Supplemental Remedial Investigation Report
Former Nepera Plant Site
Harriman, New York
EPA ID# NYD002014595

Prepared for

ELT Harriman LLC, St. Louis, Missouri

May 2015

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Prepared for
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May 2015

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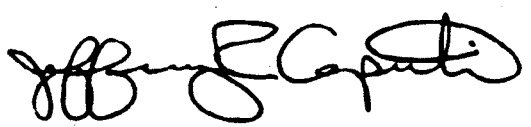
Certification Statement

I, Jeffrey Caputi, certify that I am currently a NYS registered professional engineer, that this Supplemental Remedial Investigation Report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10), and that all activities were performed in full accordance with the DER-approved work plan and any DER-approved modifications.



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Date

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Section 1
Introduction

1.1 Overview

This report has been prepared to provide the results of the Supplemental Remedial Investigation (SRI) described in the final Supplemental Remedial Investigation/Feasibility Study Work Plan, dated May 19, 2014. The SRI was conducted in response to the letter from the New York State Department of Environmental Conservation (the "Department" or "DEC") Office of General Counsel, dated October 28, 2013, as revised on October 29, 2013, which sets forth outstanding liability for remediation at the Nepera-Harriman Site, and the parties responsible for various aspects of the remediation (the "DEC Determination").

The Nepera-Harriman Site, also referred to as the Former Nepera Plant Site (the "Site") is located on NY Route 17 in the Village of Harriman, Orange County, approximately one mile west of Exit 16 off the New York State Thruway (Figure 1-1). The Site was used for the manufacture of pharmaceutical and specialty chemicals from 1942 until operations were discontinued in 2005. The facility is currently inactive and the tank farms, distilling operations, and other manufacturing areas have been decommissioned.

The Site has been the subject of extensive investigation and remediation under the New York State Inactive Hazardous Waste Site (State Superfund) program and is listed as Site No. 3-36-006. The DEC issued a Record of Decision (ROD) in March 1997 that specifies the remedy for the Site. A Consent Decree was entered into in 1998 between the Estate of William S. Lasdon, Nepera Inc., and Warner-Lambert Company, which provides for the implementation and funding of the Remedy selected in the ROD. Work completed at the Site is carried out by the parties to the Consent Decree and the Maybrook and Harriman Environmental Trust (collectively, the "Trust Parties").

Module III of the RCRA Permit includes Corrective Action requirements for Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs). The RCRA Permit was issued to Nepera Inc. by the DEC, and subsequently transferred to Rutherford Chemicals, LLC ("Rutherford"). Rutherford began addressing the Corrective Action requirements in 2006 following plant shutdown. ELT Harriman LLC ("ELT") purchased the Site in November 2007 and contractually assumed the responsibility for Rutherford's obligations under the RCRA Permit. ELT and Rutherford submitted a permit transfer application that is pending approval by the Department. ELT is continuing to progress the work required under the RCRA Permit, which includes the work completed as part of this SRI, although the SRI is being carried out pursuant to an Order on Consent.

The SRI is intended to address certain data gaps identified in discussions and correspondence with the Department and provide data to support an evaluation of all potential soil cleanup objectives in the Feasibility Study. The scope of the SRI addresses the SWMUs and AOCs consistent with the DEC Determination specifically Section B: "Corrective Action and Closure Work to be done under the RCRA Permit". Subsequent to the DEC Determination, a Stipulation and Order Concerning the Consent Decree between the State of New York and Estate of William S. Lasdon, Nepera, Inc., and Warner Lambert Company with Respect to the Harriman Site, dated December 17, 2013, was entered (the "Stipulation and Order"). The Stipulation and Order clarifies the meaning and application of the DEC Determination and includes a scope of work that supersedes Section A of the DEC Determination which is to be addressed in a Supplemental RI/FS Work Plan to be submitted and implemented by the Trust Parties.

It has been and remains ELT's position that the scope of the Corrective Action requirements is identified in and limited by the RCRA Permit. Previously, the Department requested that ELT go beyond the expressly delineated boundaries identified in the RCRA Permit. In an effort to cooperate with the Department, ELT agreed to expand the scope of the investigations and studies. ELT's acquiescence, however, was and is subject to a full and complete reservation of ELT's rights regarding DEC's ability to enlarge the boundaries of Corrective Action at the Site or any other alleged obligation or responsibility of ELT. Further, the Department and ELT have reserved their respective rights with respect to the RCRA Permit, including these issues, in the Order on Consent. Accordingly, and to the extent that any portion of this or any other submission related to the RCRA Permit or any other document prepared by or on behalf of ELT relative to the Site identifies, considers, and/or analyzes geographic areas of the Site beyond the RCRA Permit's specifically-delineated study areas or boundaries, such shall not be deemed or construed an admission by ELT that such areas are properly within the scope of the Corrective Action requirements, and any such analysis shall be subject to a full and complete reservation of any and all of ELT's rights as a matter of law.

1.2 Site Description

The Site as shown on Figure 1-2 is located in the Village of Harriman, Orange County, New York. Most of the Site lies within the Town of Woodbury; the southwest corner of the Site is in the Town of Monroe. The Site is bounded to the northwest by NYS Route 17, to the northeast by the West Branch of the Ramapo River, to the southeast by undeveloped land currently owned by ELT (commonly referred to as the "Avon parcel") and to the southwest by the Erie Lackawanna Railroad. The Site occupies approximately 28 acres and can generally be divided into two areas: (1) approximately 10 acres located to the northeast of Arden House Road on which the former administrative offices, a parking lot, and the lagoon are located, and (2) approximately 18 acres to the southwest of Arden House Road on which the former manufacturing facilities are located. The facility is currently inactive and the tank farms, distilling operations, and other manufacturing areas have been decommissioned.

