ppm). The air purifying cartridge limitation for chlorine is 10 ppm.

TABLE 3

EMERGENCY CALL LIST
FREEDMAN & SONS PROPERTY
GREEEN ISLAND, NEW YORK

Fires - Spills

Village of Green Island Fire Department	911

Public Services

Green Island Police Emergency	911

Emergency Medical Services

Samaritan Hospital	(518) 271-3300

SPILL NOTIFICATION

Agencies

National Response Center	(800) 424-8802
Local DEC Office Region 4	(800) 457-7362

Provide the following information to the agencies:

- Name of person making the call
- Company and location
- Nature of fire (fire calls only)
- Name and estimated amount of chemical released to the environment (spills only)
- Time of release
- Remedial action taken to correct the problem

Site Contacts

Kyle Forster (NYSDEC Project Manager)	(518) 402-9797
Robert Murphy (Leader Professional Services-Rochester)	(585) 248-2413
Michael Rumrill (Leader Professional Services – Rochester)	(585) 248-2413

APPENDIX A

SAFETY MEETING SIGN-OFF SHEET

SAFETY MEETING ATTENDENCE SIGN-OFF SHEET

Person/Company	Date

APPENDIX B

MSDS

Safety Data Sheet
Mercury (Metallic)

SDS Revision Date: **05/01/2015**

1. Identification

1.1. Product identifier

Product Identity	Mercury (Metallic)
Alternate Names	Quicksilver; Hydrargyrum; Liquid Silver

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use	See Technical Data Sheet.
Application Method	See Technical Data Sheet.

1.3. Details of the supplier of the safety data sheet

Company Name	WM Mercury Waste Inc. 21211 Durand Avenue Union Grove, WI 53182
Emergency	
CHEMTREC (USA)	(800) 424-9300
Customer Service: WM Mercury Waste Inc.	(800) 741-3343

2. Hazard(s) identification

2.1. Classification of the substance or mixture

Acute Tox. 2;H330	Fatal if inhaled.
Repr. 1B;H360D	May damage the unborn child.
STOT RE 1;H372	Causes damage to organs through prolonged or repeated exposure. Specific Target Organs: (Central Nervous System)
Aquatic Chronic 1;H410	Very toxic to aquatic life with long lasting effects.

2.2. Label elements

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.

Danger

H330 Fatal if inhaled.

H360D May damage the unborn child.

H372 Causes damage to organs through prolonged or repeated exposure.

H410 Very toxic to aquatic life with long lasting effects.

SDS Revision Date: **05/01/2015**

[Prevention]:

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe mist / vapors / spray.

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.

P281 Use personal protective equipment as required.

P284 Wear respiratory protection.

[Response]:

P304+340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P308+313 IF exposed or concerned: Get medical advice / attention.

P310 Immediately call a POISON CENTER or doctor / physician.

P314 Get Medical advice / attention if you feel unwell.

P320 Specific treatment is urgent (see information on this label).

P391 Collect spillage.

[Storage]:

P403+233 Store in a well ventilated place. Keep container tightly closed.

P405 Store locked up.

[Disposal]:

P501 Dispose of contents / container in accordance with local / national regulations.

3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Mercury **CAS Number: 0007439-97-6**	**100**	**Repr. 1B;H360D** **Acute tox. 2;H330** **STOT RE 1;H372** **Aquatic Acute 1;H400** **Aquatic Chronic 1;H410**	**[1][2]**

In accordance with paragraph (i) of §1910.1200, the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

[1] Substance classified with a health or environmental hazard.

[2] Substance with a workplace exposure limit.

[3] PBT-substance or vPvB-substance.

*The full texts of the phrases are shown in Section 16.

4. First aid measures

4.1. Description of first aid measures

General In all cases of doubt, or when symptoms persist, seek medical attention.
Never give anything by mouth to an unconscious person.

Inhalation Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious place in the recovery position and obtain immediate medical attention. Give nothing by mouth.

Eyes Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.

Skin Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.

Ingestion If swallowed, wash out mouth with water, obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

Overview **Eye:** Contact with eyes may cause severe irritation, and possible eye burns. Vapors may cause eye irritation.
Skin: May cause skin irritation. May be absorbed through the skin in harmful amounts. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Chronic exposure to mercury may cause permanent central nervous system damage, fatigue, weight loss, tremors, and personality changes.
Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause effects similar to those for inhalation exposure.
Inhalation: Causes respiratory tract irritation. Inhalation of fumes may cause metal fume fever, which is characterized by flu-like symptoms with metallic taste, fever, chills, cough, weakness, chest pain, muscle pain and increased white blood cell count. May cause central nervous system effects including vertigo, anxiety, depression, muscle incoordination, and emotional instability. May cause severe respiratory tract irritation.
Chronic: Chronic exposure to mercury may cause permanent central nervous system damage, fatigue, weight loss, tremors, and personality changes.

Notes to Physician: Treat symptomatically and supportively.
Antidote: The use of Dimercaprol or BAL (British Anti-Lewisite) as a chelating agent should be determined by qualified medical personnel. The use of d-Penicillamine as a chelating agent should be determined by qualified medical personnel. See section 2 for further details.

Inhalation Fatal if inhaled.

5. Fire-fighting measures

5.1. Extinguishing media

Substance is nonflammable; use agent most appropriate to extinguish surrounding fire.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition: Mercury/mercury oxides.

Do not breathe mist / vapors / spray.

5.3. Advice for fire-fighters

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Combustion generates toxic fumes.

ERG Guide No. 172

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Put on appropriate personal protective equipment (see section 8).

6.2. Environmental precautions

Do not allow spills to enter drains or waterways.

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

6.3. Methods and material for containment and cleaning up

Vacuum or sweep up material and place into a suitable disposal container. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section).

7. Handling and storage

7.1. Precautions for safe handling

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid breathing dust, vapor, mist, or gas. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.

See section 2 for further details. - [Prevention]:

7.2. Conditions for safe storage, including any incompatibilities

Handle containers carefully to prevent damage and spillage.

Incompatible materials: Acetylene, ammonia, boron phosphodiiodide, chlorine, chlorine dioxide, methyl azide, sodium carbide, halogens, strong oxidizers.

Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from metals. Poison room locked.

See section 2 for further details. - [Storage]:

7.3. Specific end use(s)

No data available.

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8. Exposure controls and personal protection

8.1. Control parameters

Exposure

CAS No.	Ingredient	Source	Value
0007439-97-6	Mercury	OSHA	TWA 0.1 mg/m3
		ACGIH	Alkyl compounds TWA: 0.01 mg/m3 STEL 0.03 mg/m3 Skin Aryl compounds TWA: 0.05 mg/m3 C 0.1 mg/m3 Skin Elemental/Inorganic 0.025mg/m3 Skin
		NIOSH	No Established Limit
		Supplier	No Established Limit

Carcinogen Data

CAS No.	Ingredient	Source	Value
0007439-97-6	Mercury	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: Yes; Group 4: No;

8.2. Exposure controls

Respiratory Follow the OSHA respirator regulations found in 29CFR §1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Eyes Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin Wear appropriate protective clothing to prevent skin exposure. Wear appropriate gloves to prevent skin exposure.

Engineering Controls Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.

Other Work Practices Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details. - [Prevention]:

9. Physical and chemical properties

Appearance	Silver Liquid
Odor	Odorless
Odor threshold	Not Measured
pH	Not Applicable
Melting point / freezing point	-38.87 deg C

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Initial boiling point and boiling range	356.5 deg C @ 760.00mmHg
Flash Point	Not Measured
Evaporation rate (Ether = 1)	Not Available
Flammability (solid, gas)	Not Applicable
Upper/lower flammability or explosive limits	**Lower Explosive Limit:** Not Measured **Upper Explosive Limit:** Not Measured
Vapor pressure (Pa)	0.002 mmHg @ 25C
Vapor Density	7 (Air=1)
Specific Gravity	13.5400g/cm3 (Water=1)
Solubility in Water	Insoluble
Partition coefficient n-octanol/water (Log Kow)	Not Measured
Auto-ignition temperature	Not Measured
Decomposition temperature	Not Available
Viscosity (cSt)	1.554 cP 20.00
Molecular Formula	Hg
Molecular Weight	200.59

9.2. Other information

No other relevant information.

10. Stability and reactivity

10.1. Reactivity

Hazardous Polymerization will not occur.

10.2. Chemical stability

Stable under normal circumstances.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

High temperatures, incompatible materials, metals.

10.5. Incompatible materials

Acetylene, ammonia, boron phosphodiiodide, chlorine, chlorine dioxide, methyl azide, sodium carbide, halogens, strong oxidizers.

10.6. Hazardous decomposition products

Mercury/mercury oxides.

11. Toxicological information

Acute toxicity

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LC50, mg/L/4hr	Inhalation Dust/Mist LC50, mg/L/4hr	Inhalation Gas LC50, ppm

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Mercury - (7439-97-6)	37.00, Rat - Category: 2	No data available	No data available	No data available	No data available

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Classification	Category	Hazard Description
Acute toxicity (oral)	2	Fatal if swallowed.
Acute toxicity (dermal)	---	Not Applicable
Acute toxicity (inhalation)	2	Fatal if inhaled.
Skin corrosion/irritation	---	Not Applicable
Serious eye damage/irritation	---	Not Applicable
Respiratory sensitization	---	Not Applicable
Skin sensitization	---	Not Applicable
Germ cell mutagenicity	---	Not Applicable
Carcinogenicity	---	Not Applicable
Reproductive toxicity	1B	May damage the unborn child.
STOT-single exposure	---	Not Applicable
STOT-repeated exposure	1	Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard	---	Not Applicable

12. Ecological information

12.1. Toxicity

Very toxic to aquatic life with long lasting effects.

No additional information provided for this product. See Section 3 for chemical specific data.

Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l
Mercury - (7439-97-6)	Not Available	0.0052, Daphnia magna	Not Available

12.2. Persistence and degradability

There is no data available on the preparation itself.

12.3. Bioaccumulative potential

Not Measured

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

SDS Revision Date: **05/01/2015**

This product contains no PBT/vPvB chemicals.

12.6. Other adverse effects

No data available.

13. Disposal considerations

13.1. Waste treatment methods

Observe all federal, state and local regulations when disposing of this substance.

14. Transport information

	DOT (Domestic Surface Transportation)	IMO / IMDG (Ocean Transportation)	ICAO/IATA
14.1. UN number	UN2809	UN2809	UN2809
14.2. UN proper shipping name	UN2809, Mercury, 8, III	Mercury	Mercury
14.3. Transport hazard class(es)	**DOT Hazard Class:** 8 (6.1)	**IMDG:** 8 **Sub Class:** 6.1	**Air Class:** 8
14.4. Packing group	III	III	III

14.5. Environmental hazards

IMDG Marine Pollutant: Yes (Mercury)

14.6. Special precautions for user

No further information

15. Regulatory information

Regulatory Overview The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

Toxic Substance Control Act (TSCA) All components of this material are either listed or exempt from listing on the TSCA Inventory.

WHMIS Classification D1A

US EPA Tier II Hazards

Fire: No
Sudden Release of Pressure: No
Reactive: No
Immediate (Acute): Yes
Delayed (Chronic): Yes

EPCRA 311/312 Chemicals and RQs (lbs):

Mercury (1.00)

EPCRA 302 Extremely Hazardous:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

SDS Revision Date: **05/01/2015**

EPCRA 313 Toxic Chemicals:

Mercury

Proposition 65 - Carcinogens (>0.0%):
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Developmental Toxins (>0.0%):
Mercury

Proposition 65 - Female Repro Toxins (>0.0%):
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Male Repro Toxins (>0.0%):
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

New Jersey RTK Substances (>1%):

Mercury

Pennsylvania RTK Substances (>1%):

Mercury

16. Other information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

H330 Fatal if inhaled.

H360D May damage the unborn child.

H372 Causes damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

This is the first version in the GHS SDS format. Listings of changes from previous versions in other formats are not applicable.

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall WM Mercury Waste Inc. be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages.

End of Document

Monsanto
Material Safety Data

POLYCHLORINATED BIPHENYLS (PCBs)

Emergency Phone No.
(Call Collect)
314-694-1000

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: POLYCHLORINATED BIPHENYLS (PCBs)
Aroclor® Series 1016, 1221, 1232, 1242, 1248, 1254, 1260, 1262, 1268
Therminol® FR Series

MSDS Number: M00018515 Date: 12/95

Chemical Family: Chlorinated Hydrocarbons
Chemical Name: Polychlorinated biphenyls
Synonyms: PCBs, Chlorodiphenyls, Chlorinated biphenyls

Trade Names/Common Names:

PYRANOL® and INERTEEN® are trade names for commonly used dielectric fluids that may have contained varying amounts of PCBs as well as other components including chlorinated benzenes.

ASKAREL is the generic name for a broad class of fire resistant synthetic chlorinated hydrocarbons and mixtures used as dielectric fluids that commonly contained about 30 - 70% PCBs. Some ASKAREL fluids contained 99% or greater PCBs and some contained no PCBs.

PYDRAUL® is the trade name for hydraulic fluids that, prior to 1972, may have contained varying amounts of PCBs and other components including phosphate esters.

The product names/trade names are representative of several commonly used Monsanto products (or products formulated with Monsanto products). Other trademarked PCB products were marketed by Monsanto and other manufacturers. PCBs were also manufactured and sold by several European and Japanese companies. Contact the manufacturer of the trademarked product, if not in this listing, to determine if the formulation contained PCBs.

In 1972, Monsanto restricted sales of PCBs to applications involving only closed electrical systems, (transformers and capacitors). In 1977, all manufacturing and sales were voluntarily terminated. In 1979, EPA restricted the manufacture, processing, use, and distribution of PCBs to specifically exempted and authorized activities.

MONSANTO COMPANY, 800 N. LINDBERGH BLVD., ST. LOUIS, MO 63167

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT
Call CHEMTREC - Day or Night - 1-800-424-9300 Toll free in the continental U.S., Hawaii, Puerto Rico, Canada, Alaska, or Virgin Islands. For calls originating elsewhere: 202-483-7616 (collect calls accepted)

For additional nonemergency information, call: 314-694-3344.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemically, commercial PCBs are defined as a series of technical mixtures, consisting of many isomers and compounds that vary from mobile, oily liquids to white crystalline solids and hard noncrystalline resins. Technical products vary in composition, in the degree of chlorination, and possibly according to batch.

The mixtures generally used contain an average of 3 atoms of chlorine per molecule (42% chlorine) to 5 atoms of chlorine per module (54% chlorine). They were used as components of dielectric fluids in transformers and capacitors. Prior to 1972, PCB applications included heat transfer media, hydraulic, and other industrial fluids, plasticizers, carbonless copy paper, paints, inks, and adhesives.

Component	CAS No.
chlorinated biphenyl	1336-36-3
Aroclor 1016	12674-11-2
Aroclor 1221	11104-28-2
Aroclor 1232	11141-16-5
Aroclor 1242	53469-21-9
Aroclor 1248	12672-29-6
Aroclor 1254	11097-69-1
Aroclor 1260	11096-82-5
Aroclor 1262	37324-23-5
Aroclor 1268	11100-14-4

There are also CAS Numbers for individual PCB congeners and for mixtures of Aroclor® products.

PCBs are identified as hazardous chemicals under criteria of the OSHA Hazard Communication Standard (29 CFR Part 1910.1200). PCBs have been listed in the International Agency for Research on Cancer (IARC) Monographs (1987)-Group 2A and in the National Toxicology Program (NTP) Annual Report on Carcinogens (Seventh).

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Appearance and Odor: PCB mixtures range in form and color from clear to amber liquids to white crystalline solids. They have a mild, distinctive odor and are not volatile at room temperature. Refer to Section 9 for details.

WARNING!
CAUSES EYE IRRITATION
MAY CAUSE SKIN IRRITATION

PROCESSING AT ELEVATED TEMPERATURES MAY RELEASE VAPORS OR FUMES WHICH MAY CAUSE RESPIRATORY TRACT IRRITATION

POTENTIAL HEALTH EFFECTS

Likely Routes of Exposure: Skin contact and inhalation of heated vapors

Eye Contact: Causes moderate irritation based on worker experience.

Skin Contact: Prolonged or repeated contact may result in redness, dry skin and defatting based on human experience. A potential exists for developing chloracne. PCBs can be absorbed through intact skin.

Inhalation: Due to the low volatility of PCBs, exposure to this material in ambient conditions is not expected to produce adverse health effects. However, at elevated processing temperatures, PCBs may produce a vapor that may cause respiratory tract irritation if inhaled based on human experience.

Ingestion: No more than slightly toxic based on acute animal toxicity studies. Coughing, choking and shortness of breath may occur if liquid material is accidentally drawn into the lungs during swallowing or vomiting.

Other: Numerous epidemiological studies of humans, both occupationally exposed and nonworker environmentally exposed populations, have not demonstrated any causal relationship between PCB exposure and chronic human illnesses such as cancer or neurological or cardiovascular effects. PCBs at high dosage can cause skin symptoms; however, these subside upon removal of the exposure source.

Refer to Section 11 for toxicological information.

4. FIRST AID MEASURES

IF IN EYES, immediately flush with plenty of water for at least 15 minutes. If easy to do, remove any contact lenses. Get medical attention. Remove material from skin and clothing.

IF ON SKIN, immediately flush the area with plenty of water. Wash skin gently with soap as soon as it is available. Get medical attention if irritation persists.

IF INHALED, remove person to fresh air. If breathing is difficult, get medical attention.

IF SWALLOWED, do NOT induce vomiting. Rinse mouth with water. Get medical attention. Contact a Poison Control Center. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

NOTE TO PHYSICIANS: Hot PCBs may cause thermal burn. If electrical equipment arcs between conductors, PCBs or other chlorinated hydrocarbon dielectric fluids may decompose to produce hydrochloric acid (HCl), a respiratory irritant. If large amounts are swallowed, gastric lavage may be considered.

5. FIRE FIGHTING MEASURES

Flash Point: 284 degrees F (140 degrees C) or higher depending on the chlorination level of the Aroclor product

Fire Point: 349 degrees F (176 degrees C) or higher depending on the chlorination level of the Aroclor product

NOTE: Refer to Section 9 for individual flash points and fire points.

Extinguishing Media: Extinguish fire using agent suitable for surrounding fire. Use dry chemical, foam, carbon dioxide or water spray. Water may be ineffective. Use water spray to keep fire-exposed containers or transformer cool.

PCBs are fire-resistant compounds. They may decompose to form CO, CO2, HCl, phenolics, aldehydes, and other toxic combustion products under severe conditions such as exposure to flame or hot surfaces.

Dielectric fluids having PCBs and chlorinated benzenes as components have been reported to produce polychlorinated dibenzo-p-dioxins (PCDDs) and furans (PCDFs) during fire situations involving electrical equipment. At temperatures in the range of 600-650 degrees C in the presence of excess oxygen, PCBs may form polychlorinated dibenzofurans (PCDFs). Laboratory studies under similar conditions have demonstrated that PCBs do not produce polychlorinated dibenzo-p-dioxins (PCDDs).

Federal regulations require all PCB transformers to be registered with fire response personnel.

If a PCB transformer is involved in a fire-related incident, the owner of the transformer may be required to report the incident. Consult and follow appropriate federal, state and local regulations.

Fire Fighting Equipment: Fire fighters and others exposed to products of combustion should wear self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.

6. ACCIDENTAL RELEASE MEASURES

Cleanup and disposal of liquid PCBs and other PCB items are strictly regulated by the federal government. The regulations are found at 40 CFR Part 761. Consult these regulations as well as applicable state and local regulations prior to any cleanup or disposal of PCBs, PCB items, or PCB contaminated items.

If PCBs leak or are spilled, the following steps should be taken immediately:

All nonessential personnel should leave the leak or spill area.

The area should be adequately ventilated to prevent the accumulation of vapors.

The spill/leak should be contained. Loss to sewer systems, navigable waterways, and streams should be prevented. Spills/leaks should be removed promptly by means of absorptive material, such as sawdust, vermiculite, dry sand, clay, dirt or other similar materials, or trapped and removed by pumping or other suitable means (traps, drip-pans, trays, etc.).

Personnel entering the spill or leak area should be furnished with appropriate personal protective equipment and clothing as needed. Refer to Section 8 for personal protection equipment and clothing.

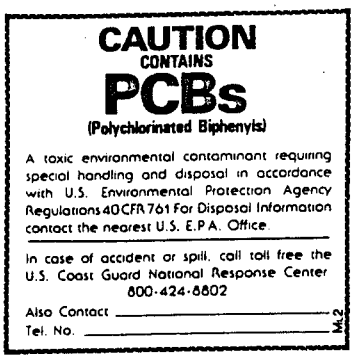
Personnel trained in emergency procedures and protected against attendant hazards should shut off sources of PCBs, clean up spills, control and repair leaks, and fight fires in PCB areas.

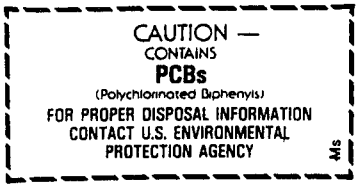
Refer to Section 13 for disposal information and Sections 14 and 15 for information regarding reportable quantity, and Section 7 for marking information.

7. HANDLING AND STORAGE

Care should be taken to prevent entry into the environment through spills, leakage, use vaporization, or disposal of liquid or containers. Avoid prolonged breathing of vapors or mists. Avoid contact with eyes or prolonged contact with skin. If skin contact occurs, remove by washing with soap and water. Following eye contact, flush with water. In case of spillage onto clothing, the clothing should be removed as soon as practical, skin washed, and clothing laundered. Comply with all federal, state, and local regulations.

Federal regulations under the Toxic Substances Control Act require PCBs, PCB items, storage areas, transformer vaults, and transport vehicles to be marked (check regulations, 40 CFR 761, for details).





Storage: The storage of PCB items or equipment (those containing 50 ppm or greater PCBs) and PCB waste is strictly regulated by 40 CFR Part 761. The storage time is limited, the storage area must meet physical requirements, and the area must be labeled.

Avoid contact with eyes.
Wash thoroughly after handling.
Avoid breathing processing fumes or vapors.
Process using adequate ventilation.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye Protection: Wear chemical splash goggles and have eye baths available where there is significant potential for eye contact.

Skin Protection: Wear appropriate protective clothing and chemical resistant gloves to prevent skin contact. Consult glove manufacturer to determine the appropriate type glove for a given application. Wear chemical goggles, face shield, and chemical resistant clothing such as a rubber apron when splashing is likely. Wash immediately if skin is contacted. Remove contaminated clothing promptly and launder before reuse. Clean protective equipment before reuse. Provide a safety shower at any location where skin contact can occur. Wash thoroughly after handling.

ATTENTION! Repeated or prolonged skin contact may cause chloracne in some people.

Respiratory Protection: Avoid breathing vapor, mist, or dust. Use NIOSH/MSHA approved equipment when airborne exposure limits are exceeded. Full facepiece equipment is recommended when airborne exposure limits are exceeded and, if used, replaces the need for face shield and/or chemical splash goggles. Consult respirator manufacturer to determine the type of equipment for a given application. The respirator use limitations specified by NIOSH/MSHA or the manufacturer must be observed. High airborne concentrations may require use of self-contained breathing apparatus or supplied air respirator. Respiratory protection programs must be in compliance with 29 CFR Part 1910.134.

ATTENTION! Repeated or prolonged inhalation may cause chloracne in some people.

Ventilation: Provide natural or mechanical ventilation to control exposure levels below airborne exposure limits (see below). If practical, use local mechanical exhaust ventilation at sources of vapor or mist, such as open process equipment.

Airborne Exposure Limits:

Product: Chlorodiphenyl (42% chlorine)

OSHA PEL: 1 mg/m^3 8-hour time-weighted average - Skin*
ACGIH TLV: 1 mg/m^3 8-hour time-weighted average - Skin*

Product: Chlorodiphenyl (54% chlorine)

OSHA PEL: 0.5 mg/m^3 8-hour time-weighted average - Skin*
ACGIH TLV: 0.5 mg/m^3 8-hour time-weighted average - Skin*

*For Skin notation see Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Government Industrial Hygienists, 1995-1996.

9. PHYSICAL AND CHEMICAL PROPERTIES

PROPERTIES OF SELECTED AROCLORS*							
PROPERTY	**1016**	**1221**	**1232**	**1242**	**1248**	**1254**	**1260**
Color (APHA)	40	100	100	100	100	100	150
Physical state	mobile oil	mobile oil	mobile oil	mobile oil	mobile oil	viscous liquid	sticky resin
Stability	inert	inert	inert	inert	inert	inert	inert
Density (lb/gal 25°C)	11.40	9.85	10.55	11.50	12.04	12.82	13.50
Specific gravity x/15.5°C	1.36-1.37 x-25°	1.18-1.19 x-25°	1.27-1.28 x-25°	1.30-1.39 x-25°	1.40-1.41 x-65°	1.49-1.50 x-65°	1.55-1.56 x-90°
Distillation range (°C)	323-356	275-320	290-325	325-366	340-375	365-390	385-420
Acidity mg KOH/g, maximum	.010	.014	.014	.015	.010	.010	.014
Fire point (°C)	none to boiling point	176	238	none to boiling point	none to boiling point	none to boiling point	none to boiling point
Flash point (°C)	170	141-150	152-154	176-180	193-196	none	none
Vapor pressure (mm Hg @ 100°F)	NA	NA	0.005	0.001	0.00037	0.00006	NA
Viscosity (Saybolt Univ. Sec. @ 100°F) (centistokes)	71-81 13-16	38-41 3.6-4.6	44-51 5.5-7.7	82-92 16-19	185-240 42-52	1800-2500 390-540	— —

NA—*Not Available*

NOTE: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

10. STABILITY AND REACTIVITY

Stability: PCBs are very stable, fire-resistant compounds.
Materials to Avoid: None
Hazardous Decomposition
Products: PCBs may decompose to form CO, CO_2, HCl, phenolics, aldehydes, and other toxic combustion products under severe conditions such as exposure to flame or hot surface.
Hazardous Polymerization: Does not occur.

11. TOXICOLOGICAL INFORMATION

Data from laboratory studies conducted by Monsanto and from the available scientific literature are summarized below.
Single exposure (acute) studies indicate:
Oral - Slightly Toxic (Rat LD50 - 8.65 g/kg for 42% chlorinated; 11.9 g/kg for 54% chlorinated)

The liquid products and their vapors are moderately irritating to eye tissues. Animal experiments of varying duration and at different air concentrations show that for similar exposure conditions, the 54% chlorinated material produces more liver injury than the 42% chlorinated material.

There are literature reports that PCBs can impair reproductive functions in monkeys. The National Cancer Institute (NCI) performed a study in 1977 using Aroclor 1254 with both sexes of rats. NCI stated that the PCB, Aroclor 1254, was not carcinogenic under the conditions of their bioassay. There is sufficient evidence in the scientific literature to conclude that Aroclor 1260 can cause liver cancer when fed to rodents at high doses. Similar experiments with less chlorinated PCB products have produced negative or equivocal results.

The consistent finding in animal studies is that PCBs produce liver injury following prolonged and repeated exposure by any route, if the exposure is of sufficient degree and duration. Liver injury is produced first, and by exposures that are less than those reported to cause cancer in rodents. Therefore, exposure by all routes should be kept sufficiently low to prevent liver injury.

Numerous epidemiological studies of humans, both occupationally exposed and nonworker environmentally exposed population, have not demonstrated any causal relationship between PCB exposure and chronic human illnesses such as cancer or neurological or cardiovascular effects. PCBs at high dosage can cause skin symptoms; however, these subside upon removal of the exposure source.

PCBs have been listed in the International Agency for Research on Cancer (IARC) Monographs (1987)-Group 2A and in the National Toxicology Program (NTP) Seventh Annual Report on Carcinogens.

12. ECOLOGICAL INFORMATION

Care should be taken to prevent entry of PCBs into the environment through spills, leakage, use, vaporization or disposal of liquid or solids. PCBs can accumulate in the environment and can adversely affect some animals and aquatic life. In general, PCBs have low solubility in water, are strongly bound to soils and sediments, and are slowly degraded by natural processes in the environment.

13. DISPOSAL CONSIDERATIONS

The disposal of PCB items or equipment (those containing 50 ppm or greater PCBs) and PCB wastes is strictly regulated by 40 CFR Part 761. For example, all wastes and residues containing PCBs (wiping cloths, absorbent material, used disposable protective gloves and clothing, etc.) should be collected, placed in proper containers, marked and disposed of in the manner prescribed by EPA regulations (40 CFR Part 761) and applicable state and local regulations.

14. TRANSPORT INFORMATION

The data provided in this section are for information only. Please apply the appropriate regulations to properly classify a shipment for transportation.

DOT Classification:	IF WEIGHT OF PCBs TO BE SHIPPED IS OVER ONE POUND, THE FOLLOWING CLASSIFICATION AND LABEL APPLY.	
DOT Label:	LIQUID:	Environmentally Hazardous Substance, liquid, n.o.s. (Contains PCB), 9, UN 3082, III
	SOLID:	Environmentally Hazardous Substance, solid, n.o.s. (Contains PCB), 9, UN 3077, III
DOT Label:	Class: 9	
DOT Reportable Quantity:	One Pound	
IMO Classification:	Polychlorinated Biphenyls, IMO Class 9, UN 2315, II IMO Page 9034, EMS 6.1-02	
IATA/ICAO Classification:	Polychlorinated Biphenyls, 9, UN2315, II	

15. REGULATORY INFORMATION

For regulatory purposes, under the Toxic Substances Control Act, the term "PCBs" refers to a chemical substance limited to the biphenyl molecule that has been chlorinated to varying degrees or any combination of substances which contain such a substance (40 CFR Part 761).

TSCA Inventory: not listed.

Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370): Immediate, Delayed.
SARA Section 313 Toxic Chemical(s): Listed-1993 (De Minimis concentration 0.1%.)

Reportable Quantity (RQ) under DOT (49 CFR) and CERCLA Regulations: 1 lb. (polychlorinated biphenyls) PCBs.

Release of more than 1 (one) pound of PCBs to the environment requires notification to the National Response Center (800-424-8802 or 202-426-2675).

Various state and local regulations may require immediate reporting of PCB spills and may also define spill cleanup levels. Consult your attorney or appropriate regulatory officials for information relating to spill reporting and spill cleanup.

16. OTHER INFORMATION

Reason for revision: Conversion to the 16 section format. Supersedes MSDS dated 10/88.

FOR ADDITIONAL NONEMERGENCY INFORMATION, CONTACT:

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Appendix 2

Quality Assurance/Quality Control Plan

QUALITY ASSURANCE/QUALITY CONTROL PROJECT PLAN FOR PLANNED IRM AND SUPPLEMENTAL SAMPLING ACTIVITIES

R. Freedman & Son Property
New York State Department of Environmental Conservation
Site #401033

Prepared for:

Eastern Metal Recycling LLC
143 Harding Avenue, 1st Floor
Bellmawr, New Jersey 08031

Prepared By:

Leader Professional Services, Inc.
271 Marsh Road, Suite 2
Pittsford, New York 14534

December 2018

842.002

Leader

Figures

Tables

Appendices

1.0 INTRODUCTION

Leader Professional Services, Inc. ("Leader") prepared this Quality Assurance and Quality Control ("QA/QC") Project Plan to provide information pertaining to the collection, handling, analysis and documentation of standards for site activities. Leader will use the sample test results to prepare the Remedial Investigation Report and Feasibility Study Report and Interim Remedial Action ("IRM") Report for the R. Freedman & Son property located in Green Island, New York.

2.0 PROJECT DESCRIPTION

This QA/QC Project Plan was prepared to support soil and groundwater sampling and analysis that will be used to further characterize the R. Freedman & Sons, Tibbits Avenue, Green Island property ("Site") and to confirm IRM activities meet the soil cleanup objectives ("SCO") by providing procedures for the collection, handling, analysis of samples and documentation standards of the Site activities.

3.0 PROJECT ORGANIZATION AND RESPONSIBILITY

The management structure of this project is presented in Figure 1 "Project Management Organization." The responsibilities of the project personnel shown in Figure 1 are described below:

NYSDEC Project Manager - Kyle Forster, Division of Remediation, located in Albany, New York, (518) 402-8644. Mr. Forster's responsibility is to manage the project and the NYSDEC personnel who are assigned to the project for technical review and oversight, and to ensure that all aspects of the project are completed. Mr. Forster will be notified prior to deviations from the protocols presented herein and if there has been a problem with the procedures or analyses because of Site-specific conditions.

Principal-in-Charge – Michael Rumrill, Leader, 271 Marsh Road, Suite 2, Pittsford, New York 14534, (585) 248-2413. Mr. Rumrill's responsibility is for overall quality control and to ensure that adequate resources are dedicated to this project.

Project Quality Assurance Officer/ Project Manager, Peter von Schondorf, P.G, Leader, 271 Marsh Road, Suite 2, Pittsford, New York 14534, (585) 248-2413. Mr. von Schondorf's responsibility is to ensure that the project and QA/QC Project Plan are adhered to and to enforce any corrective actions needed and be a point of contact for all technical issues regarding the project. Mr. von Schondorf will be notified by Leader's Site Manager or by the analytical laboratory of any deviations from the protocols presented herein or if there has been a problem with implementing the procedures or analyses because of Site-specific conditions.

Project Engineer, Dixon Rollins, P.E, Leader, 271 Marsh Road, Suite 2, Pittsford, New York 14534 (585) 248-2413. Mr. Rollins' responsibility is to ensure that the Work Plan is adhered, to enforce any corrective actions needed and to supervise all technical aspects of the project implementation and report writing. Mr. Rollins' will be notified by Leader's Site Manager or

Project Manager of any problems with implementing the procedures or analyses because of Site-specific conditions, or deviations from the protocols presented herein.

Project Supervisor/Site Manager, Robert Murphy, Leader, 271 Marsh Road, Suite 2, Pittsford, New York 14534, (585) 248-2413. Mr. Murphy's responsibility is to manage the project and to ensure that aspects of the project are completed in accordance with the work plan, and to manage the field investigation and the project budget.

4.0 SAMPLING PLAN DESIGN AND RATIONALE

The design of the Sampling Plan is discussed in the Supplemental Work Plan for Additional Field Sampling Activities and Interim Remedial Measures ("Supplemental Work Plan") and to a limited extent also discussed in the following sections. The Sampling Plan is intended to be implemented in as a series of individual and concurrent run tasks to make the best use of field time.

In general, the conceptual model for the Site's geology, hydrogeology, receptors and contaminants, is the Site's overburden is composed of new stone fill, a historic fill layer, and native soils as defined in the Draft Remedial Investigation Report. A layer of historic fill and native soils were found with saturated soils found within the native soil. Groundwater was found at approximately 8 feet below the ground surface and migrating from the northwest corner of the Site to the southeast.

The implementation of the Supplemental Work Plan will provide additional Site investigation in an area suspected to have been a former train roundhouse or turnstile/maintenance facility ("mound area"). In addition to this investigation task, the Supplemental Work Plan will be implemented to conduct soil sampling to confirm soil removal has satisfied SCOs of the IRM and the re-sampling of the groundwater monitoring wells. The procedures for the proposed sampling are discussed in the following sections.

5.0 TARGET PARAMETERS

5.1 Laboratory Parameters

Soil collected for investigation purposes and groundwater samples will be analyzed for Chemicals of Potential Concern ("COPC"). The COPCs include Target Compound List ("TCL"), volatile organic compounds ("VOCs"), TCL semi-volatile organic compounds ("SVOCs"), TCL pesticides/polychlorinated biphenyls ("PCBs"), and Target Analyte List ("TAL") inorganics plus cyanide and mercury. In addition to these parameters four groundwater monitoring wells will be sampled for the NYSDEC's emerging contaminants: 1,4-Dioxane and Perfluorochemicals ("PFCs"), including Perfluoroalkyl and Polyfluoroalkyl Substances ("PFAS"), and Perfluorooctanoic Acid ("PFOA"). PFAS and PFOAs will be referred to collectively herein as PFCs.

Soil removed from the public right of way ("ROW") along Tibbits Avenue and from the Site's berm will be analyzed for selected parameters. The ROW along Tibbits Avenue will be sampled once the PCB contaminated soil has been removed for PCBs to determine if the SCOs have been

met. There are two hotspot areas within the Site's berm which will be subject to a soil removal; berm sample location 10 will be analyzed for PCBs, while berm sample location 13 will be analyzed for mercury, only.

A summary of the analytical parameters for each medium is provided in Table 1.

5.2 Field Parameters

Field parameters measured during groundwater sampling will include the following: conductivity, pH, temperature, dissolved oxygen, oxidation-reduction potential and turbidity. These field parameters will be measured during groundwater sampling with the use of a flow through cell.

A photoionization detector ("PID") will be used for soil sampling and soil vapor sampling to evaluate undisturbed and disturbed soil conditions and to evaluate the soil gas upon construction of the soil vapor sampling point.

6.0 DATA QUALITY OBJECTIVES

The data quality objectives ("DQOs") were determined based on the use of the data and the analytical reporting limits that can be achieved with the analytical methods specified. The results of the soil sample analyses obtained during the investigation will be compared to the NYSDEC's Part 375 Soil Cleanup Objectives for unrestricted use and restricted industrial use which is consistent with the current and anticipated future use. The results of the analysis of the groundwater samples collected during the investigation will be compared to the NYSDEC TOGS 1.1.1 Ambient Water Quality Standards and Groundwater Effluent Values.

7.0 QUALITY ASSURANCE OBJECTIVES FOR MEASUREMENT DATA

Specific procedures for sampling, laboratory instrument calibration, laboratory analysis, reporting of data, internal QC, audits, preventive maintenance, and corrective action are described below.

8.0 PROCEDURES FOR THE COLLECTION OF ENVIRONMENTAL SAMPLES

The procedures in this document have been standardized to apply to the anticipated site's field conditions. It must be recognized that under certain conditions, the procedures discussed herein may not be appropriate given the site conditions at the time of the sample collection. In such cases, it will be necessary to adapt the procedures given those specific conditions of the Site and the sampling objective. Changes will be discussed with NYSDEC before sampling.

8.1 Surface Soil Sampling

The collection of surface soil samples is not anticipated during the investigation of the mound area since this area is covered with clean stone and concrete. Samples may be obtained during

the Site visit to confirm the removal of stationary equipment (shredder, cyclone, etc.). However, if historic fill or stained material is found a surface soil sample will be collected as grab sample.

8.1.1 Soil Grab Samples

All surface soil grab samples will be collected at the locations in the mound area where historic fill is found at the ground surface or identified during a Site walk-through and obtained from areas where there are stains or residual materials present which may be a source of contamination. The sampling procedures to be used are detailed in Appendix A of this Plan and limited to the upper two inches of soil. The purpose of limiting the depth of investigation is to obtain data on the immediate environmental and health risks associated with the surface soil.

Leader will enter the information pertinent to the sampling procedures used and observations of the environmental conditions at the time of sampling into a field logbook with an indelible ink marker. The samples will be visually inspected for staining, color and texture following the Unified Soil Classification System. The samples will be screened with a PID.

8.2 Subsurface Soil Sampling

Leader will conduct subsurface soil sampling at the proposed sampling locations shown on Figures 3, 5, 6 and 7 of the Supplemental Work Plan from November 2018. The sampling procedures to be used are provided in Appendix B using a location dedicated sampling spoon or trowel from the excavated test pit soil. The purpose of the subsurface soil sampling is to obtain data on the extent of soil contamination within specific intervals in the overburden to characterize the soil and groundwater zone conditions. The intervals to be sampled include the following:

- Fill and Native Soil (see Figure 7). The fill and/or native soil in the unsaturated zone is expected to be found from 0 to 6 feet below the ground surface. At any given location, the fill may extend into the groundwater zone or the layer of fill may be thin. In general, at each sampling location, a sample of the fill and a sample of the native soil will be collected in the unsaturated zone. If the fill and soil do not meet any of the criteria for sample collection (e.g. staining, odors, PID reading, etc.) then the sample will be collected within the fill, at the fill and native soil interface and at the water table.

- Saturated Zone (see Figure 7). Leader selected this interval to determine if the saturated zones fill or soil materials are a source of contamination or if the contaminated groundwater is contaminated the fill/soil. Each of test pit location is anticipated to be sampled to the water table. Excavation below the water table will be dependent on soil and groundwater conditions (i.e., does the groundwater immediately flood the hole or seep into the hole at a few gallons per minute or less. Samples will be collected where evidence of contamination is found, but if no indication of contamination is found or groundwater limits the depth of excavation, then the default sampling interval will be conducted at the water table level.

Leader will enter information pertinent to the sampling procedures used and observations of the environmental conditions at the time of sampling into a field logbook with an indelible ink marker. The samples will be inspected to evaluate organic vapor readings, color, staining, and texture

following the Unified Soil Classification System, location of stains and the location of saturated soil. The information gathered during the collection of subsurface soil samples collected using a sampling device during drilling or using a trowel during a test pit excavation will be recorded in the field notebook and on a boring log/test pit log that is provided in Appendix B.

8.3 Tibbits Avenue Right of Way Sampling

Sampling will be conducted within the soil removal area shown on Figures 5 of the Supplemental Work Plan from November 2018. The sampling procedures to be used are provided in Appendix B. The soil from the surface left in place after the soil removal will be sampled at a rate of one sample per 30 feet of excavation. The soil will be removed from the upper two inches of soil over an area of approximately one square foot. The purpose of the soil sampling is to obtain data to confirm the concentration of PCBs in the soil. The location of the sample, the soil conditions, and date and time of sampling will be noted in the field notes.

8.4 Berm Sampling

Sampling will be completed within the two berm soil removal areas shown on Figures 7 of the Supplemental Work Plan from November 2018. The sampling procedures to be used are provided in Appendix B. The soil from the soil left in place after the soil removal will be sampled at a rate of one sample per side wall and bottom. The soil will be removed from the upper 2-inches of soil over an area of approximately one square foot. The purpose of the soil sampling is to obtain data to confirm the concentration of PCBs (berm sample location 10) and mercury (berm sample location 13). The samples are expected to be collected from the historic fill used to form the berm, but will the interval sampled will be based on the presence of stains, PID measurements or the depth where the original sample with the exceedance of the SCO was collected. At the location of the sample, the soil conditions, PID measurements, and date and time of sampling will be noted in the field notes.

8.5 Headspace Soil Sampling

A portion of each sample collected from the mound test pits or the berm soil removal area will be retained for head space screening using a PID. Leader will collect these grab samples using a spoon or trowel as soon as possible after the soil has been removed and the visual inspection has been completed. The samples will be placed into a clean plastic bag or a clean glass container. If the ambient air temperatures are below 70-degrees Fahrenheit (“F”) the samples will be warmed either by placing them into the sunlight or in a warm area for approximately five minutes before they are screened with the PID. Leader will record the screening results in the field logbook.

8.6 Groundwater Sampling Procedures

Groundwater sampling will be completed at each of the proposed monitoring well locations or any existing monitoring wells found on the Site (see Figure 8 of the Supplemental Work Plan, August 2018). The sampling procedures to be used are detailed in Appendix C of this QA/QC Plan and Appendix 3 of the Supplemental Work Plan (August 2018). The purpose of the groundwater sampling is to obtain a representative sample of the shallow groundwater zone.

Leader will enter the information pertinent to the sampling procedures used and observations of the environmental conditions at the time of sampling into a field logbook with an indelible ink marker.

The samples collected from permanent monitoring wells will be measured for the following field parameters during the monitoring well pre-sampling purging: water level depth below ground surface, dissolved oxygen, pH, turbidity, specific conductance, oxidation-reduction potential, temperature and the presence of a sheen or non-aqueous phase liquids. The collection of the groundwater sample will be conducted after three measurements are taken at 10-minute intervals and the measurements do not vary more than 20-percent. The field parameter data collected during purging will be recorded on the sampling form provided in Appendix C and Appendix 3 of the Supplemental Work Plan, November 2018.

8.7 Field Equipment Cleaning

All non-disposable equipment used for the collection, preparation, and preservation of the environmental samples must be cleaned prior to their use. Unless the equipment and materials used are disposable, or there are a sufficient number to be used during any one sampling period, cleaning will be conducted in the field. If possible, attempts will be made to minimize field cleaning. To avoid cross contamination between sampling points, dedicated disposable sampling equipment will be used when possible.

The material needed to clean sample equipment is dependent upon the type of the equipment to be cleaned. A sampling trowel will have a different cleaning requirement than the probes used in a flow-through cell. The following is a generalized list of materials to be used during cleaning:

- Cleaning solutions: Non-phosphate detergents will be used to clean sampling re-usable equipment.
- Water: In some cases, tap water may be adequate for initial or intermediate rinses. The final rinses, however, will be with deionized/distilled water.
- Buckets and washbasins: For use in the washing and rinsing of equipment.
- A drying rack: All materials and equipment must be dried prior to additional use. Paper towels will be used when necessary for drying equipment.

The excavator bucket used for the excavation of the test pits and soil removal will be decontaminated between sample locations, work areas and at the completion of each work day. The decontamination methods used will include: use of potable water obtained from either the Green Island fire hydrant or a potable water source; high pressure spray wash using hot water from a steam generator and drying of equipment.

Soil sampling tools used for the collection of soil samples will be decontaminated by hand washing using soap and water and a stiff brush. The tools will be then rinsed with potable water and dried.

Hand tools and heavy equipment (excavator buckets) will be cleaned on the decontamination pad. Wash water generated from the cleaning process will be containerized along with any solid material.

8.8 Waste Handling

The handling of investigation-derived waste and any remediation waste generated from an IRM will be handled following the procedures identified in Appendix D. All wastes will be secured in containers and roll-off boxes. Plastic sheeting placed on the ground surface will be used as

temporary containment, and the pad will be bermed and covered with plastic sheeting so the waste is controlled at all times. Each container will be labeled to identify the waste, the location of generation (location or monitoring well number), and the date of generation. Before the end of a field session, the wastes will be sampled and analyzed for waste characterization. If the waste is determined to be hazardous, then each of those containers, boxes or piles will be appropriately labeled. All hazardous waste will be removed from the site within 90 days of its generation.

8.9 Documentation and Chain of Custody Procedures

8.9.1 Packaging and Shipping Procedures

Once Leader collects the samples, the samples will be prepared and preserved in accordance with applicable procedures found in the Supplemental Work Plan and this OA/QC Plan and packaged for overnight shipment and/or delivery to the laboratory. Table 2 provides the container, preservation and holding time requirements for each sample media and the analysis to be conducted. Chain-of-custody procedures will be followed to ensure the proper handling and possession of the samples until the analytical laboratory has received the samples. This section outlines procedures for the packing and shipping of environmental samples and the general chain-of-custody procedures.

All individual glass and plastic sample containers will be placed in a durable shipping container. An insulated plastic cooler be used. The following is an outline of the packing and shipping procedures Leader will follow:

- The drain plug at the bottom of the cooler will be sealed to ensure that water from sample container breakage or ice melting does not leak from the container.
- Check screw caps for tightness and mark the sample volume level on the outside of large containers.
- For breakable containers, foam packing peanuts or bubble wrap may be used to keep containers in place and to prevent breakage.
- When samples must be kept at 4 degrees C, ice sealed in plastic bags or cool packs will be placed in the cooler.
- Documents accompanying the samples will be sealed in a plastic bag attached to the inside of the cooler lid.
- The lid of the cooler will be closed and fastened.
- Duct tape or reinforced shipping tape will be wrapped around the cooler several times to ensure that the lid will not open if the latch becomes unfastened.

- The following information will be attached to the outside of the cooler: name and address of receiving laboratory, return address of the sampling team, arrows indicating "This End Up" on all four sides, and a "This End Up" label on the top of the lid.
- A custody seal will be affixed and signed across the lid of the cooler.

Leader will ship the samples by air for next day delivery at the specified laboratory. Leader will open and reseal the cooler for inspection if is required by the courier.

8.9.2 Chain-of-Custody Procedures

The primary objective of the chain-of -custody procedures is to create an accurate written record which can be used to trace the possession and handling of the sample from the moment of its collection through laboratory analysis and potentially introduction as evidence.

The number of persons involved in collecting and handling samples should be kept to a minimum. Detailed field records will be kept in the project field logbook and will contain the following information:

- Sample identification and source (including sampler's name, sample location, and sample media).
- Dates and times of sample procurement, preparation, and shipping.
- Preservative used.
- Analyses required.
- Pertinent field data (pH, DO, ORP, specific conductance, temperature, etc).

To help eliminate possible problems in the chain-of-custody procedures, one staff person will be appointed Field Custodian for each task. For tasks where sampling teams are used, all samples are to be turned over to the Field Custodian by the team members who collected the samples. The Field Custodian will then document each sampling event and the sample will remain in his/her custody until it is shipped to the laboratory. The Field Custodian is responsible for properly packaging and dispatching samples to the laboratory. The responsibility includes filling out, dating and signing the appropriate portion of the chain-of-custody record.

Labels will be firmly affixed to each sample container. The labels on each sample bottle will be filled out with waterproof ink prior to sample collection. Sample reference numbers identical to that recorded on the labels will be recorded on the chain-of-custody.

When transferring the samples, the individual relinquishing the samples will sign and record the date and time on the chain-of-custody record. Every person who takes custody will fill in the appropriate section of the chain-of-custody record form, and their affiliated company. To reduce the amount of custody records, the number of custodians in the chain-of-possession will be minimized.

9.0 SAMPLE ANALYTICAL PROCEDURES

9.1 Field Analytical Procedures

Field measurements will be conducted in accordance with the Supplemental Work Plan, August 2018.

9.2 Laboratory Analytical Procedures

Chemical analyses in support of soil, groundwater, and air data will be performed by NYSDOH ELAP certified laboratory. The laboratory will maintain current SOPs for extraction, cleanup and analysis of soil and water matrices and must have on file current method detection limits ("MDL") studies to demonstrate their ability to meet the project required reporting limits within these matrices. The MDLs must be performed by the laboratory on a yearly basis to ensure their ongoing ability to perform the methods, as specified. The MDLs will be performed in accordance with USEPA guidance described in 40 CFR 136, 1986, Appendix B, "Definition and Procure for the Determination of the Method Detection Limit -Revision 1.11."

9.2.1 SOIL AND GROUNDWATER METHODS

Using the methods summarized in Table 1, the laboratory will perform analysis of soil, air and groundwater.

9.3 Sample Documentation in The Laboratory

Upon receipt at the laboratory, the designated sample custodian will inspect the shipping cooler/container and the custody seal. The sample custodian will note the condition of the cooler/container and the custody seal on the Chain-of-Custody record sheet.

The sample custodian will record the temperature of one sample (or temperature blank) from each cooler and the temperature will be noted on the Chain-of-Custody. If the shipping cooler seal is intact, the sample containers will be accepted for analyses. The sample custodian will document the date and time of receipt of the containers and sign the form.

If damage or discrepancies are noticed (including sample temperature exceedances), they will be recorded in the remarks column of the record sheet, dated and signed. Any damage or discrepancies will be reported to the lab supervisor who will inform the lab manager and QA Officer before samples are processed.

10.0 INSTRUMENT CALIBRATION

Both field instrumentation and laboratory analytical instrumentation are to be used to provide project data. Both systems will require regular calibration in order to provide comparable and accurate information.

On-Site VOCs field data will be obtained using a portable organic vapor analyzer monitoring instrument, which will require daily calibration checks and weekly calibration. Other instruments requiring calibration include: the water quality meter used for DO, ORP, field conductivity, turbidity meters, pH and temperature. Since this instrument will be obtained directly from Eco Rental Solutions ("Eco Rental") and used for on weekly basis, Leader will rely on Eco Rental to

provide calibrated equipment, but Leader will also have the manufacturer's calibration instructions if field calibration is required.

10.1 Field Instruments

10.1.1 Portable Organic Vapor Analyzer Calibration

The PID equipment has a calibrated range of 0 to 2000 parts per million volume ("ppmv") total hydrocarbons and can collect instantaneous and 15-minute average concentrations. It is typically calibrated using isobutylene. A 10.2-eV lamp will be used, which ionizes many of the common air contaminants. The PID is highly sensitive to aromatic compounds such as benzene or toluene.

Calibration will be performed prior to taking the instrument into the field. Certified isobutylene-in-air (100 ppm) and zero-air standard gases are used for calibration, according to the manufacturer's specifications. Calibration checks will be made daily (at a minimum) using the isobutylene calibration gas. If needed, the instrument will be re-calibrated when the calibration check falls below 10-percent of the isobutylene concentration of the calibration gas. Field calibration records will be kept in the project field logbook

10.1.2 Conductivity, pH Meter, Do, Turbidity, Temperature Calibration

Tools and equipment which do not contain Telfon and other materials that may contribute PFOAs to the sample. Perfluoroalkyl and Polyfluoroalkyl ("PFOAs") substances will be used to sample. Similarly, field technicians will not wear clothing containing GORE-TEX or clothing that has been waterproofed with PFOAs containing substances. Eco Rental (Leader field equipment provider) will provide documentation that their tools and supplies do not contain PFOAs.

The Horiba 22 or similar device Water Quality Monitor is a multi-probe instrument that can measure most of the required field parameters using one hand-held instrument. The instrument will be provided by Eco Rental along with operating manuals and calibration equipment. The calibration of the specific conductance, pH, dissolved oxygen ("DO") and temperature will be checked prior to beginning work and again at the completion of sampling following the manufacturer's operating procedures, or if results do not make sense based on prior testing. Field calibration records will be kept in the project field logbook

Leader will measure turbidity using a standalone device such as the Lamotte 2020WE Turbidity meter. This device uses an optical sensor and utilizes manufacturer provided glassware to use a measurement container. The meter kit also contains a calibration liquid for field calibration. Calibration of the meter will be completed at the beginning and at the completion of the work day. Field calibration records will be kept by the Leader's geologist in a project field logbook.

10.2 Laboratory Equipment Calibration

All instruments used to perform chemical measurements must be properly calibrated prior and during use to ensure acceptable and valid results. The accuracy and traceability of all calibration standards used must be properly documented.

The methodologies selected for use in this investigation specify the types and frequency of calibrations. The specific methods to be used are provided in Table 1.

Accessory analytical equipment such as refrigerators, balances and ovens required for the storage and preparation of samples must be calibrated and/ or monitored with the following guidelines:

Equipment must be checked daily and these records kept in a logbook or calibration-specific log.

The laboratory must document clearly the acceptance criteria for all such equipment (e.g., refrigerator temperature must be 4°C ± 2°C) and corrective actions must be taken for any out-of-control situation as described in the laboratory's Quality Manual.

The equipment must not be used after corrective action until it has been recalibrated or verified through the successful analysis of a check standard.

Calibrations of other miscellaneous analytical equipment (e.g., automatic pipettes) must be performed according to manufacturer's recommendations.

Implementation of the laboratory calibrations will be the responsibility of the Laboratory Manager and the analysts performing the procedures.

The procedures described in this QA/QC Plan are to be used in conjunction with specific instrument manufacturer's instructions, applicable analytical methodology requirements, and specific laboratory field procedures for instrument operation.

10.2.1 *Laboratory Instrument Preventative Maintenance*

As part of the laboratory QA/QC program, a routine preventative maintenance program is conducted by the laboratory to minimize the occurrence of instrument failure and other system malfunctions. Designated laboratory employees regularly perform routine scheduled maintenance and repair of (or coordinate with the vendor for the repair of) all instruments. All laboratory instruments are maintained in accordance with manufacturer's specifications. The preventive maintenance program should include:

An inventory of replacement and spare parts for instruments that are maintained.

Maintenance logbooks for each instrument with information on routine and non-routine procedures. The logbook records must include the instrument number, description of malfunction or problem, date of maintenance activity, the type of activity performed and final resolution.

Training of laboratory staff in the maintenance requirements of the instruments. Preventive maintenance schedules and activities will be outlined in the laboratory SOPs.

10.2.2 Inductively Coupled Plasma Spectroscopy

The Inductively Coupled Plasma (ICP) Spectrometer is maintained under service contract with the manufacturer. Typical routine preventive maintenance includes:

- Checking pump tubing and replacing when necessary
- Checking nebulizer for even "spray" and cleaning, as necessary
- Checking the torch for plasma height and shape and cleaning, as necessary
- Checking sensitivity of photomultiplier and replacing, as necessary

10.2.3 Gas Chromatograph Instruments

The Gas Chromatographyy ("GC") and GC/Mass Spectometry ("MS") systems will be maintained on a service contract or undergo in-house maintenance to provide routine preventive maintenance. Spare parts for the GC and GC/MS systems should include: filaments, electron multiplier, source parts, o-rings, ferrules, septa, injection port liners, and columns. Routine preventive maintenance for the systems should include:

- Checking the data systems (disk drives, hard drives etc.) and servicing, as necessary.
- Changing oil and traps on mechanical and turbo pumps.
- Conditioning of moisture traps, every two months or when the gas source is changed.
- Carrier gas evaluation and leak checking of electron capture detector when the gas or column is changed.
- Servicing the MS source through cleaning, replacement of filaments and other source parts, as necessary.
- Replacement of injection port septa and liners, as necessary.
- Clipping the front end of GC column or replacement of GC column, as necessary.

10.3.4 Atomic Absorption Instruments

The atomic absorption (AA) systems will be maintained on a service contract or undergo in-house maintenance to provide routine preventive maintenance. Routine preventive maintenance procedures should include:

- Checking the plumbing connections.
- Checking the auto-sampler and tubing.

10.3.4 Thermometers

Thermometers for refrigerators and ovens are calibrated yearly against National Institute of Standards and Technology (NIST) certified thermometers. The Laboratory QA Officer will be responsible for the safekeeping of the NIST thermometers and for the documentation asserting the accuracy of their measurements.

10.3.5 Analytical Balances

Virtually every analytical procedure requires the use of side-loading and/or top-loading balances. Many of these requirements involve standards preparation and are, therefore, crucial to accurate determination. Balances should be maintained on a service contract. A calibration status label is affixed to each balance after calibration during servicing.

11.0 INTERNAL QUALITY CONTROL CHECKS

11.1 Field Measurements

The type and frequency of field-generated QC samples are summarized in Table 3. Primarily, rinse blanks, trip blanks, and field duplicates are employed to verify the field sampling approach.

11.2 Laboratory Analysis

The type and frequency of laboratory generated QC samples are specified by the analytical method and the laboratory's quality assurance plan. Criteria that the laboratory must meet are presented in the analytical methods.

11.2.1 Laboratory Quality Control

Specific procedures related to internal laboratory QC samples are detailed in the analytical methods. The following QC samples will be analyzed, and the results will be used to assess overall analytical accuracy and precision.

11.2.2 Reagent (Method) Blanks

Laboratory glassware and sample containers used to store and transport samples will be cleaned in accordance with method protocols.

A reagent blank will be analyzed by the laboratory at a frequency of one blank per analytical batch. The reagent blank, an aliquot of analyte-free water or sand, will be carried through the entire sample preparation and analytical procedure, including all cleanup procedures. The reagent blank is used to document contamination resulting from the analytical process.

11.2.3 Laboratory Control Samples (LCS)/ Blank Spike Analyses

The LCS or blank spike serves as a monitor of the overall performance of all steps in the analysis, including the sample preparation. LCS or blank spikes will be analyzed for each method using the same sample preparation and analytical procedures employed for the investigative samples.

11.2.4 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

An MS/MSD sample will be analyzed for organic parameters and inorganic parameters at a minimum frequency of one per 20 investigative samples. For each matrix, percent recoveries will be used to evaluate analytical accuracy while the RPD between MS/MSD analyses will be used to assess analytical precision.

11.2.5 Surrogate Analysis

Surrogates are organic compounds which are similar to the analytes of interest but are not normally found in environmental samples. Surrogates are added to samples to monitor the effect of the matrix on the accuracy of the analysis. Every blank, standard, and environmental sample analyzed by GC or GC/MS, including MS/MSD samples, will be spiked with surrogate compounds prior to sample preparation.

The compounds that will be used as surrogates and the levels of recommended spiking are specified in the methods. Surrogate spike recoveries must fall within the laboratory control limits. If surrogate recoveries are excessively low (<10 percent), the laboratory will contact the QA/QC Officer for further instructions.

Dilution of samples to bring the analyte concentration into the linear range of calibration may dilute the surrogates out of the quantification limit. Reanalysis of these samples is not required. Assessment of analytical quality in these cases will be based on the MS/MSD sample analysis results.

11.2.6 Retention Time Window Determination

For organic analyses, determination of the target analyte retention time window will be made based on the procedure specified in the methods of analysis. Positive identification of an analyte will be made when its retention time falls within the window established during calibration.

11.2.7 Internal Standards

To ensure that changes in GC/MS response and sensitivity do not affect sample analysis results, internal standard compounds are added to all samples, blanks, and spike samples prior to VOC and SVOC analyses. All results are calculated as a ratio of the internal standard response. The criteria by which the internal standard results are assessed will be as follows:

- Internal standard area counts must not vary by more than a factor of two (-50 percent to +100 percent) from the associated calibration standard.
- The retention time of the internal standard must not vary more than ±30 seconds from the associated calibration standard.

11.2.8 Cleanup Check Samples

Whenever a cleanup technique is employed to eliminate interferences that may prevent accurate determination of the targets of interest at the project required reporting limits, the cleanup procedure must be verified through the analysis of check standards. A standard containing some or all of the target analytes must be processed through the cleanup procedure and analyzed. The recovery of the target analytes in this check will indicate if the cleanup procedure was effective in elimination of interferences without impacting the target compounds of interest.

11.2.9 Sample Collection QC

Field QA/QC sample quantities are summarized in Table 3 and the use in the analysis of the data is discussed in Table 4. Field duplicates will be submitted at a frequency of one per 20 investigative samples or one per sampling event. The duplicate results will be used to assess

overall sampling and analytical precision and will be assessed against acceptance criteria of 50 percent RPD for water samples and 100 percent for soil samples.

Trip blanks for VOCs will be prepared by the laboratory using analyte-free water and submitted with the water sample collection containers. The trip blanks will be kept unopened in the field with sample bottles. One trip blank will be transported to the laboratory with each batch of aqueous VOC samples. The laboratory will analyze trip blanks as samples.

Rinse blanks will be used to assess decontamination procedures of collection equipment used for multiple samples. The rinse blank will be prepared using analyte-free deionized water when non-dedicated equipment is used in the field. The rinse blanks will be analyzed by the laboratory as samples. Rinse blanks will be prepared at a frequency of one per 20 investigative samples per equipment type.

12.0 DATA REDUCTION, VALIDATION, AND REPORTING

All data generated through field activities or by the laboratory operation shall be reduced and validated prior to reporting in accordance with the methods and the following procedures.

12.1 Data Reduction

12.1.1 Field Data Reduction Procedures

Field data reduction procedures will be minimal in scope compared to those implemented in the laboratory setting. Only direct read instrumentation will be employed in the field. The pH, conductivity, temperature, dissolved oxygen, and turbidity readings collected in the field will be generated from direct read instruments following calibration per manufacturer's recommendations. Such data will be written into field logbooks immediately after measurements are taken and/ or recorded on field forms. If errors are made, results will be legibly crossed out, initialed, and dated by the field member, and corrected in a space adjacent to the original entry. Later, when the results forms required for this study are being filled out, the Field QA Officer will proof the forms to determine whether any transcription errors have been made by the field crew.

12.1.2 Laboratory Data Reduction Procedures

For this project, the equations that will be employed in reducing data are found in the appropriate chapters of SW-846, Third Edition. All calculations are checked at the conclusion of each operating day. Errors are noted, corrections are made, but the original notations are crossed out legibly. Analytical results for soil samples shall be calculated and reported on a dry weight basis.

Quality control data (e.g., laboratory duplicates, surrogates, matrix spikes, and matrix spike duplicates) will be compared to the method acceptance criteria. Data considered to be acceptable will be entered into the laboratory computer system. Data summaries will be sent to the Laboratory QA Officer for review. If approved, data are logged into the project database format. Unacceptable data shall be appropriately qualified in the project report. Case narratives will be prepared which will include information concerning data that fell outside acceptance limits, and any other anomalous conditions encountered during sample analysis.

12.2 Data Validation

Data validation will be conducted in accordance with "U.S. EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," EPA-540/R-99/008, October 1999, and the "U.S. EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review," EPA-540/R-94-013, February 1994. The data assessment will include a review of all technical holding times, instrument performance check sample results, initial and continuing calibration results, and all batch and matrix QC including rinse blanks, field duplicates, MS/MSD, matrix duplicates, surrogate recoveries, method blanks, LCS results, continuing and initial calibration checks, and the identification and quantitation of specific analytes of interest. Assessment of analytical and in-house data will include checks on data consistency by looking for comparability of duplicate analyses, adherence to accuracy and precision control criteria detailed in this QAPP, and anomalously high or low parameter values. The results of these data validations will be reported to Leader's project manager and the laboratory, noting any discrepancies and their effect upon acceptability of the data.

The data validation reports will summarize the samples reviewed, parameters reviewed, any nonconformance with the established criteria, validation actions (including data qualifiers). Data qualifiers will be consistent with the validation guidelines and will consist of the following:

J: The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ: The analyte was not detected above the sample reporting limit; however, the reporting limit is approximate.

U: The sample was analyzed for, but was not detected above the sample reporting limit.

R: The sample result is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

12.3 Laboratory Data Reporting

The Laboratory will provide electronic copies of all laboratory data reports for project reporting purposes in a format consistent with NYSDEC/USEPA Contract Laboratory Program ("CLP") Category B deliverables. Equis electronic deliverables will also be required for the project database.

12.4 Data Reconciliation with Requirements for Usability

The goal of this project is to produce data to be used in comparison to soil and groundwater quality cleanup criteria. As such, the data generated must meet the data user's needs as defined in the project DQOs in Section 6.0 of this QA/QC Plan. In summary, the primary objectives for assessing the usability of the data are:

1) To collect data that is representative of site conditions and comparable with prior data;

2) To produce data that meets the project reporting limit requirements; and

3) To produce data of the highest quality possible in order to accurately and precisely characterize the site.

Data validation personnel will apply the standard data validation qualifiers to data to indicate the level of uncertainty in the associated result. In general, for the purposes of this investigation, data that are left unqualified, data qualified "U" (non-detected), data qualified "J" (detected as an estimated result), and data qualified "UJ" (non-detected at an estimated reporting limit) are considered valid and usable for project objectives. Data that are qualified "R" (rejected) will be considered invalid and unusable.

The goal of this program is to generate valid, usable data. However, in environmental sampling and analysis, some data may be lost due to sampling location logistics, field or laboratory errors, or matrix effects that may cause the rejection of results for some compounds. The overall completeness goal for collection of valid data is 90 percent. If this goal is not met, data gaps may exist that may compromise the intended use of the data.

13.0 PERFORMANCE AND SYSTEM AUDITS

Performance and system audits of both field and laboratory activities may be conducted in accordance with the Work Plan and this QA/QC Plan, to verify that sampling and analysis are performed in accordance with the procedures established.

Performance and system audits of both field and laboratory activities will be conducted to verify that sampling and analysis are performed in accordance with the procedures established in the QA/QC Plan and analytical methods. The audits of field and laboratory activities will include two independent parts: internal and external audits.

13.1 Field Performance and System Audits

13.1.1 Internal Field Audit Responsibilities

Internal audits of field activities include the review of sampling and field measurements conducted by the Field QA Officer. The audits will verify that all procedures are being followed. Internal field audits will be conducted once during each phase of the sampling and at the conclusion of the project. The audits will include examination of the following:

1) Field sampling records, screening results, instrument operating records
2) Sample collection
3) Handling and packaging in compliance with procedures
4) Maintenance of QA procedures
5) Chain-of-custody reports

Follow up audits will be conducted to correct deficiencies and to verify that procedures are maintained throughout the investigation.

13.1.2 External Field Audit Responsibilities

External audits may be conducted by the NYSDEC or designee at any time during the field operations. These audits may or may not be announced and are at the discretion of the NYSDEC.

13.2 Laboratory Performance and System Audits

13.2.1 Internal Laboratory Audit Responsibilities

For the purpose of internal evaluation, performance evaluation check samples are analyzed periodically by the laboratory. Internally, the evaluation of data from these samples is done on a continuing basis over the duration of a given project.

The project QA Officer may carry out performance and/ or systems audits to ensure that data of known and defensible quality are consistently produced during this program.

Systems audits are qualitative evaluations of all components of laboratory quality control measurement systems. They determine if the measurement systems are being used appropriately. The audits may be carried out before all systems are operational, during the program, or after completion of the analytical report by the laboratory. Such audits typically involve a comparison of the activities given in the QA/QC Plan described herein, with activities actually scheduled or performed. A special type of systems audit is the data management audit. This audit addresses only data collection and management activities and can be used to track data generation and manipulation through the lab.

The performance audit is a quantitative evaluation of the measurement systems used for a monitoring program. It requires testing the measurement systems with samples of known composition or behavior to quantitatively evaluate precision and accuracy. A performance audit may be carried out by or under the auspices of the project QA Officer without the knowledge of the analyst during this program.

It should be noted, however, that any additional QA audits would only be performed if deemed necessary.

13.2.2 External Laboratory Audit Responsibilities

External audits will be conducted as required, by appropriate NYSDOH QA personnel.

13.3 Specific Routine Procedures to Assess Data Precision, Accuracy, Representativeness, and Completeness ("PARC")

The laboratory and the project QA/QC officer will evaluate data precision, accuracy, and completeness.

The purpose of this Section is to define the goals for the level of QA effort; namely, accuracy; precision and sensitivity of analyses; and completeness, representativeness, and comparability of measurement data from the analytical laboratories. QA objectives for field measurements are also discussed.

DQOs have been established to ensure that the database developed during the monitoring activities meet the objectives and quality necessary for its intended use.

13.3.1 Precision

Precision is a measure of degree to which two or more measurements are in agreement.

$$Precision = (D_2 - D_1) / (D_1 + D_2)/2 \times 100$$

D_1 = original result

D_2 = duplicate result

13.3.1.1 Precision Objectives

The method(s) precision (reproducibility between duplicate analyses) will be determined based on the duplicate analysis of matrix spike samples for organic parameters and duplicate sample analyses for inorganic parameters. Precision will be reported as Relative Percent Difference (RPD) between duplicate analyses. Sampling precision will be addressed through the collection and measurement of field duplicates at a rate of one per 20 investigative samples or one per sampling event, whichever is greater. Precision will be evaluated using the laboratory control limits.

13.3.2 Accuracy

Accuracy is the degree of agreement between an observed or measured value and an accepted reference or true value.

$$Accuracy = [(A-B)/C] \times 100$$

A = The analyte determined experimentally from the spike sample.

B = The background level determined by a separate analysis of the unspiked sample.

C = The amount of spike added.

13.3.2.1 Accuracy Objectives

Accuracy will be determined for both field and laboratory activities through the use of field blanks and matrix spike samples.

Field (rinsate) blank samples will be collected and analyzed as a check on the efficiency of the sampling device cleansing protocols and to determine if the field, sample transporting procedures, preservatives, and environments have contaminated the sample. Rinse blanks will be collected at a frequency of one per 20 samples per equipment type.

The method accuracy (percent recovery) for water and soil samples will be determined by spiking selected samples (matrix spikes) with all representative spiking compounds, as specified in the analytical methods. Accuracy will be reported as the percent recovery of the spiking compound(s) and will be evaluated using the laboratory control limits.

13.3.3 Completeness

Completeness is a measure of the amount of valid (usable) data obtained from a measurement system compared to the amount that was expected to be obtained under normal conditions.

Completeness = (Number of useable data/Number of useable data planned) X 100

13.3.3.1 Completeness Objective

Completeness is a measure of the amount of valid measurements obtained from all the measurements taken in the project. Laboratory completeness for this project will be 90 percent or greater.

13.3.4 Representativeness

Representativeness expresses the degree to which data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, a process condition or an environmental condition within a defined spatial and/or temporal boundary.

13.3.4.1 Representativeness Objective

Sampling protocols have been presented for the collection of a variety of samples exhibiting specific characteristics or conditions (i.e., the presence of stains or elevated PID readings or when field parameters collected during groundwater sampling stabilize). These conditions may not be representative of the site conditions, but possibly the worst case so the data might reflect what could potentially be on the site and drive risk assessment and eventual cleanup. In these cases, the term representativeness has a very small characteristic population and very small spatial area. Generically, representativeness may suggest a meaning of “typical” or “average” when in fact the sample was biased toward the worst case extreme.

13.3.5 Corrective Actions

Corrective action is the process of identifying and correcting unacceptable procedures or QC performance that can affect data quality and usability. Corrective actions, if necessary, will be implemented in accordance with the procedures presented below and the laboratory SOPs.

Corrective actions may be required for two classes of problems: analytical and equipment problems, and noncompliance problems. Analytical and equipment problems may occur during sampling and sample handling, sample preparation, and laboratory instrumental analysis.

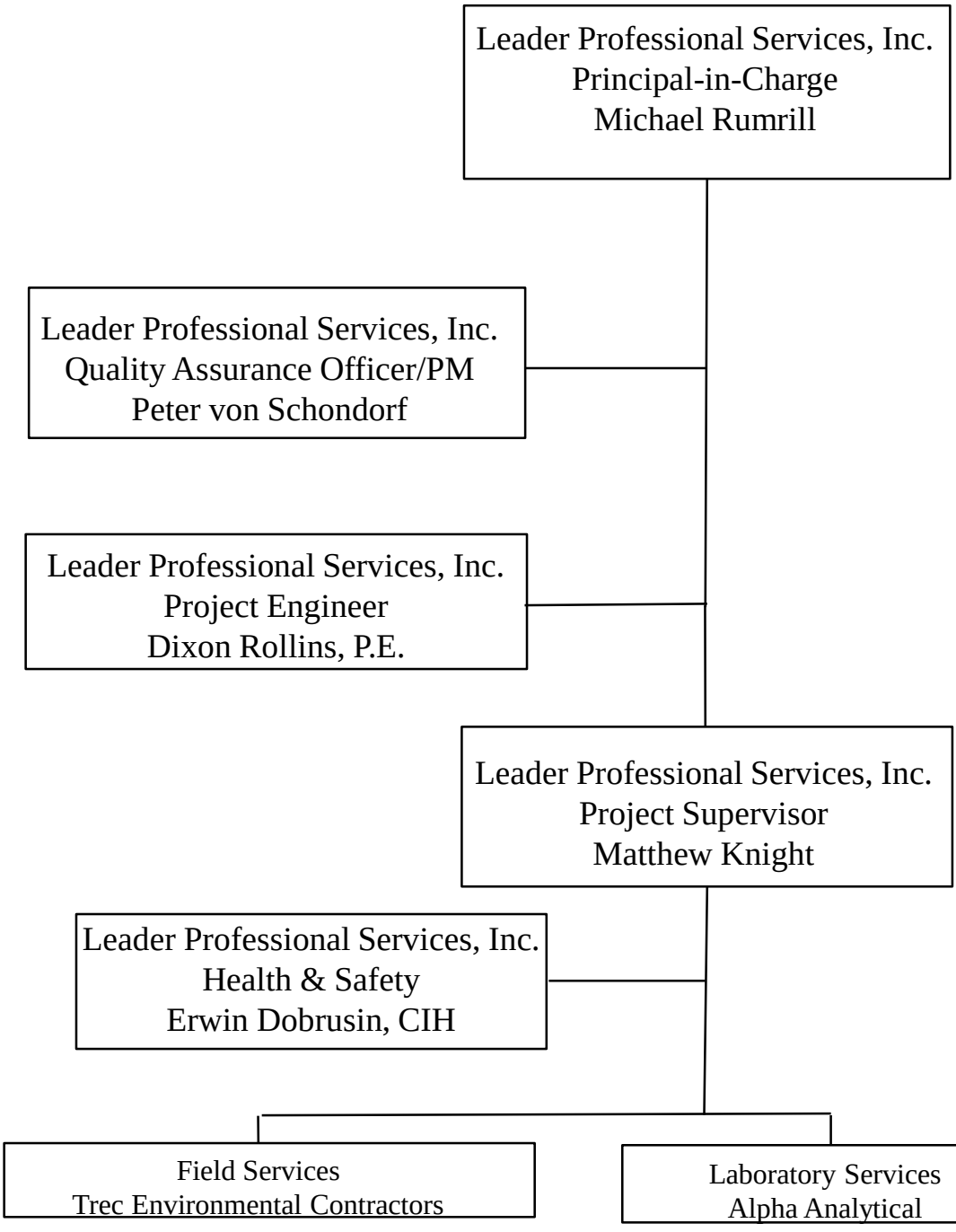
For non-compliance problems, for example, USEPA methods or QC measures are not being followed, a formal corrective action will be implemented at the time the problem is identified. The person who identifies the problem is responsible for notifying the Project Manager. A description of the problem and the corrective action implemented will be confirmed in writing via e-mail, facsimile, or technical memorandum.

Any nonconformance with the established QC procedures in this QAPP will be identified and corrected.

14.0 FIELD NOTES

Field notes will be maintained by Leader's field geologist during all field activities. The overall chronology of field activities as well as sampling details will be recorded in a bound logbook with an indelible ink marker. Each page will be consecutively numbered and signed by Leader's Site Manager at the end of the workday. The following information, as appropriate, will be documented in the field notes:

- Date
- Weather conditions
- Personnel on or visiting Site
- Subcontractors on-Site
- Worked performed
- Changes to planned work as discussed with NYSDEC
- Time at which work, sampling or analysis was performed
- Equipment calibration methods and time
- Problems with personnel or machinery
- Sample identification numbers
- Sampling sequence
- Types of sample containers used
- Parameters requested
- Field analysis methods and data
- Field observations during the sampling event
- Name of sampler



Title: Project Organization
R. Freedman & Sons Property
Green Island, New York

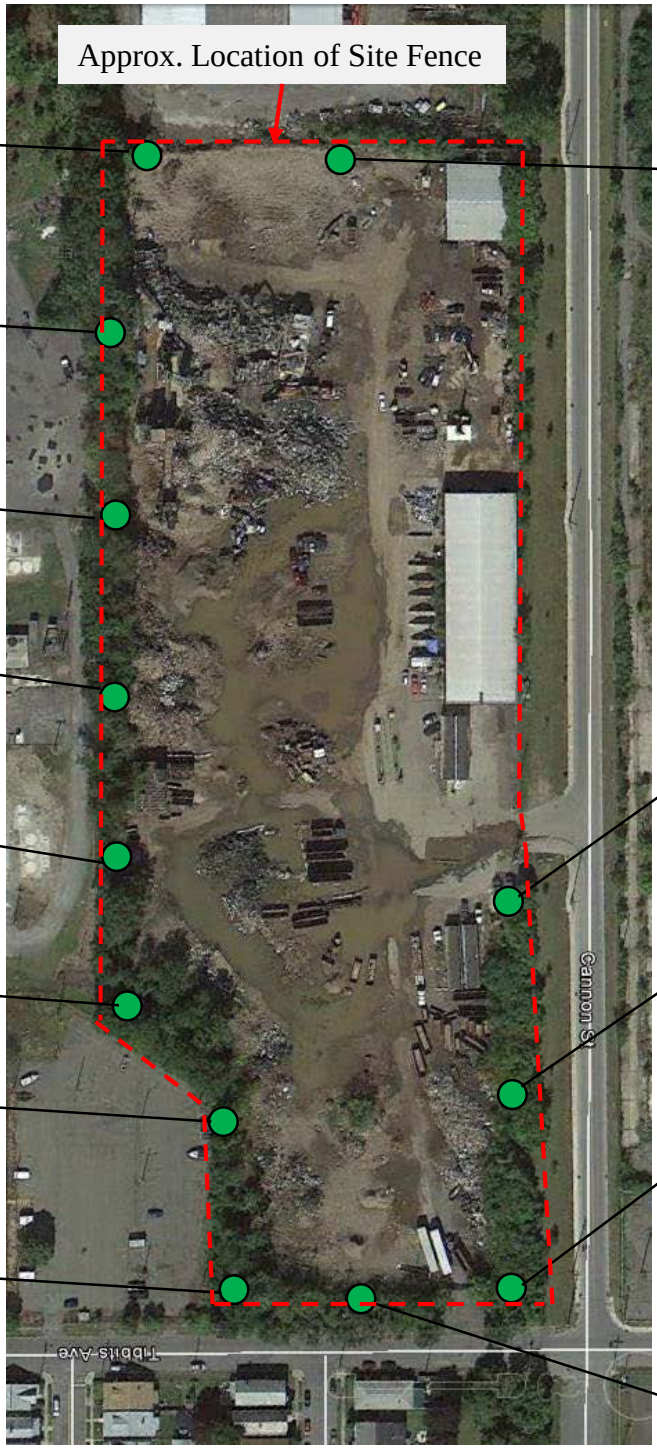
Prepared For: Eastern Metal Recycling, LLC
143 Harding Avenue, 1st. Floor
Bellmawr, New Jersey 08031

Leader Professional Services, Inc
271 Marsh Road-Suite 2
Pittsford, New York 14534
(585) 248-2413
Fax (585) 248-2834

Project 842.001
Date August 31, 2018
Scale NTS

Drawn PVS
Checked MPR
File Name
Site Location

Figure 1



Title	PCB Concentrations Berm Soil Sampling Freedman & Sons Property, Green Island, NY
Prepared For	Eastern Metal Recycling, LLC 143 Harding Avenue, 1st. Floor Bellmawr, New Jersey 08031

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(585) 248-2413
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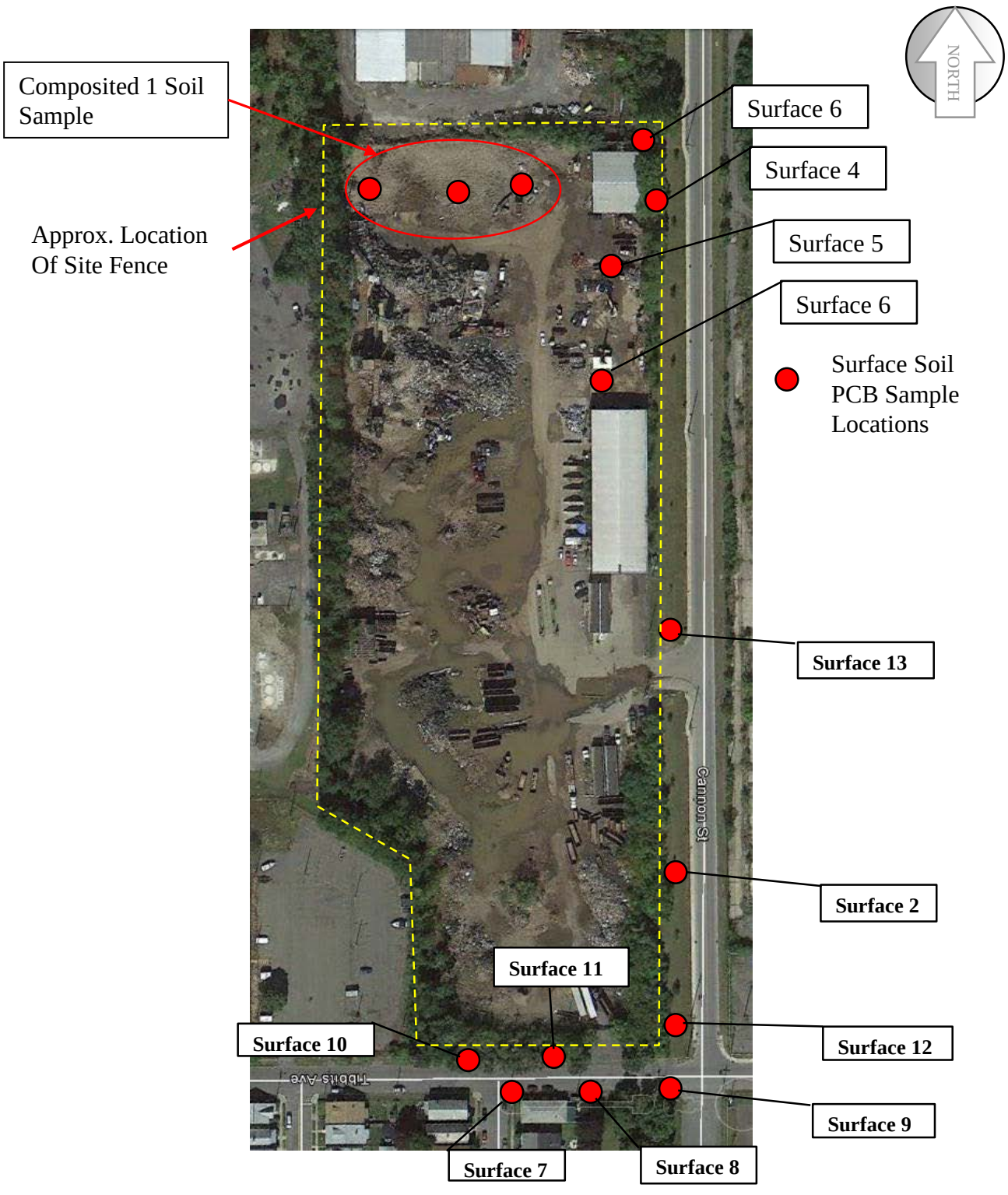
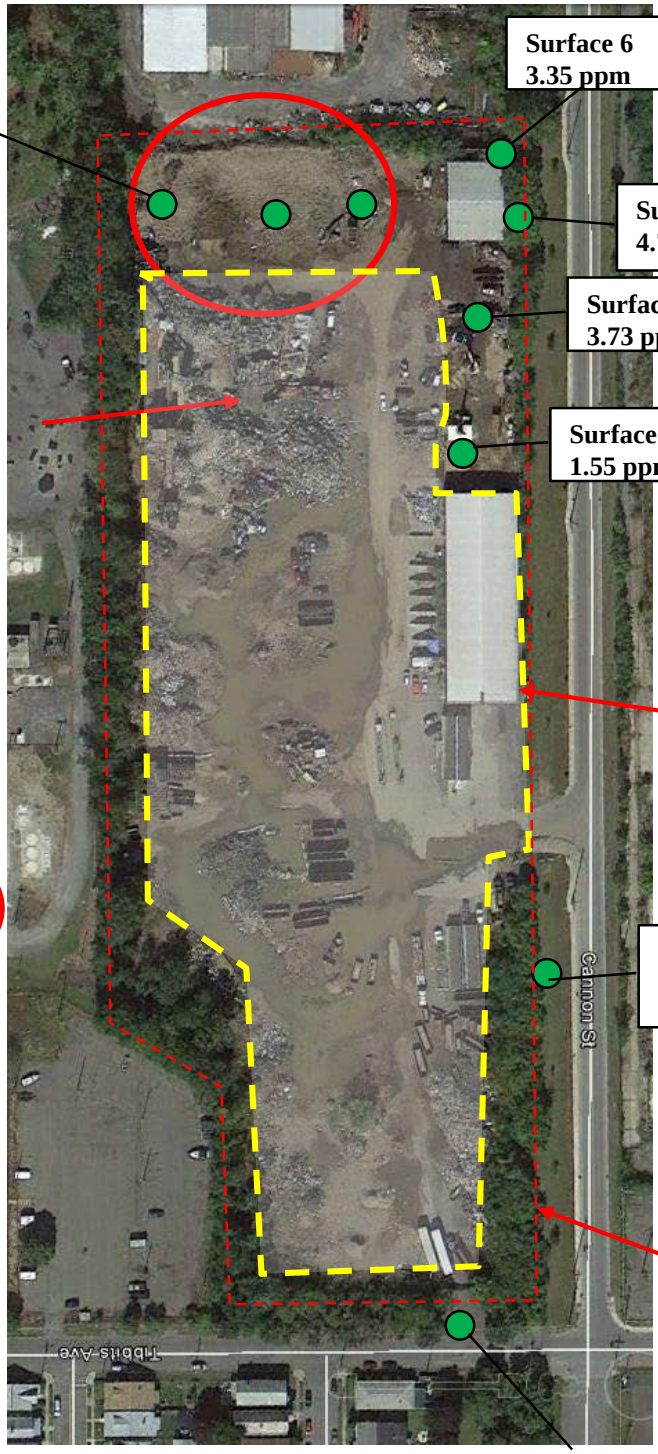
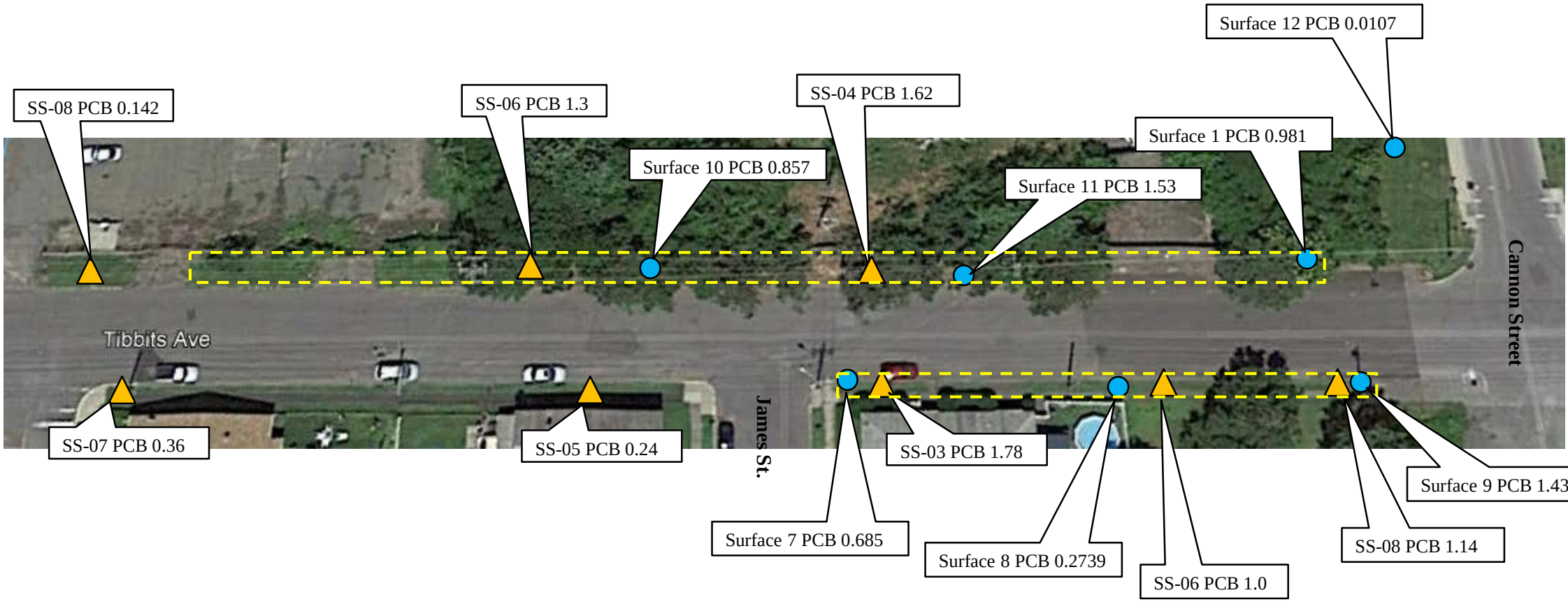
Project	842.002
Date	8/31/2018
Scale	As Shown
Drawn	PVS
Checked	MPR
File Name	Site Map
Figure	2



Title: PCB Sampling Locations, Freedman & Sons Property, Green Island, NY	Leader Professional Services, 271 Marsh Road, Suite 2, Pittsford, NY 14534, (585) 248-2413, FAX (585) 248-2834	Project: 842.002	Drawn: PVS	Figure: 3
Prepared For: Eastern Metal Recycling, LLC, 143 Harding Avenue, 1st. Floor, Bellmawr, New Jersey 08031		Date: 8/31/2018	Checked: MPR	
		Scale: As Shown	File Name: Site Map	



Title: Surface Soil Sampling Locations & PCB Concentrations, Freedman & Sons Property, Green Island, NY	Leader Professional Services, 271 Marsh Road, Suite 2, Pittsford, NY 14534, (585) 248-2413, FAX (585) 248-2834	Project: 842.002	Drawn: PVS	Figure: 4
Prepared For: Eastern Metal Recycling, LLC, 143 Harding Avenue, 1st. Floor, Bellmawr, New Jersey 08031		Date: 8/31/2018	Checked: MPR	
		Scale: As Shown	File Name: Site Map	



SS-07 PCB 0.36 Sample Id. PCB Value in milligrams per kilogram

RI Surface Soil Sample Locations

Samples collected for Freedman and Sons, locations cannot be confirmed.

Proposed Remediation Area

Title
Tibbits Avenue Right of Way Remediation Area
Former Freedman & Sons Property
Green Island, New York

Prepared For
Eastern Metal Recycling, LLC
143 Harding Avenue, 1st Floor
Bellmawr, New Jersey

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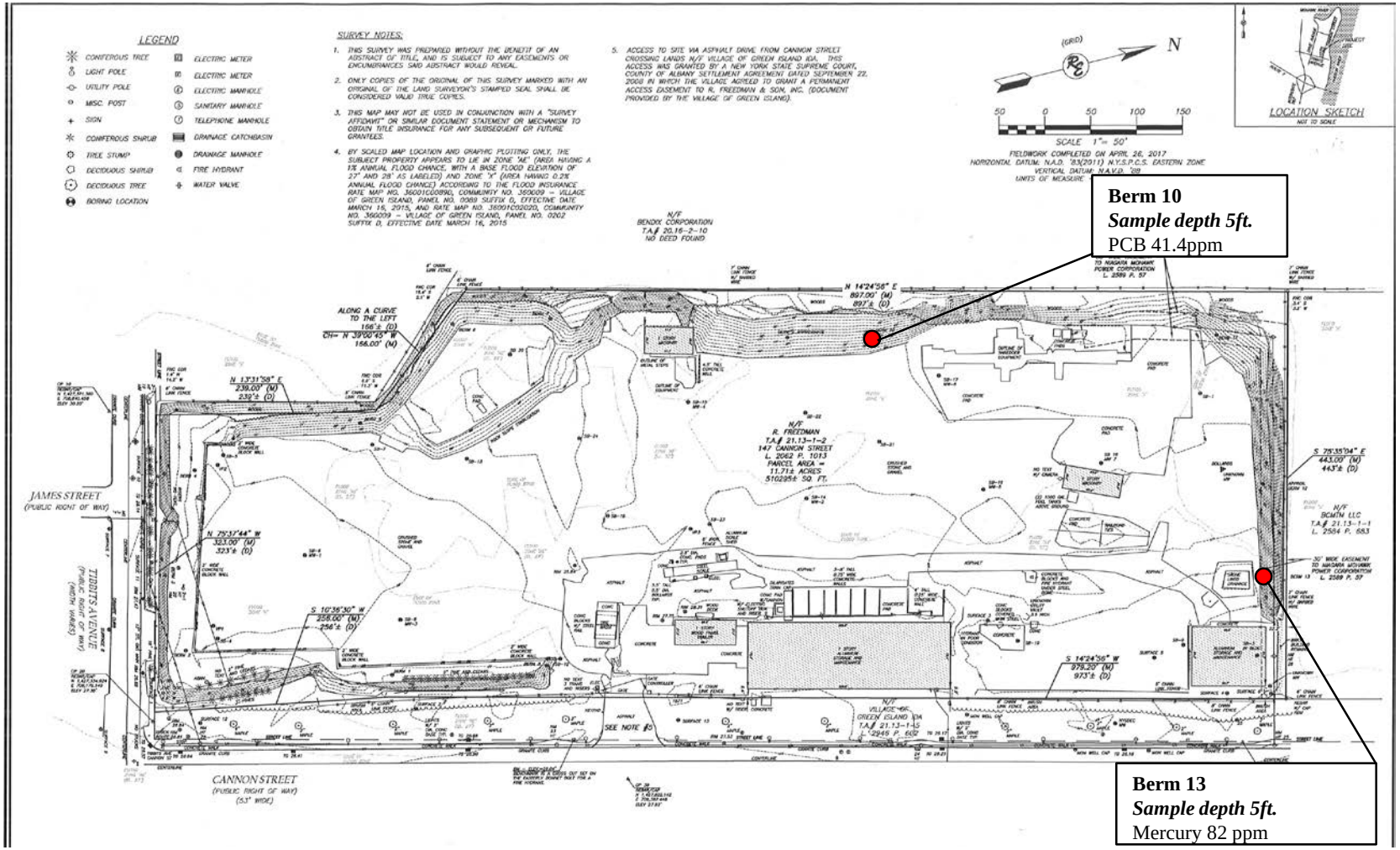
Project 842.002
Date 8/31/2018
Scale 1" = 50'

Drawn PVS
Checked MPR
File Name Off site drawing

Figure 5



Title	Berm IRM Locations Former Freedman & Sons Property Green Island, New York
Prepared For	Eastern Metal Recycling, LLC 143 Harding Avenue, 1st Floor Bellmawr, New Jersey

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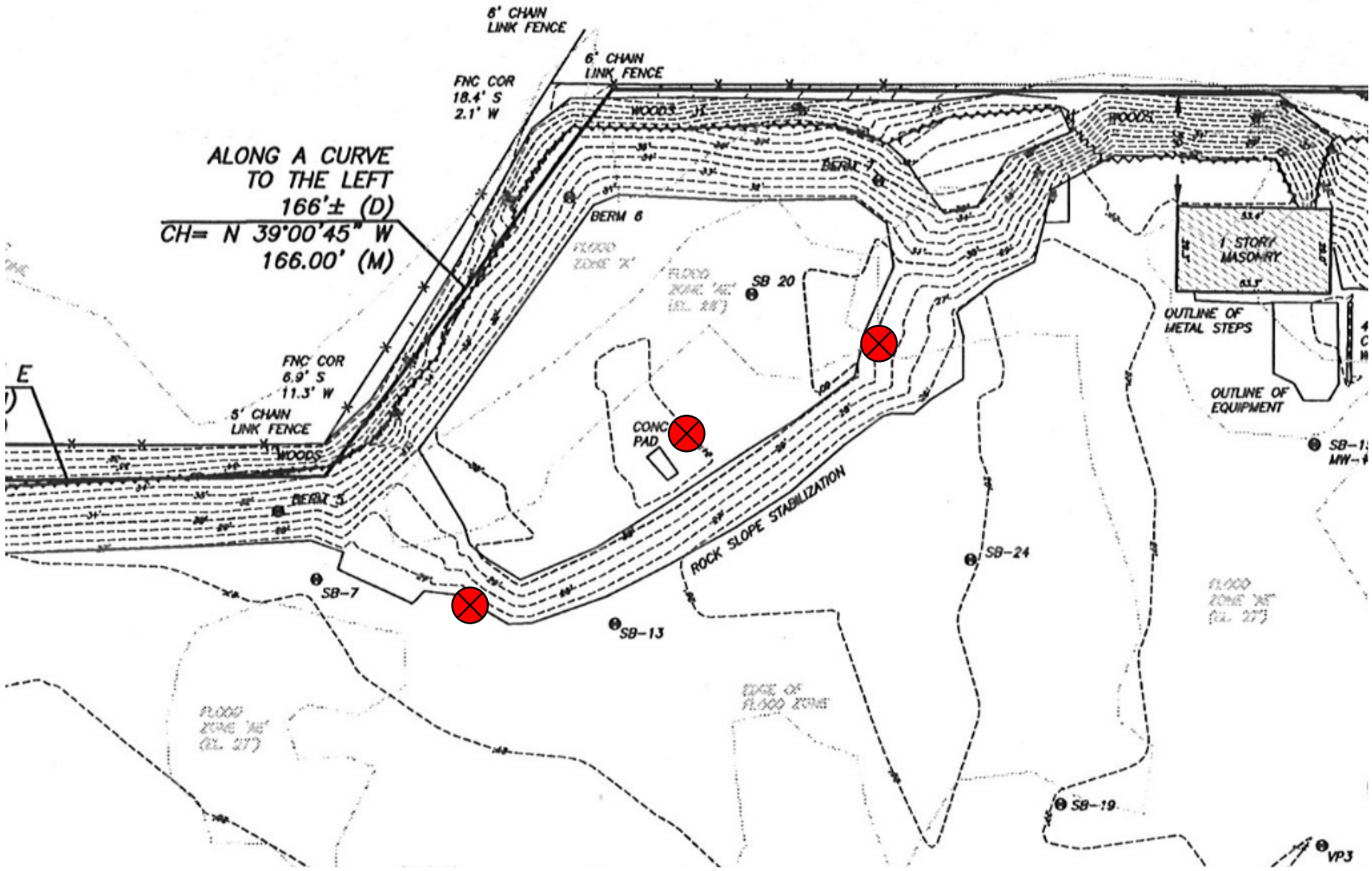
Project	842.002
Date	8/31/2018
Scale	As shown
Drawn	PVS
Checked	MPR
File Name	Site drawing
Figure	6



Proposed test pit location

Title	Mound Area Test Pit Locations Former Freedman & Sons Property Green Island, New York
Prepared For	Eastern Metal Recycling, LLC 143 Harding Avenue, 1st Floor Bellmawr, New Jersey

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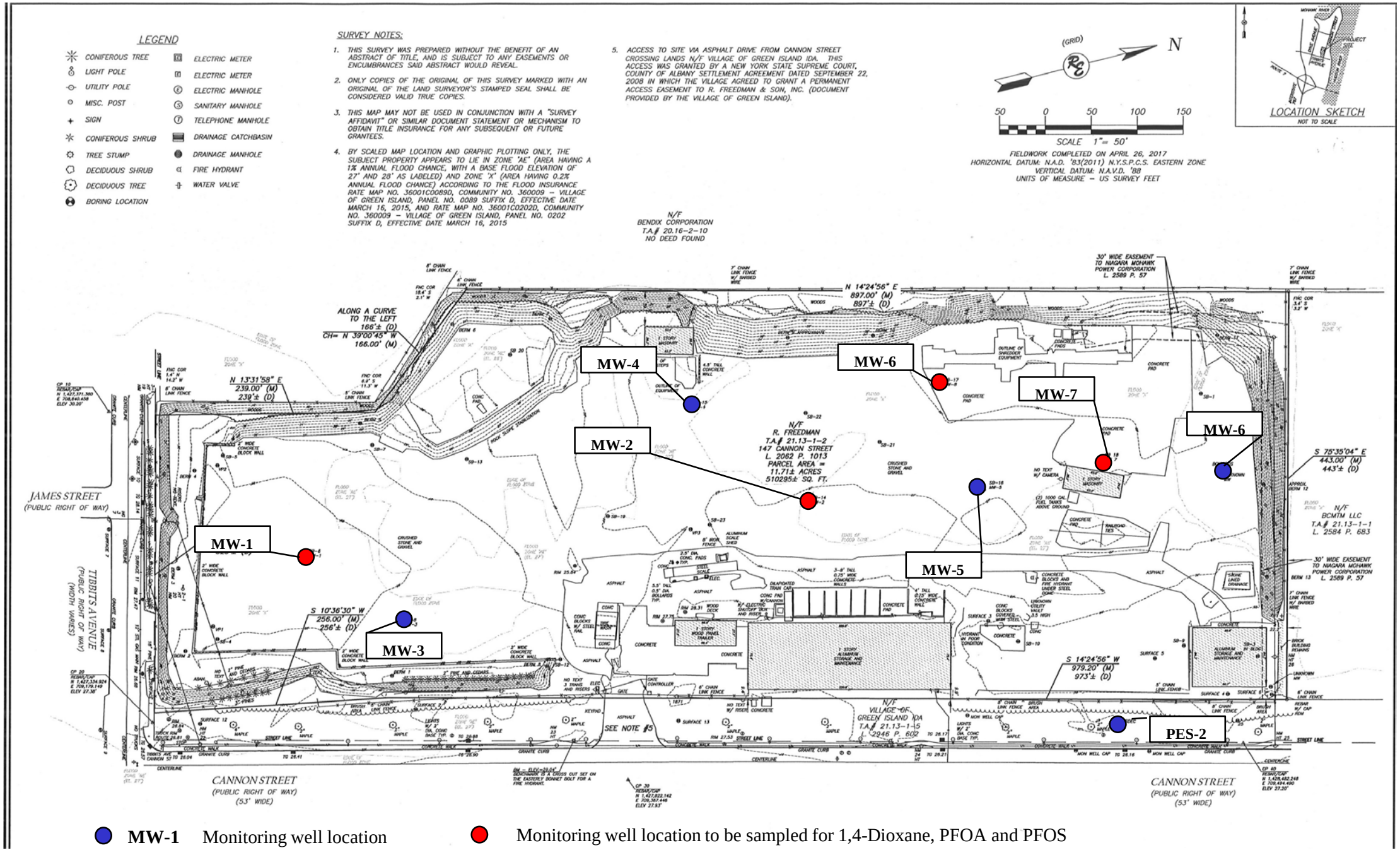
Project	842.002
Date	8/31/2018
Scale	1" = 57'
Drawn	PVS
Checked	MPR
File Name	Mound dwg
Figure	7



Title	Monitoring Well Locations for Supplemental Sampling Former Freedman & Sons Property Green Island, New York
Prepared For	Eastern Metal Recycling, LLC 143 Harding Avenue, 1st Floor Bellmawr, New Jersey

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271 Marsh Road-Suite 2
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Project	842.002
Date	8/31/2018
Scale	1" = 160'
Drawn	PVS
Checked	MPR
File Name	Well location drawing
Figure	8

TABLE 1
Sample Analytical Requirements and Sample Numbers
For IRM and Supplemental Sampling

Sample Types	Headspace Samples, PID	TCL VOCS +20 TICs, SW-846 8260B	TCL SVOCS +20 TICs, SW-846 8270	1,4-Dioxane SW-846 8270-SIM	PFOAs SW-846 Mod. Method 537	TCL Pesticides and Herbicides, SW-846 8081B	TAL Metals + Mercury and Cyanide SW-846 6010, 6020, 7471, 9012	PCBs, SW-846 8081
Surface Soil								
Ground surface grab			Unknown			Unknown	Unknown	Unknown
Subsurface Soil								
6 to 12-inches		3+	3+			3+	3+	6+
Fill materials or native soil in unsaturated zone		3+	3+			3+	3+	3+
Berm subsurface fill							5	5
Saturated zone soil		3+	3+			3+	3+	3+
Groundwater								
Monitoring well		8	8	4	4	8	8	8
Total Number of Samples, not including QA/QC samples	30+	8	17+	4	4	17+	22+	25+

TABLE 2
Sample Analytical Procedures and Sample Preservation Requirements

Sample Type	Analysis	Type and Size Container	# of Containers per Sample	Preservation	Holding Time
Soil	TCL Volatiles	Glass, 2-ounce jar with Teflon lined cap	2	Cool to 4-deg. C	10 days
	TCL Semivolatile Organics	Glass, 4-ounce jar with Teflon lined cap	1	Cool to 4-deg. C	10 days
	TCL Pesticides	Glass, 4-ounce jar with Teflon lined cap	1	Cool to 4-deg. C	10 days
	TAL Metals + Cyanide	Glass, 4-ounce jar with Teflon lined cap	1	Cool to 4-deg. C	180 days, Mercury 26 days
	Cyanide	Glass, 4-ounce jar with Teflon line cap	1	Cool to 4-deg. C	12 Days
Groundwater	TCL Volatiles	40-ml vial with Teflon septum	3	ph<2 adjusted with HCL Acid, Cool to 4 deg. C	10 days
	TCL Semivolatile Organics	Glass, 1-Liter amber bottle with Teflon lined cap	1	Cool to 4 deg. C	5 days
	TCL Pesticides	Glass, 1-Liter amber bottle with Teflon lined cap	1	Cool to 4 deg. C	5 days
	TAL Metals	Plastic, 1-Liter bottle with Teflon lined cap	1	pH<2 adjusted with Nitric Acid, Cool to 4	180 days, Mercury 26 Days
	Cyanide	Plastic, 500-ml with Teflon lined cap	1	pH >12 NaOH	12 days
	PFOAs	High Density Polyethylene 250 ml	1	Cool to 4-deg. C	14-days from extraction
	1,4-Dioxane	Amber glass 500 ml	2	Cool to 4-deg. C	7-days from extraction
Soil Vapor	TO-15 VOCs	1 Liter Summa canisters	1	None	30 days from day of collection

TABLE 3
Quality Assurance Sample Schedule

	Trip Blank[1]	Equipment Rinse Samples[2]	Duplicate Samples[2]	Matrix Spike[2]	Matrix Spike Duplicates[2]
Soil Samples	1 per sample shipment	1 per sampling tool	1:20 samples	1:20 samples	1:20 samples
Groundwater Samples	1 per sample shipment	1 per sampling tool	1:20 samples	1:20 samples	1:20 samples

N/A = not applicable

Notes:
1. VOCs only
2. All analyzed parameters

TABLE 4
Schedule of Quality Assurance Samples and Uses

	Soil	Groundwater	Use
Trip Blank	√	√	Submitted with each sample shipment and analyzed for volatile organic compounds to determine if cross contamination has occurred between the samples and the laboratory equipment.
Matrix Spike and Matrix Spike Duplicate	√	√	Two samples submitted once per 20 samples for each matrix and analyzed for the same analytical parameters as the typical environmental sample. Is used to determine accuracy of analytical equipment and evaluate sample matrix interference problems.
Duplicates	√	√	One sample is submitted for 10 samples analyzed and analyzed for the same analytical parameters as the typical environmental sample. Is used to determine homogeneity of the sample and accuracy of analytical method and equipment.
Equipment Rinse Blank Samples	√	√	One sample is submitted for every sample tool used. Sample is analyzed for the same analytical parameters as the typical environmental sample. Is used to determine if decontamination procedures are impacting the sample or if procedures are cleaning the equipment.

APPENDIX A
Procedures for Surface Soil Sampling

Surface Soil Sampling Procedures

The collection of surface soil samples will be required to fulfill a variety of objectives including physical description, field screening, and laboratory chemical analysis. The task specific work plan specifies the data objective, location, depth, and analytical parameters for the soil sample program. The purpose of this field operation procedure is to describe the methods to be used during each of these activities.

This procedure will be used for the collection of surface soil samples. Surface soil samples will be collected using a direct push ("DP") sampling tool or a sample trowel to collect a sample. All surface soil samples will be collected from the upper 2-inches of overburden. In the event vegetation is growing in the sampling area, either a bare spot close to the original location will be selected for sampling or the vegetation will be removed and only the overburden material sampled. The data to be obtained will be used to assess the environmental quality of the ground surface and any impacts that may result from the contaminants that are present.

Field Screening for Volatile Organics

Soil samples collected for field screening will undergo the following handling procedures:

- The sample sleeve will be removed from the DP sampling tool or split spoon sampler will be opened and the soil screened with the PID.
- The observed organic vapor concentration will be recorded for future reference.
- The sample will be visually inspected for soil classification, moisture content, and the presence of debris, stains or waste like materials (sludge, non-aqueous phase liquids).
- The representative portions of the sample will be placed in a glass jars with screw on lids for chemical analysis following the parameter list for surface soil samples.

Physical Description

For each sample interval will be visually examined and described in accordance with the Unified Soil Classification System. This information, together with a record of the length of the recovered portion of the interval, will be entered into the field logbook. Information to be included follows:

- Date;
- Boring Location Number;
- Sample Number;
- Depth Interval;
- Orientation; and
- Job Number.

Soil Samples for Laboratory Analysis

The Project's Work Plan and, or Quality Assurance Plan specifies the sample containers to be used and the parameters to be analyzed. Samples to be analyzed shall be placed in the containers as quickly as possible. Furthermore, all samples for laboratory analysis shall be preserved and transported in accordance with the following procedures. All samples to be sent to the laboratory for chemical analysis must be maintained in a condition that is as close as possible to in situ conditions. The first consideration is the proper selection of containers, preservation, and associated holding times. Other considerations include proper field notes, proper chain-of-custody procedures, and proper labeling of the samples.

Containers

The Quality Assurance Plan specifies the containers to be used.

Preservation

The general purpose of preservation is to maintain the original characteristics (and thus validity) of the sample during the time required for shipping of the sample to the laboratory. For soil, the only preservation technique is cooling the sample to approximately 4°C. This will be done in the field using ice or cold packs in coolers. Samples which are visually (highly) contaminated will be kept in individual sample coolers prior to and during transportation to the laboratory.

Sample Custody Procedures

The goal of implementing chain-of-custody procedures is to ensure that the sample is traceable from the time it is collected until it, or its derived data, are used. Samples would be considered in "custody" under the following conditions:

1. It is in personal possession.
2. It is in personal view after being in personal possession.
3. It was in personal possession when it was property secured.
4. It is in a designated secure area.

When transferring and/or shipping from the field, samples will be accompanied by the chain-of-custody record. The form includes the signatures of the relinquishers and the receiver as well as the date and time of the exchange, and any pertinent remarks. Since all samples will be immediately placed in coolers, shipment will also be made using these coolers. The samplers will complete the appropriate portion of the chain-of-custody form and deliver the cooler to the laboratory or to the shipping company. The receiving party will complete the remainder of the form and a copy will be retained by the sampler and kept with the field data sheets for that round of sampling. Each cooler will also be sealed using chain-of-custody tape.

Labels

The sample to be sent to the laboratory for chemical analysis will be identified with the following information:

- Date and time of collection;
- Location number;
- Sample number; and
- Sampler's name and affiliation.

Equipment Cleaning Methods

Equipment in actual contact with a laboratory sample will be cleaned prior to and between each use. The equipment will then be temporarily placed on clean racks, off the ground until it is used. Equipment such as DP samplers, sample trowels and soil knives will be cleaned with the following materials:

- Trisodium phosphate dissolved in clean water;
- Clean water rinse;
- Pesticide Grade Methanol rinse;
- Distilled/deionized water rinse; and
- Air dry.

APPENDIX B
Procedures for Subsurface Soil Sampling

Soil Sampling Procedures

The collection of samples will be required to fulfill a variety of objectives including physical description, field screening, and laboratory chemical analysis. The task specific work plan specifies the data objective, location, depth, and analytical parameters for the soil sample program. The purpose of this field operation procedure is to describe the methods to be used during each of these activities.

This procedure will be used for the collection of subsurface samples. Soil samples will be collected using either a 4-foot-long by 2-inch-diameter direct push ("DP") sampling tool, a 2 to 3-inch diameter split spoon sampler, or grab samples from the sidewall of an excavation. A Geoprobe sampling rig will be used to advance DP tooling and a truck mounted drilling rig, using hollow stem augers, will be used to advance the split spoon sampler. The DP sampling tool will collect the samples within a clear acrylic sleeve. Grab samples will be taken directly from the undisturbed soil using a clean trowel or from disturbed soil from the backhoe bucket. Samples taken from the backhoe bucket will only collect samples which are less likely to have been impacted by the bucket. Taking the sample from undisturbed soil clumps. The selection of material for sampling will follow the procedures identified below.

Field Screening for Volatile Organics

Soil samples collected for field screening will undergo the following handling procedures:

- The sample sleeve will be removed from the DP sampling tool or split spoon sampler will be opened and the soil screened with the PID.
- The observed organic vapor concentration will be recorded for future reference.
- The sample will be visually inspected for soil classification, moisture content, and the presence of debris, stains or waste like materials (sludge, non-aqueous phase liquids).
- The representative portions of the sample will be placed in a glass jars with screw on lids.

Physical Description

For each sample interval will be visually examined and described in accordance with the Unified Soil Classification System. This information, together with a record of the length of the recovered portion of the interval, will be entered into the field logbook. Information to be included follows:

- Date;
- Boring Location Number;
- Sample Number;
- Depth Interval;
- Orientation; and
- Job Number.

Soil Samples for Laboratory Analysis

The Project's Work Plan and, or Quality Assurance Plan specifies the sample containers to be used and the parameters to be analyzed. Samples to be analyzed shall be placed in the containers as quickly as possible. Furthermore, all samples for laboratory analysis shall be preserved and transported in accordance with the following procedures. All samples to be sent to the laboratory for chemical analysis must be maintained in a condition that is as close as possible to in situ conditions. The first consideration is the proper selection of containers, preservation, and associated holding times. Other considerations include proper field notes, proper chain-of-custody procedures, and proper labeling of the samples.

Containers

The Quality Assurance Plan specifies the containers to be used.

Preservation

The general purpose of preservation is to maintain the original characteristics (and thus validity) of the sample during the time required for shipping of the sample to the laboratory. For soil, the only preservation technique is cooling the sample to approximately 4°C. This will be done in the field using ice or cold packs in coolers. Samples which are visually (highly) contaminated will be kept in individual sample coolers prior to and during transportation to the laboratory.

Sample Custody Procedures

The goal of implementing chain-of-custody procedures is to ensure that the sample is traceable from the time it is collected until it, or its derived data, are used. Samples would be considered in "custody" under the following conditions:

1. It is in personal possession.
2. It is in personal view after being in personal possession.
3. It was in personal possession when it was property secured.
4. It is in a designated secure area.

When transferring and/or shipping from the field, samples will be accompanied by the chain-of-custody record. The form includes the signatures of the relinquishers and the receiver as well as the date and time of the exchange, and any pertinent remarks. Since all samples will be immediately placed in coolers, shipment will also be made using these coolers. The samplers will complete the appropriate portion of the chain-of-custody form and deliver the cooler to the laboratory or to the shipping company. The receiving party will complete the remainder of the

form and a copy will be retained by the sampler and kept with the field data sheets for that round of sampling. Each cooler will also be sealed using chain-of-custody tape.

Labels

The sample to be sent to the laboratory for chemical analysis will be identified with the following information:

- Date and time of collection;
- Boring number;
- Sample number; and
- Sampler's name and affiliation.

Equipment Cleaning Methods

Equipment in actual contact with a laboratory sample will be cleaned prior to and between each use. The equipment will then be temporarily placed on clean racks, off the ground until it is used. Equipment such as DP samplers, split spoon samplers and soil knives will be cleaned with the following materials:

- Trisodium phosphate dissolved in clean water;
- Clean water rinse;
- Pesticide Grade Methanol rinse;
- Distilled/deionized water rinse; and
- Air dry.

Non-dedicated drilling equipment, backhoe buckets, and sampling equipment in contact with soil or waste materials will be cleaned prior to use and between each boring location. Decontamination of this equipment will be accomplished using a brush and trisodium phosphate dissolved in clean water to remove large solid particles, followed by steam cleaning with clean water. The equipment will be placed on top of open bins, drums, or "luggers" which will collect all wash water. When full, the contents will be pumped into closed drums and left on the Site for a disposal contractor. The drilling rig will be steam-cleaned prior to site entry and prior to leaving the site.

APPENDIX C
Procedures for Groundwater Sampling

Procedures for Groundwater Quality Sampling

The purpose of this document is to explain the procedures that will be followed during all groundwater sampling activities at the Site.

The water quality sampling will take place over a period of one to several days. The first day will consist of the pre-sampling activities listed below. All of the water level measurements for the wells to be sampled during each round will be made in a single day. Wells will be evacuated and sampled during the same day.

PRE-SAMPLING ACTIVITIES

Well Maintenance Check

Prior to every sampling event, a routine inspection of the condition of the protective casing and surface seal will be performed. The protective casing will be inspected for the integrity of the locking cap and the surface seal. In addition, each well will be checked for any other signs of damage or inadvertent entry. Observations of any irregularities will be noted in the field log book, as well as the well number, date, and time.

Air Monitoring

In order to provide workers with the proper respiratory protection for sampling, air monitoring in the breathing zone and immediately over the wellhead will be performed immediately after the initial uncapping. Health and safety procedures that are appropriate to the ambient air conditions will be implemented. Readings for both the breathing zone and wellhead will be recorded in the field log book. See the Health and Safety Plan for respiratory protection action levels, and a description of the proper air monitoring equipment.

Water Level Measurements

The depth to groundwater will be measured with an electronic depth-indicating sounder. The probe will be lowered into the well until the meter indicates water is reached. The probe will be raised above the water level and slowly lowered again until water is indicated. The cable will be held against the side of the inner protective casing for water level measurements and a depth reading taken. The value will be recorded to the nearest 0.01 foot in the field log book. The measurement will be repeated three times and the measurement recorded. The probe will be raised to the surface and together with the amount of cable that was wetted in the well, will be decontaminated with a wipe followed by a distilled/deionized water rinse.

The calibrated cable on the depth indicator will be checked against a surveyor's steel tape once per quarter year. A new cable will be installed if the cable has changed by more than 0.01 percent (0.01 feet for a 100-foot cable).

WELL EVACUATION

Overburden Monitoring Wells

- The well will be purged with a low flow peristaltic pump. The pump's acrylic or PVC intake tubing will be lowered into the monitoring well to a point that is approximately in the center of the monitoring well screen or in the center of the water column. The discharge end of the tubing will be placed into a flow-through cell from which groundwater quality parameters will be measured. The discharge from the flow-through cell will be routed into a five-gallon bucket for discharge measurement. For sampling water flow will be approximately 0.25 liters per minute or until a constant stream of water is obtained. The water level in the monitoring well will also be monitored and not allowed to drop below 0.125 feet from the original pre-sampling static water level.
- When the groundwater quality is stable indicating that a representative sample of groundwater can be collected, the discharge end of the tubing will be disconnected from the flow-through cell and routed into a five-gallon bucket to collected spills from the filling of sample containers.
- The appropriate sample vials will be filled slowly and with a constant stream of water (flow) to avoid sample aeration and the field parameter tests conducted as described in "Field Measurements."

FIELD MEASUREMENTS

A portion of the groundwater collected during the sampling procedures will be subjected to the field tests of temperature, dissolved oxygen ("DO"), turbidity, specific electrical conductance, oxidation-reduction potential ("ORP") and pH. Field measurements will be conducted on the well purge water immediately prior to sample collection. Groundwater for these tests will be collected and measured in a plastic flow-through cell. All field test parameters will be measured with a portable water quality instrument such as a Horiba U-22 Water Quality Monitoring System. Temperature will be measured to the nearest tenth of a degree and the value recorded in the field log book. Turbidity will be measured in standardized nephelometeric turbidity units ("N.T.U."). After each measurement the N.T.U. value of the sample will be recorded. The goal of the well purging will be to reduce the turbidity of the groundwater extracted from the monitoring well to less than or equal to 50 N.T.U. The specific electrical conductance will be measured to the nearest 1unit and recorded in the field log book. The pH will be measured to the nearest 0.1 pH unit and the reading recorded in the field log book. The DO will be measured to the nearest 0.1 unit and the reading recorded in the field log book. The ORP will be measured to the nearest 1 millivolt and the reading recorded in the field log book. Calibration will be conducted according to manufacturer's specifications.

EQUIPMENT DECONTAMINATION

All of the sampling equipment (excluding the water quality probes) will be decontaminated between sampling events using the following procedures or disposed of, if dedicated equipment is used (i.e. sample tubing).

- An initial wash with trisodium phosphate dissolved in clean water;
- Clean water rinse;
- Pesticide Grade Methanol rinse;
- Air dry.

Decontamination wastewater will be collected in containers and disposed of properly.

SAMPLE LABELS

Sample labels will be placed on all samples and will contain the following information:

- Date and time of collection;
- Sample location;
- Sample number;
- Analysis to be performed; and
- Sampler's initials.

FIELD LOG BOOKS

The field log books used during sampling procedures will include the following information:

- Sampler's name (initials);
- Sampling location;
- Static water level (depth to water);
- Depth to bottom of the well;
- Calculated well volume;
- Actual evacuation volume;
- Date and time;
- Analyses to be performed;
- Preservation method;
- Field meter calibration information;
- General remarks (weather conditions, etc.); and

- Sample number.

All entries will be made in black indelible ink with a ball-point pen and will be written legibly. Entry errors will be crossed out with a single line, dated, and initialed by the person making the correction. Field log books will be reviewed by the Quality Assurance Officer on a weekly basis

SAMPLE CHAIN-OF-CUSTODY

A chain-of-custody form will be completed after sample collection event. The chain-of-custody forms will accompany the samples to the laboratory. The field personnel collecting the samples will be responsible for the custody of the samples until transportation to the laboratory. Sample transfer will require the individuals relinquishing and receiving the samples to sign, date, and note the time on the chain-of-custody forms.

APPENDIX D
Procedures for Waste Handling

The procedures identified in this Appendix were prepared with the intent of providing instruction for the safe handling, temporary storage and disposal of investigation derived waste and waste possibly generated from the completion of an interim remedial measure ("IRM"). In general, for any of the wastes generated during this project, will be placed in containers compatible with the waste and appropriate containers the type of waste being handled. Health and safety of the site workers is not covered in this procedure.

Investigation Derived Waste

Investigation derived waste can include: drill cuttings, decontamination water, purge water from monitoring wells, solid waste consisting of personnel protective equipment, card board, plastic, and paper. How the waste is handled will be decided based on the expected volume and the consistency of the waste. Consequently the following acceptable containers have been identified:

Drums - Liquid

Steel or plastic 55-gallon drums with closed lids will be utilized to control decontamination water and purge water from monitoring wells. In general, decontamination water will be kept segregated from other liquid waste because of the potential for this waste stream to be handled as a non-hazardous waste. Decontamination water will be pumped from the decontamination area into the drums after sediment has been removed. This will be done to minimize the amount of sediment accumulating in a drum and the possible need to sample the sediment.

Groundwater pumped from monitoring wells during development and sampling will be containerized in steel or plastic closed lid drums. Since development waters may be heavily laden with sediment an open top drum may be used as an interim step before transferring the waste into closed drums. Sediment separated from development water will be temporarily held in an open top drum. In the event free product is found during the development or monitoring well purging, the free product will be placed in a separate drum and appropriately identified.

When each drum is full, a label will be placed on the drum indicating the type of waste, where it is from (monitoring well number, decontamination pit, etc.), and the date it was generated. The drums will be placed in a location where site equipment and trucks will not disturb them and a location where they can be easily managed. Caution tape and, or snow fencing will be used to warn passerby's of the materials being stored.

Drums – Solids

Steel or plastic open top 55-gallon drums will be used to containerize solids generated by the investigation activities. During the course of the field investigation waste solids will be generated and consist of unsoiled personnel protective equipment, paper, plastic, and

card board ("dry waste"), and soil cuttings or sediment. Dry waste will not be co-mingled with other waste and handed as household trash. Personnel protective equipment that has been contaminated with dirt or free product will be separated from the other non-contaminated dry waste and placed in a separate drum.

Soil cuttings or sediment from the decontamination area or development water will be placed into open top steel drums for temporary storage at work locations. At the completion of work at any particular location the drum will be brought to the temporary storage area.

When each drum is full, a label will be placed on the drum indicating the type of waste, where it is from (monitoring well number or decontamination pit), and the date it was generated. The drums will be placed in a location where site equipment and trucks will not disturb them and a location where they can be easily managed. Caution tape and, or snow fencing will be used to warn passerby's of the materials being stored.

Soil Cuttings and Sediment

Because the cost of the disposal of soil cuttings and sediment is significantly more when the waste is handled in drums, waste of similar quality will be placed on two layers of plastic sheeting. The temporary storage area will be located in an area where site equipment and trucks will not disturb the waste. The storage area will be constructed with a berm made from soil, sand bags or wood boards. The berm will be covered with a plastic sheet. A second plastic layer will drape over the first and have enough material so it can be folded over the waste. This layer will be secured in place with tires or water filled pails.

If some of the waste is stained, giving off volatiles as measured by the organic vapor analyzer, or odorous a second pile may be started. If only a small quantity of waste has these characteristics then it may remain in a drum.

The covered soil pile will be inspected for tears or the accumulation of rain or snow. Water will be drained from the plastic and onto the ground if there is no indication of a tear in the plastic. Water found mixed with the waste will be either pumped into a drum or absorbed and the plastic replaced of covered.

Soil piles will be posted or labeled indicating the type of waste, where it is from (monitoring well number or decontamination pit), and the date it was generated. The piles will be surrounded with caution tape and, or snow fencing to warn passerby's of the materials being stored.

IRM Waste

IRM waste will be handled like the investigation derived waste if the quantities expected to be generated remain relatively small: a few hundred gallons of water or less than 5-tons of soil. If the IRM will exceed those volumes and weights then tanks or a roll off box will be used to

containerize the waste. However, regardless of the size of the container, the same procedures will be used. Waters will be as sediment free as possible and waste in the roll off box will be covered. If the waste is anticipated to be wet, the roll off box will be lined. The containers will be located to facilitate removal and, or to minimize handling. The containers will be labeled indicating the type of waste, where it is from (monitoring well number, decontamination pit, etc.), and the date it was generated. The tanks will have valves locked to minimize the consequences of vandalism. Roll offs will be surrounded with caution tape and, or snow fencing to warn passerby's of the materials being stored.

Waste Characterization

It is anticipated that the waste characterization requirements will closely follow USEPA's RCRA regulations, but these may be changed based on the requirements of the facilities where the waste may be landfilled and, or treated. Samples of the generated waste will be collected at the completion of field work. The goal of the waste characterization will be to remove the waste from the site within 90-days.

Appendix 3

Specifications for Topsoil, Grass Seed and Sod

SECTION 713 - LANDSCAPE DEVELOPMENT MATERIALS

713-01 TOPSOIL

SCOPE. This specification covers the material requirements for topsoil for use in turf and wildflower establishment, sodding or planting.

MATERIAL REQUIREMENTS. Topsoil may be naturally occurring or may be manufactured. Topsoil shall be free from refuse, material toxic or otherwise deleterious to plant growth, subsoil, woody vegetation and stumps, roots, brush, stones, clay lumps or similar objects. Manufactured topsoil shall consist of a mineral component and amendments to meet the specified organic content, pH and other requirements. Sod and herbaceous growth such as grass and weeds need not be removed but shall be thoroughly broken up and mixed with the soil during handling or manufacturing operations.

Topsoil shall meet the following requirements unless otherwise specifically stated in the contract documents:

- The pH of the material shall be between 5.5 and 7.6.
- The organic content shall be not less than 2% or more than 20%.
- Gradation:

Sieve Size	Percent Passing by Weight
50.0 mm	100
25.0 mm	85 to 100
6.3 mm	65 to 100
75 μm	20 to 80

The maximum size of objects other than stones shall be 50.0 mm.

- The Contractor may amend topsoil with approved materials and by approved methods to meet the above specifications. Materials used to amend the organic content of topsoil shall conform with the requirements of 713-15 Organic Material. Amendments shall not contain any material that is deleterious to soil structure, plant growth or seed germination.

STOCKPILING. Topsoil may be acquired from sites that are designated in the contract documents or approved by the Engineer. If no topsoil sites are designated in the contract documents, the material proposed for use as either naturally occurring topsoil or manufactured topsoil must be stockpiled, sampled and tested prior to its use. Topsoil deficient in organic content and/or pH may be used prior to amending and retesting only when used for turf and wildflower establishment or sodding.

Stockpiles shall contain not less than 150 cubic meters, or the minimum required for the contract, shall have a height of at least 1.2 meters unless otherwise approved, and shall be trimmed to uniform surfaces and slopes.

SAMPLING. Samples of naturally occurring topsoil, manufactured topsoil or amended soil mixture will be taken by a representative of the Department. Samples taken for topsoil that has been amended or manufactured with approved composted sewage sludge shall be identified as such. Topsoil containing foreign material may be rejected on the basis of a visual examination prior to testing. The topsoil sampling procedure shall be as required in the Department's "Sampling Procedures for Topsoil." Contractors may obtain copies of the procedures from the Engineer. Contractors who believe that an error was made in sampling the topsoil shall, within one work day, indicate the alleged error in writing to the Engineer.

TESTING. All material tests required by this section, except for the testing of composted sewage sludge and topsoil containing composted sewage sludge, will be done by the Department in conformance with the procedures contained in the appropriate Department publications or test methods current on the date of advertisement for bids.

Composted sewage sludge used to amend or manufacture topsoil shall conform to the applicable

requirements of §713-15 Organic Material. Composted sewage sludge shall require a certificate, from a laboratory approved by the DEC, verifying compliance with all applicable laws, rules and regulations. The certification shall be supplied by the Contractor, at the Contractor's sole expense, and prior to the delivery of any composted sewage sludge, topsoil containing composted sewage sludge or other such regulated material to the contract site. The material shall be approved before it is used. A copy of the specifications shall be furnished to the laboratory by the Contractor.

Topsoil that has been amended with approved composted sewage sludge or other such regulated material shall be tested by an established Engineering or Agronomy firm which provides soils laboratory services. The test is to assure compliance with the pH, organic content and gradation requirements of this section. A copy of the specification and the Department's current test methods shall be furnished to the laboratory by the Contractor. The testing of topsoil amended with approved composted sewage sludge shall be done at the Contractor's sole expense. Samples shall be taken by a representative of the Department and the laboratory results shall be returned to the Regional Landscape Architect.

The Contractor shall notify the Engineer of the intended source of the material at least three weeks in advance of the scheduled use of the material to allow time for sampling, shipping of the sample and testing.

BASIS OF ACCEPTANCE. Acceptance of topsoil will be based upon the test results unless otherwise specified. Tested topsoil must be approved in writing by the Engineer before any material is used, except that topsoil used for establishing turf and wildflowers or sodding may be placed at the Contractor's option, prior to amending it to correct deficiencies in its organic content and/or pH. Acceptance of topsoil placed prior to correcting organic content and/or pH deficiencies will be based on retest results of samples taken after the placed topsoil has been amended.

713-02 LIMESTONE

SCOPE. This specification covers the material requirements for limestone.

MATERIAL REQUIREMENTS. Limestone shall be ground limestone having a minimum total neutralizing value of 88% calcium carbonate equivalence. A minimum of 90% shall pass the 0.85 mm mesh sieve and a minimum of 60% shall pass the 0.15 mm mesh sieve.

PACKAGING. Agricultural limestone packed in the manufacturer's standard containers shall weigh not over 45 kg each, with the name of the material, net weight of contents and the manufacturer's name and guaranteed analysis appearing on each container.

DELIVERY. Bulk shipments shall be accompanied by a certificate providing the names, weight and analysis as specified herein for packaged material.

BASIS OF ACCEPTANCE. The manufacturer's label or certificate indicating compliance with these specifications shall be the basis of acceptance.

713-03 FERTILIZER

SCOPE. This specification covers the material requirements for fertilizers.

MATERIAL REQUIREMENTS. Fertilizers may be either fluid or dry formulations of commercial carriers of available plant nutrients.

The following mixed commercial fertilizers shall contain total nitrogen, phosphoric acid and soluble potash in the ratios stated:

Type No. 1. 1-2-1 (approximate analysis)
Type No. 2. 1-1-1 (approximate analysis)

The following fertilizers shall be as specified:

Type No. 3. 10-6-4 (50% N/UF). 50% of total nitrogen shall be derived from ureaform furnishing a minimum of 3.5% water insoluble nitrogen(3.5%WIN). The balance of the nitrogen shall be present as methylene urea, water soluble urea, nitrate and ammoniacal compounds.

Type No. 4. Nitrate of soda, shall contain a minimum of 16% nitrogen.

Type No. 5. Ammonium sulfate shall contain a minimum of 20.5% nitrogen.

Type No. 6. Ammonium nitrate shall contain a minimum of 33% nitrogen, one-half of which is in the ammonium form and one-half of which is in the nitrate form.

Type No. 7. A nitrogen carrier containing a minimum of 45% nitrogen such as Urea or equivalent.

Type No. 8. Bonemeal shall be commercial steamed bonemeal, finely ground with a minimum of 1.0% nitrogen and a minimum of 20% phosphoric acid.

Type No. 9. Superphosphate shall be an approximate 0-20-0 formulation with an acceptable minimum of eighteen percent (18%) available phosphoric acid.

Type No. 10. Vacant

Type No. 11. A fertilizer in standardized packets designed to control the release of their contents over a specified period of time. The minimum guaranteed analysis shall be 16-8-8.

Type No. 12. Shall be as specified in the contract documents.

PACKAGING. Fertilizers shall be in the manufacturer's standard containers. Containers shall not weigh more than 45 kg and shall include a label stating the name of the material, the net weight of the contents, the manufacturer's name, and the guaranteed analysis of the fertilizer. Labels on containers of fluid fertilizers shall state the net volume of the container.

DELIVERY. Bulk delivery of fertilizer shall be accompanied by the manufacturer's certificate stating the name of the manufacturer, the guaranteed analysis and the weight of the shipment. Certificates accompanying bulk deliveries of fluid fertilizers shall also state the net volume of the shipment.

BASIS OF ACCEPTANCE. The manufacturer's label or certificate indicating compliance with these specifications shall be the basis of acceptance. The Engineer reserves the right to reject any material that has become caked or otherwise damaged.

713-04 SEEDS

SCOPE. This specification covers the material requirements for seeds.

MATERIAL REQUIREMENTS. Each species, variety and strain of grasses, legumes, wildflowers and cereals and the minimum percentage of germination of each shall be as specified in the contract documents unless otherwise approved.

Material other than pure live seed shall comprise only nonviable seed, chaff, hulls, live seed of crop plants other than those specified, harmless inert matter and weed seeds except that weed seeds other than seeds of noxious weeds will be permitted up to 1% of the gross weight of each kind of seed. Legume seeds requiring inoculation shall be accompanied by adequate amounts of their proper inoculants unless accompanied by certification of preinoculation.

The percentage of purity shown on the label will be acceptable. The percentage of germination for each of the species, variety or strains of seeds shown on the label shall not be less than the minimum percentage specified in the contract documents. The percentage of pure live seed of each kind in each container or bag of seeds delivered will be computed by multiplying the percent germination by percent purity and dividing by 100. The percentage of pure live seed of each kind multiplied by the net weight of the container or bag will indicate the number of kilograms of pure live seed of each kind in the container or bag.

Nomenclature. The common and scientific names of grasses, legumes, wildflowers and cereals specified in the contract documents shall conform to one or more of the authorities on botanical nomenclature recognized by the American Association of Nurserymen.

Legume Inoculants. Inoculants for treating legume seeds shall be a standard culture of nitrogen fixing bacteria that is not more than one year old. Each inoculant shall be the specific culture required for each legume. It shall be supplied only from manufacturers licensed to sell legume inoculants in New York State.

Packaging. Seeds shall be furnished and delivered in labeled containers or bags that are acceptably sealed or sewn tight.

When seeds are to be accepted by certification, they may be mixed prior to delivery.

When sampling and testing is specified, seeds shall not be sown until written approval is issued. Approved seeds may be mixed prior to delivery.

LABELING. All seed and seed labels shall be in accordance with State and Federal Laws, Rules and Regulations, including Article 9 Section 137 of the Agriculture and Markets Law.

SAMPLING AND TESTING

A. Certification. Seeds will be accepted on the basis of certification unless otherwise specified in the contract documents. The certification shall consist of the label that shall be attached to each container of seed in accordance with the provisions of the New York State Agriculture and Markets' Law. Seeds will not be accepted by certification unless the test dates shown on the seed container labels are within the same calendar year that the seeds are sown.

Seeds will not be accepted if seed container labels are removed prior to the time of sowing nor will seeds be accepted if container labels have been altered, are obliterated or are otherwise illegible.

B. Sampling and Testing. Seeds will be subject to sampling and testing when specified in the contract documents and/or whenever the Engineer determines that seed damage or deterioration may have occurred as a result of handling, transit or storage.

Seeds specified for sampling and testing, and other seeds to be sampled and tested as determined by the Engineer, shall not be sown until test results are received and written approval is issued.

Sampling shall be done by a representative of the New York State Department of Transportation. Testing shall be done by the Department of Seed Investigations, New York State Agricultural Experiment Station, Geneva, New York, and the test results obtained will be considered final.

Tolerances established by the Agricultural Experiment Station will be used to determine if the seeds conform to the specifications.

BASIS OF ACCEPTANCE. The seeds shall meet the minimum specified requirements regardless of the guarantee of qualities or dates of testing and after the application of tolerances approved by the Department of Seed Investigations, New York State Agricultural Experiment Station, Geneva, New York. Seed that has become wet, moldy or otherwise damaged in transit or storage will not be acceptable. After delivery to the Contractor, seed shall be stored so that it is protected from damage or deterioration from any source. Provisional acceptance of seeds shall be obtained before the seeds are sown. Final acceptance may be subject to the results of official sampling and testing. The Contractor shall furnish the vendor with the specifications for the material.

713-05 WOOD CHIPS

SCOPE. This specification covers the material requirements for wood chips used as mulch, landscape bedding or erosion control.

SECTION S610 - LANDSCAPE

S610-1 DESCRIPTION

Work consists of establishment and maintenance of turf in lawn areas, and miscellaneous treatment of planting areas as required in Contract Documents and as directed by Project Manager.

References to NYSDOT specifications are to be in accordance with latest edition of *NYSDOT Standard Specifications (US Customary Units)*.

S610-2 MATERIALS

S610-2.01 Turf Establishment

Contractor must provide following certifications to Project Manager:

- Certification statement from grass seed mixture vendor stating botanical and common names, percentage by weight, and percentage of purity and germination for each type of grass seed provided in mixture
- Certification statement from material manufacturer for fertilizers, soil amendments, herbicides and pesticides, and any other chemicals that may be required, including instructions for proper application method
- Certification statement from material manufacturer for turf mulch and tackifier

Pesticide appliers must be licensed and fully trained in use and application of pesticides. In no case is Contractor to permit use or application of any pesticide material by non-approved, unlicensed and untrained personnel, or by any non-approved application method.

S610-2.02 Topsoil Material

Topsoil material is to be in accordance with requirements of Section S613 Topsoil.

S610-2.03 Soil Amendments

Soil amendments that are to be used for adjustment of soil chemistry are to be standard commercial type including but not limited to ground limestone, gypsum, products containing phosphorus, potassium, sulphur, et cetera.

S610-2.04 Limestone

Limestone is to be standard, pulverized commercial type having minimum total neutralizing value of 88 percent calcium carbonate equivalence, which is to be applied at rate sufficient to bring pH of topsoil material to range of 6.0 to 7.5, as determined by testing lab.

S610-2.05 Grass Seed Mixture

Grass seed is to be fresh, clean or new crop seed. Grass seed mixture is not to contain more than 0.10 percent poa annua, is to be free of bent grass and noxious weed seed, and is to be composed of varieties listed in Grass Seed Mixture table, or approved equivalent. Grass seed mixture is to be composed to specified species proportions by weight, and tested to minimum percentages of purity and germination.

Equivalent grass seed varieties proposed for use are to be branded grass seed varieties that have been tested by an independent or New York State certified testing organization, and have shown average or better performance under low maintenance conditions in northeastern region of United States.

Generic or non-branded grass seed varieties are not to be used. Fine fescues should be combination of rhizomatous creeping red fescue and some chewings fine fescue varieties.

Grass Seed Mixture		
Species	**Maximum Percent of Mix by Weight**	**Varieties**
Fine Fescue	35%	creeping red fescue varieties: dawson, flyer, jasper, seabreeze, shademaster II (rhizomatous chewings fine fescue variety may be used in combination with creeping red fescue variety, but is not to exceed 1/2 of fine fescue blend)
Kentucky Bluegrass	30%	baron, baronie, bartitia, caliber, canterbury, dragon, eagleton, kenblue, northstar, rambo
Perennial Ryegrass	20%	blazer III, brightstar II, line drive, monterey, palmer III, panther, secretariat, SR4200, top hat
Alkali Grass	15%	fults, SL-633 (variety of above species that performs similarly in alkali soil turf grass tests may be substituted)

S610-2.06 Turf Fertilizer

Apply any fertilizer necessary to produce an acceptable uniform viable turf.

S610-2.07 Turf Mulch and Mulch Tackifier

Turf mulch is to be wood fiber hydromulch with mulch tackifier.

Straw mulch is to be clean oat or wheat straw well seasoned before baling, free from mature seed bearing stalks, foreign matter or roots of prohibited or noxious weeds. Mulch tackifier is to be vegetable-based, PAM-based, or other non-asphaltic tackifier suitable for an urban street environment.

Hay mulch, plastic mulch, and mulches derived from or contaminated by insulation manufacture, are not to be used.

S610-2.08 Weed Killer

Weed killer is to be registered weed control product that complies with applicable Federal, State, and local laws and regulations.

S610-2.09 Shredded Bark Mulch

Shredded bark mulch is to be maximum 1/2 to 1 inch in size, partially decomposed, free of disease and debris, with no green leaf matter or sprouts.

S610-2.10 Pea Stone

Pea stone is to be washed, well graded, free from organic or other deleterious materials and is to meet following gradation requirements:

Screen Size	Percent Passing by Weight
1/2 inch	100%
1/4 inch	85 to 100%
1/8 inch	0 to 15%

Material will be accepted on basis of Magnesium Sulfate Soundness Loss after 4 cycles of 20 percent or less.

Not more than 30 percent, by weight, of particles retained on 1/2 inch sieve is to consist of flat or elongated particles. Flat or elongated particle is defined as one which has its greatest dimension more than 3 times its least dimension. Acceptance for this requirement will normally be based on visual inspection by Project Manager. When City elects to test for this requirement, material with percentage of flat or elongated particles that exceeds maximum 30 percent will be rejected. All material is to meet specified gradation requirements prior to placement. All processing of material is to be completed at originating source.

Materials are to be stockpiled. Stockpile construction requirements, sampling, testing and acceptance or rejection procedures will be as stipulated in appropriate NYSDOT departmental publication.

S610-2.11 Water

Water is to have pH of between 6.0 and 8.0, and is to be free of oil and any other substance that may be harmful to plant growth.

S610-3 CONSTRUCTION DETAILS

S610-301 General

Minimum of 14 days prior to commencing work, written schedule of planned operations for seeding/reseeding of lawn areas, application of fertilizers and weed killers is to submitted to Project Manager for approval. Such written schedule is also to include specific methods and materials to be used.

At least 5 days prior to application, written notice is to be provided to Project Manager and residents of intent to apply grass seed, turf mulch and mulch tackifier, fertilizers and/or weed killers. Written notice to residents is to be in format as approved of by Project Manager.

Do not apply weed killer at locations where resident objects to such application of weed killer.

Existing surface areas are to be free of all undesirable material which is larger than 1 inch in its greatest dimension. Such undesirable materials are, but not limited to: refuse; paving materials such as concrete, asphalt, brick; materials which are toxic to plant growth and grass seed; subsoil; woody vegetation, stumps, roots, brush; clods, hard lumps, and rocks. Sod and herbaceous growth such as grass and weeds need not be removed from existing soil, but are to be thoroughly broken up and mixed into overall soil material. All embedded foreign objects are to be removed and resultant hole filled-in with topsoil material. Contractor is to remove and dispose of any undesirable materials prior to treating surface area.

Existing surface is to be regraded as necessary to be uniform in contour and to meet required grades and cross-slopes without any irregularities. Finished grades and cross-slopes are to be uniformly sloping between tops of adjacent features such as sidewalks, driveways, curbs, or other existing lawn areas. Final surface contour is to be checked for accordance to required grades and cross-slopes by use of surveying instruments or other method as approved by Project Manager. Eliminate irregularities which form low areas and may tend to pond water when regrading, or by filling-in low area with either topsoil or embankment in place material.

Excavation and disposal is to be in accordance with NYSDOT Section 203 Excavation and Embankment. Properly dispose of all excavated material off site within 24 hours. Stockpiling of excavated material at project site is not allowed.

Buildings, paved areas, plantings and other non-seeded areas are to be protected from any excessive over-spray of any of materials that are being applied.

S610-3.02 Tree Protection

Existing trees and tree roots within project limits are to be protected from damage by construction activities. Construction or excavated materials are not to be placed or stockpiled within limits of canopy of any existing tree, to prevent smothering of existing tree root system. Vehicles and other construction equipment are not to be parked on any tree root system, nor left running (idling) under limits of canopy of any existing tree.

Where cutting of existing tree roots is necessary, it is to be done with sharp cutting tools. Exposed tree roots are to be re-buried as soon as possible. Until exposed tree roots can be re-buried, exposed tree roots are to be covered with wet burlap. Burlap is to be kept wet until exposed tree roots can be re-buried.

Existing trees that are damaged by construction activities are to be repaired within 72 hours using current arboricultural standards. Those existing trees that are determined by City Forester to be damaged beyond repair, are to be removed and replaced by Contractor.

Topsoil that is placed around an existing tree is not to be placed any higher than 3 inches of original surface area at base of existing tree.

S610-3.03 Soil Amendments

Soil amendments are to be applied at rate sufficient to bring chemistry of existing soil to an pH acceptable range as determined by testing lab. Soil amendments are to be applied in accordance with manufacturer's instructions for safe and effective application.

S610-3.04 Topsoil and Compaction

Topsoil material is to be placed and compacted in accordance with Section S613 Topsoil.

S610-3.05 Surface Preparation for Turf Establishment

Finished surface is to be flush with, or not greater than 1/4 inch above finished surface of adjacent surfaces. Prior to seeding, existing surface is to be prepared per Subsection S610-3.01 General.

Finished surface is to be uniform and smooth, and in accordance with required grades and cross-slopes. Finished surface is not to have any irregularities greater than 1 inch as measured from 10 foot long straight edge laid on finished surface. In built-up and residential areas, this may require that existing surface be regraded and hand raked. Topsoil material is to be used to adjust existing surface to required degree of smoothness and uniformity.

Finished surface is to be maintained to required grades and cross-slopes, placing any additional topsoil material that may be necessary to correct any irregularities that may have developed. If additional topsoil material is required, surface is to be properly prepared to ensure cohesiveness between materials.

Tops and bottoms of all slopes are to be rounded to blend into each other and into existing adjacent surface areas so as not to leave any noticeable sharp breaks. Cuts and fills are to have maximum slope of 3 feet horizontally to 1 foot vertically.

Surface preparation work is to in accordance with Method 1, unless Method 2 has been specifically required in Contract Documents. Regardless of which method is used, finished surface of any area that is to be seeded is not to be rougher, or more uneven, than any adjacent existing lawn areas.

A. Method 1

Surface area to be seeded is to be scarified to depth of 1/2 inch to break-up surface crust immediately before seeding. undesirable materials are to be removed and properly disposed of off-site.

B. Method 2

Surface area to be seeded is to be harrowed, disced, or otherwise completely pulverized to state of tillage acceptable to Project Manager. Undesirable materials are to be removed and properly disposed of off-site.

S610-3.06 Turf Establishment

A. General

Utilize all measures as may be necessary to produce finished product that provides continuous blanket of turf, that demonstrates relatively uniform height that is free of undesirable grasses, weeds, molds, mosses, algae, lichens, disease, and other undesirable characteristics.

Within 2 days of having applied grass seed, Contractor is to provide written notice to residents on proper procedure for protecting and caring for seeded areas. Written notice to is to be in format as approved of by Project Manager.

Areas disturbed by construction activities that are not to be paved or otherwise landscaped, are to be fine graded and seeded.

B. Hydroseeding (Two Step Method)

Use hydromulcher (sprayer) and apply materials in accordance with manufacturer's recommendations. Apply materials at rate of application sufficient to meet required performance criteria, but not less than following:

- Grass seed - rate recommended by manufacturer
- Wood fiber mulch - 1,500 pounds per acre
- Mulch tackifier - rate recommended by manufacturer

C. Dry Seeding

Perform grass seeding operations when soil, wind, and other conditions are appropriate, at rate of application sufficient to meet required performance criteria, but not less than rate recommended by grass seed vendor.

D. Straw Mulch

Straw mulch may be used in lieu of hydromulch and only if approved for use by Project Manager.

Straw mulch is to be placed uniformly in continuous blanket on seeded areas within 24 hours of having placed seed, and anchored with liquid tackifier.

Apply materials at rate of application sufficient to meet required performance criteria, but not less than following:

- Straw mulch - 2-1/2 tons per acre, or two 50 pound bales per 1,000 square feet of area
- Liquid tackifier - rate recommended by manufacturer

S610-3.07 Weed Killer

Apply an approved weed killer as necessary to help produce relatively weed free turf. Weed killer may be used only after having received written approval from Project Manager.

Weed killer is to be applied according to manufacturer's safety and application recommendations, and in compliance with all applicable Federal, State and local ordinances, laws and regulations for public notice and methods of application.

S610-3.08 Turf Maintenance

Maintain all seeded areas until they have obtained continuous blanket of turf that is of relatively uniform height that is free of undesirable grasses, weeds, molds, mosses, algae, lichens, disease, and other undesirable characteristics, and has been accepted by City.

Maintenance will include but is not limited to: soil amendment; fertilizing; watering; de-weeding; mowing; applications of herbicides, fungicides, insecticides; regrading and reapplication of topsoil; and reseeding. Areas of topsoil or seeded areas that become washed out, eroded, rutted, damaged, settled below required grades, or achieve unsatisfactory germination, are to be repaired.

Water is to be applied to adequately maintain surface soil moisture for proper seed germination. After seed has germinated, continue to regularly water seeded area until initial growth of turf has been accepted by City.

Until initial growth of turf has been accepted by City, turf areas are to be mowed as frequently as necessary to maintain maximum turf height of 4 inches and to minimize weed growth. No more than 1/3 of height of grass blade is to be mowed off during any one mowing operation.

After reasonable period of time has elapsed, if Project Manager determines that any seeded area has failed to have satisfactorily produced thriving turf due to seeding operations and/or lack of proper maintenance, Contractor is to repeat all of work required by this specification to repair such failed area until satisfactory growth of turf has been established.

Acceptance of established turf by City will be based on turf having achieved performance standards in accordance with Subsection S610-3.09 Performance Acceptance Measures.

S610-3.09 Performance Acceptance Measures

Only turf that demonstrates that it has achieved required growth and quality characteristics as outlined in this specification to satisfaction of Project manager, will be accepted by City. Factors for assessing turf will include, but not be limited to: topsoil pH; uniformity of turf color, texture, height and density of growth; overall coverage of areas designated for seeding; absence of undesirable grasses, weeds, molds, mosses, algae, lichens, disease, and other undesirable characteristics; and uniformity of slope and overall drainage of surface.

S610-3.10 Shredded Bark Mulch/Pea Stone

If required, weed fabric barrier is to be placed over area to be treated before shredded bark mulch/pea stone is placed. Shredded bark mulch/pea stone is to be uniformly spread to required thickness and lightly compacted.

Shredded bark mulched/pea stone area is to be cared for until final acceptance of project. Such care is to consist of providing protection against pedestrian traffic by installing approved warning signs and barricades. Treated areas damaged by erosion, wind, fire or other causes are to be repaired as soon as possible to reestablish condition and grade of area prior to placing shredded bark mulch/pea stone, then retreated with new shredded bark mulch/pea stone.

S610-3.11 Site Preparation

Site is to shaped and graded to final lines and grades as required in Contract Documents, and as required by Project Manager. Clean topsoil material stripped during shaping and grading operation is to be stockpiled on-site. Each stockpile is to contain at least 200 cubic yards of topsoil material, is to be at least 4 feet high, and is to be trimmed, shaped and maintained to uniform surfaces and slopes. Straw bales are to be placed around entire bottom of stockpile and staked to ground for control erosion.

Stockpile is to be either thoroughly covered with weatherproof material, or seeded. Until stockpile has been adequately covered, periodically water down stockpile to minimize dust erosion. Weatherproof material used to cover stockpile is to be staked, tied, or otherwise weighted down. Weatherproof material is to be maintained as necessary by reaffixing any areas that become loose, replacing any areas where weatherproof material becomes torn, damaged or otherwise missing. Stockpile that is to be seeded, is to be seeded and maintained in accordance with Subsection S610-3.10 Construction Details.

After all other phases of work are completed, all ground areas that are to be seeded are to be prepared in accordance with Subsection S610-3.10 Construction Details. If there is an insufficient amount of stockpiled topsoil material available on-site, supply and spread new topsoil material in accordance with Section S613 Topsoil.

Any excess stockpiled topsoil material is to removed.

S610-3.12 Water

Water may be brought to project site and applied via water truck, or may be applied through use of any existing hydrant. Before being allowed to use water from existing hydrants, obtain necessary permit(s), and install backflow prevention device and approved water meter.

Water is to be applied in such manner that required volume of water being applied does not damage, cause any erosion or otherwise disrupt any existing vegetation, mulch, plant saucers, sod, or areas of stockpiled topsoil material.

S610-3.13 Clean-up and Repair

Within 72 hours of having completed any of miscellaneous landscape operations, or of having received written notification of any damage, clean and/or repair all adjacent surfaces to treated areas that have become messed-up or otherwise damaged by Contractor's ongoing operations. This includes but is not limited to removing all over-spray or scattered materials.

S610-4 METHOD OF MEASUREMENT

S610-4.01 Turf Establishment, Limestone

Quantity to be measured for payment will be number of square feet of surface area treated.

S610-4.02 Shredded Bark Mulch and Pea Stone

Quantity to be measured for payment will be number of cubic yards of material placed.

S610-4.03 Development Site Preparation

Quantity to be measured for payment will be on lump sum basis for each site.

S610-4.04 Water

Quantity to be measured for payment will be measured in thousand (1,000) gallon units of water applied, as determined by use of water meters, or by meters attached to water tanks/trucks.

S610-5 BASIS OF PAYMENT

S610-5.01 Hydroseeding and Seeding

Unit price bid includes cost of: notifications; surface preparation; removal and disposal of undesirable materials; grading; furnishing and applying soil amendments, seed, hydromulch, straw mulch, mulch tackifier, fertilizer, weed killer; watering; testing; permits, hydrant water meter, backflow prevention; mowing; site maintenance and protection; repair of treated areas until acceptance of resulting turf; and furnishing all labor, material, and equipment necessary to complete work.

No payment will be made under this work until an acceptable turf area has been satisfactorily produced throughout total project area, or in case of multi-street project, along an individual street segment. Acceptance of turf will be based upon having achieved performance criteria as specified in Subsection S610-3.09 Performance Acceptance Measures.

S610-5.02 Shredded Bark Mulch and Pea Stone

Unit price bid includes cost of: surface preparation; removal and disposal of undesirable materials; grading; weed barrier fabric; furnishing and placing shredded bark mulch/pea stone; watering; protection; and furnishing all labor, material and equipment necessary to complete work.

S610-5.03 Site Preparation

Lump sum price bid includes cost of: shaping and grading development site; stockpiling stripped topsoil material; trimming, shaping and maintaining stockpiles; furnishing, placing and maintaining weatherproof material/hydroseed; furnishing, placing, staking and maintaining straw bales; watering; finish grading, compacting and maintaining ground areas; eliminating irregular areas; filling in low spots; removal and disposal of undesirable materials; and furnishing all labor, material and equipment necessary to complete work.

Additional topsoil material supplied will be paid for under separate bid item.

S610-5.04 Limestone

Unit price bid includes cost of: furnishing and applying limestone; and furnishing all labor, material and equipment necessary to complete work.

S610-5.05 Water

Unit price bid includes cost of: furnishing and applying water; and furnishing all labor, material and equipment necessary to complete work.

Payment will be made under:

Note: XX in bid item number represents each individual development site. i.e.: S610.0901 Development Site Preparation (Clarissa Street).

ITEM NO.	ITEM	PAY UNIT
S610.0502	Hydroseeding	Square Foot
S610.0602	Seeding	Square Foot
S610.07	Shredded Bark Mulch	Cubic Yard
S610.08	Pea Stone	Cubic Yard
S610.09XX	Site Preparation (Site)	Lump Sum
S610.10	Limestone	Square Foot
S610.11	Water	1000 Gallons

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percent post consumer recovered from solid waste. At least 98 percent of such paper shall be recovered newsprint. The materials shall be mixed and applied in accordance with the manufacturer's instructions.

Type B: Shall be either Type A or asphalt emulsion meeting the requirements of either 702-3201 Asphalt Emulsion or 702-90 Asphalt Emulsion Tack Coat. When asphalt emulsion is used it shall be uniformly applied at the rate of 0.02 L/m², unless otherwise specified in contract documents.

PACKAGING. Mulch Anchorage Type A shall be furnished in the manufacturer's standard containers with the name of the material, net weight of contents, the manufacturer's name and the dry weight of fiber (equivalent to 10% moisture) appearing on each container. The instructions for mixing and application shall also appear on each container.

Asphalt emulsion used for Mulch Anchorage Type B has no packaging requirements. The Engineer shall reject any asphalt material that is not homogenous or has separated. Asphalt separation caused by freezing unacceptable.

The Engineer shall reject any materials that have become wet, caked, frozen, separated or otherwise unfit for use.

BASIS OF ACCEPTANCE. The basis of acceptance for Mulch Anchorage Type A shall be the manufacturer's product label or product literature that indicates compliance with this specification.

The basis of acceptance for asphalt emulsion used as Mulch Anchorage Type B shall be as specified under Section 702 Bituminous Materials.

713-13 PESTICIDES

SCOPE. This specification covers the material requirements for pesticides used to manage vegetation, insects, rodents and/or other target pests.

MATERIAL REQUIREMENTS. Pesticides shall be approved commercially available products that are currently registered by the United States Environmental Protection Agency and the New York State Department of Environmental Conservation. Pesticides shall also have all required labels indicating that they are approved for the intended use.

Pesticides shall be mixed and used in strict conformance with the instructions on the label or supplemental labels.

PACKAGING. Pesticides shall be delivered and securely stored until used in the manufacturer's standard containers that have legible labels affixed in accordance with the provisions of the federal and state pesticides laws, rules and regulations in effect at the time of delivery.

Pesticides that do not meet these packaging requirements, at any time, will be rejected by the Engineer and shall be removed from the Contract site immediately.

The Engineer shall reject any pesticides that have become wet, caked or otherwise unfit for use.

BASIS OF ACCEPTANCE. The basis of acceptance shall be original, sealed, and properly labeled pesticide containers; and two copies of sample labels and supplemental labels that include instructions for the intended use of the pesticide.

The Department reserves the right to inspect the condition of pesticides and pesticide containers at any time while they are on the Contract site and to direct immediate removal of any pesticides and/or containers that do not meet these specifications.

713-14 SOD

SCOPE. This specification covers the material requirements for sod.

MATERIAL REQUIREMENTS. Sod shall be commercially grown sod and shall be accompanied by a certificate indicating compliance with the regulations of the New York State Department of Agriculture and Markets.

Sources of sod shall be made known to the Engineer at least five days before cutting. Sod shall be cut into squares or rectangular portions which shall be 300 mm wide, or as approved, and may vary in length, but shall be of a size which will permit them to be lifted without breaking. The sod, when delivered to the contract site, shall be sufficiently moist so the soil will adhere firmly to the roots when it is handled. Height of the grass shall not exceed 80 mm. The sod shall be cut to a minimum thickness of 20 mm. The sod shall be reasonably free from weeds in conformance with accepted commercial practice and shall consist of a mixture of permanent grasses such as bluegrass and/or fine leaved fescues, unless otherwise specified.

BASIS OF ACCEPTANCE. Acceptance shall be based on inspection by the Engineer for compliance with the material requirements.

713-15 ORGANIC MATERIAL

SCOPE. This specification covers the material requirements for organic material used in conjunction with amending or manufacturing topsoil.

GENERAL. Organic materials regulated by the New York State Department of Environmental Conservation shall meet all applicable regulatory requirements.

MATERIAL REQUIREMENTS

A. Humus or Peat. The material shall be commercially produced natural humus or peat from freshwater sources and may contain sedge peat, sphagnum peat or reed peat. The material shall be free from hard lumps, roots, stones and other objectionable materials. There shall be no admixture of refuse or material toxic to plant growth. It shall be in a shredded or granular form able to pass through a 12.5 mm sieve. According to methods of testing of A.O.A.C. in effect on the date of the invitation of bids, the acidity shall be not less than 3.5 pH. and the organic matter shall be not less than 85% as determined by loss on ignition. The minimum water holding capacity shall be 200% by weight on an oven-dry basis.

B. Peat Moss. Peat moss shall be commercially produced and shall be composed of the partly decomposed stems and leaves of any or several species of sphagnum moss. It shall be free from wood, decomposed colloidal residue and other foreign matter. It shall have an acidity range of 3.5 pH to 5.5 pH as determined in accordance with methods of testing of A.O.A.C. in effect on the date of advertisement for bids. Its water absorbing ability shall be a minimum of 1100% by weight on an oven-dry basis.

C. Source-Separated Compost. Source-separated compost shall be commercially or municipally produced and shall be an organic substance produced by the biological and biochemical decomposition of source-separated compostable material that is separated at the point of waste generation. Source-separated compostable materials may include, but are not limited to, leaves and yard trimmings, food scraps, food processing residues, manure and/or other agricultural residuals, forest residues and bark, and soiled and/or unrecyclable paper.

Source-separated compost shall be reasonably free of sticks, stones, refuse, materials deleterious to soil structure, or any material toxic or detrimental to plant germination and growth. Source-separated compost shall also meet the following additional specifications:

A) Minimum organic matter shall be 30% (dry weight basis) as determined by loss on ignition;
B) Product shall be loose and friable, not dusty, and have a moisture content of 35% - 60%;
C) Particle size shall be <12.5 mm.
D) Soluble salts content shall be < 4.0 mmhos/cm (ds/m);
E) Compost shall be stable to very stable according to the test method current on the date of

advertisement for bids.

F) pH shall be between 6.0-8.0.

D. Composted Sewage Sludge. Composted sewage sludge is regulated by the New York State Department of Environmental Conservation (DEC) and must meet all applicable regulatory requirements.

TESTING. Source separated compost will be subject to testing by the Department to assure it is stable.

Composted sewage sludge used to amend or manufacture topsoil shall have a certificate, from a laboratory approved by the DEC, verifying compliance with all applicable laws, rules and regulations. Only facilities permitted to compost sewage sludge under 6 NYCRR Part 360, Solid Waste Management Facilities, shall be allowed to furnished finished compost for use in topsoil. The certification shall be supplied by the Contractor, at the Contractor's sole expense, and prior to the delivery of any composted sewage sludge, topsoil containing composted sewage sludge or other such regulated material to the contract site. The material shall be approved before it is used. A copy of the specifications shall be furnished to the laboratory by the Contractor.

BASIS OF ACCEPTANCE. Acceptance of humus, peat and peat moss will be based on the Producer's label or certificate of analysis by an established laboratory indicating compliance with the material requirements.

Acceptance of source-separated compost shall be based upon the Producer's label or certificate of analysis by an established laboratory indicating compliance with the material requirements; and a delivery inspection by the Engineer. Source-separated compost may be sampled and tested by the Department to assure compliance with the material requirements.

Acceptance of composted sewage sludge shall be based on certification by a DEC approved laboratory indicating compliance with the material requirements and all applicable regulations.

713-16 AND 713-17 (VACANT)

713-18 HAY

SCOPE. This specification covers the material requirements for hay.

MATERIAL REQUIREMENTS. Hay for mulching shall be mowings of acceptable herbaceous growth which is free from noxious weeds. Materials which are low grade and unfit for farm use such as "U.S. sample grade" will be acceptable. Weight shall be calculated on the basis of material having not more than 15% of moisture content.

BASIS OF ACCEPTANCE. Acceptance shall be based on inspection by the Engineer for compliance with material requirements.

713-19 STRAW

SCOPE. This specification covers the materials requirements for straw.

MATERIAL REQUIREMENTS. Straw for mulching shall be stalks of oats, wheat, rye or the approved crops which are free from noxious weeds. Materials which are low grade and unfit for farm use, such as "U.S. sample grade" will be acceptable. Weight shall be calculated on the basis of the materials having not more than 15% of moisture content.

BASIS OF ACCEPTANCE. Acceptance shall be based on inspection by the Engineer for compliance with the material requirements.

Appendix 4

Additional Procedures for PFC Groundwater Sampling

EPA 537 (PFAS) Field Sampling Guidelines

PLEASE READ INSTRUCTIONS ENTIRELY PRIOR TO SAMPLING EVENT

Sampling for PFAS via EPA 537 can be challenging due to the prevalence of these compounds in consumer products. The following guidelines are strongly recommended when conducting sampling.

Reference-NHDES https://www.des.nh.gov/organization/divisions/waste/hwrb/documents/pfc-stakeholder-notification-20161122.pdf

FIELD CLOTHING and PPE

- No clothing or boots containing Gore-Tex®
- All safety boots made from polyurethane and PVC
- No materials containing Tyvek®
- Do not use fabric softener on clothing to be worn in field
- Do not used cosmetics, moisturizers, hand cream, or other related products the morning of sampling
- Do not use unauthorized sunscreen or insect repellant (see reference above for acceptable products)

FOOD CONSIDERATIONS

No food or drink on-site with exception of bottled water and/or hydration drinks (i.e., Gatorade and Powerade) that is available for consumption only in the staging area

OTHER RECOMMENDATIONS

Sample for PFAS first! Other containers for other methods may have PFAS present on their sampling containers

SAMPLE CONTAINERS

- All sample containers made of HDPE or polypropylene
- Caps are unlined and made of HDPE or polypropylene (no Teflon® -lined caps)

WET WEATHER (AS APPLICABLE)

Wet weather gear made of polyurethane and PVC only

EQUIPMENT DECONTAMINATION

- "PFAS-free" water on-site for decontamination of sample equipment. No other water sources to be used
- Only Alconox and Liquinox can be used as decontamination materials

FIELD EQUIPMENT

- Must not contain Teflon® (aka PTFE) or LDPE materials
- All sampling materials must be made from stainless steel, HDPE, acetate, silicon, or polypropylene
- No waterproof field books can be used
- No plastic clipboards, binders, or spiral hard cover notebooks can be used
- No adhesives (i.e. Post-It® Notes) can be used
- Sharpies and permanent markers not allowed; regular ball point pens are acceptable
- Aluminum foil must not be used
- Keep PFC samples in separate cooler, away from sampling containers that may contain PFAS
- Coolers filled with regular ice only - Do not use chemical (blue) ice packs

EPA 537 (PFAS) Field Sampling Guidelines

PLEASE READ INSTRUCTIONS ENTIRELY PRIOR TO SAMPLING EVENT

Sampler must wash hands before wearing nitrile gloves in order to limit contamination during sampling. Each sample set requires a set of containers to comply with the method as indicated below. **Sample set is composed of samples collected from the same sample site and at the same time.*

Container Count	Container Type	Preservative
3 Sampling Containers - Empty	250 mL container	Pre preserved with 1.25 g Trizma
1 Reagent Water for Field Blank use	250 mL container	Pre preserved with 1.25 g Trizma
P1 Field Blank (FRB) - Empty	250 mL container	Unpreserved

Sampling container must be filled to the neck. For instructional purposes a black line has been drawn to illustrate the required fill level for each of the 3 Sample containers

Field blanks are recommended and the containers have been provided, please follow the instructions below.

Field Blank Instructions:

1. Locate the Reagent Water container from the bottle order. The Reagent Water container will be pre-filled with PFAS-free water and is preserved with Trizma.
2. Locate the empty container labeled "Field Blank".
3. Open both containers and proceed to transfer contents of the "Reagent Water" container into the "Field Blank" container.
4. If field blanks are to be analyzed, they need to be noted on COC, and will be billed accordingly as a sample.

Both the empty Reagent Water container and the filled Field Blank container must be returned to the lab along with the samples taken.

Sampling Instructions:

1. Each sampling event requires 3 containers to be filled to the neck of the provided containers for each sampling location.
2. Before sampling, remove faucet aerator, run water for 5 min, slow water to flow of pencil to avoid splashing and fill sample containers to neck of container (as previously illustrated) and invert 5 times.
3. Do not overfill or rinse the container.
4. Close containers securely. Place containers in sealed ZipLoc® bags, and in a separate cooler (no other container types).
5. Ensure Chain-of-Custody and all labels on containers contain required information. Place sample, Field Blank and empty Reagent Blank containers in ice filled cooler (do not use blue ice) and return to the laboratory. Samples should be kept at 4°C ±2. Samples must not exceed 10°C during first 48 hours after collection. Hold time is 14 days.

Please contact your Alpha Analytical project manager with additional questions or concerns.