A detailed description of the regional and site setting is presented in the Site-Wide Characterization Summary Report (Brown and Caldwell Associates and Cornerstone Engineering and Land Surveying, PLLC, March 2011). The Site-Wide Characterization Summary Report was prepared at the request of the Department and describes the scope of the investigatory and remedial activities previously implemented at the Site; the regional and site setting including physiography, geology, hydrogeology and hydrology, water use, and site conceptual model; nature and extent of contamination; exposure and ecological assessments; significant events; and data usability.

1.3 Site Regulatory History

The following subsection provides an overview of the site history and the activities undertaken pursuant to the DEC's Superfund and RCRA Corrective Action programs. A comprehensive presentation of the investigations and remedial actions that have been performed at the Site is provided in the Site-Wide Characterization Summary Report.

1.3.1 Site Chronology

A brief description of historical operational and waste management practices follows. Additional site history, including developments under both the State Superfund and RCRA regulatory programs, is summarized in Table 1-1, Site Chronology. The Site is currently owned by ELT. The Site was used for the manufacture of pharmaceutical and specialty chemicals from 1942 to 2005.

Chemical by-products (organic compounds) were incinerated on Site from September 1945 through May 1957. This activity was conducted on a regular basis in two areas. During the mid 1940s, a "burn pit" apparently was located near the former blind lagoon and the current SPDES lagoon. From the late 1940s until 1957, a second "burn pit" was located near where the cyano reactor now stands. In 1978, an incinerator was installed in Building 61 and later became subject to the RCRA Permit. The incinerator was shut down in August 2005.

From the late 1940s to approximately 1953, calcium sulfate material, which was used as a catalyst in the manufacturing of niacinamide, was disposed of on site, primarily in a low lying area where the administration building and parking lot are now located. The calcium sulfate material contains inorganic mercury in a form that is highly immobile.

Drum burial occurred in an area near Buildings 67 and 75 and in an area near the southern boundary of the Site. Drum removal from these areas was conducted during the mid 1980s. Additional soils removal including drum fragments was completed in Area F and Building 53 in 2001.

The lagoon, constructed in the mid 1960s, is located southeast of the parking lot. It is reportedly approximately 12 feet deep, lined with compacted clay, and stores approximately 5.5 million gallons of water that prior to plant shutdown was derived from boiler blowdown and non-contact cooling water, storm water runoff and treated groundwater. Currently, water in the lagoon is derived solely from stormwater. Water from the lagoon is discharged to the west branch of the Ramapo River under a State Pollutant Discharge Elimination System (SPDES) permit. Prior to its current use, the lagoon served as a settling pond for aluminum hydroxide and magnesium silicate precipitates from manufacturing. The former blind lagoon (previously located where the existing lagoon is situated) was used to drain fire-system sprinkler (deluge) water, which was conveyed via gravity flow through underground pipes. Until recently, deluge water was collected in a 20,000-gallon underground storage tank, and periodically pumped to an above-ground 300,000-gallon storage tank. The deluge water system currentiy is inactive.

ELT purchased the Site in November 2007 and submitted an application for transfer of the SPDES Permit on December 22, 2007. The DEC elected not to transfer the permit and it expired on April 30, 2010. ELT submitted an application for a new SPDES Permit on August 20, 2010. A new SPDES Permit was issued to ELT on August 26, 2011. ELT has taken steps to ensure compliance with the SPDES Permit including:

- Installation and operation of temporary and permanent water treatment systems including reverse osmosis, ion exchange, and filtration;
- Monitoring, sampling, and reporting discharges in accordance with the SPDES Permit;
- Continued review of all aspects of the lagoon treatment and discharge system;
- Providing improvements to the lagoon level gauge and the floating suction strainer; and
- Ensuring the level of water within the lagoon is properly maintained.

In April 2014, ELT applied for a modification to the existing SPDES Permit to authorize discharges related to the proposed demolition and remediation activities at the Site. The permit modification was approved on September 11, 2014.

1.3.2 New York State Inactive Hazardous Waste Disposal Site Program

The Site has been the subject of extensive investigation and remediation under the New York State Inactive Hazardous Waste Disposal Site (State Superfund) program (Site No. 336006). Various Work Plans, a Remedial Investigation (RI), a Feasibility Study (FS), Interim Remedial Measures (IRMs), and other remedial measures have all been undertaken at the Site, starting with preliminary investigations in 1986 and continuing forward. The RI/FS was completed in accordance with Stipulation Agreement Index No. W3-0004-8101 (SA), and formed the basis for the DEC to select a site remedy and issue the

March 1997 ROD. Subsequent to the 1997 ROD, the Trust Parties entered into a Consent Decree that was filed in the United States District Court for the Southern District of New York (U.S. District Court, April 21, 1998) to implement the remedy selected in the 1997 ROD.

An IRM consisting of groundwater extraction and treatment was initiated in 1990. The IRM, specifically recovery wells RW-1S and RW-3, operated from 1990 through 2004. As a result of decreased well efficiencies and pumping rates from these wells resulting from siltation and other factors, pumping from both wells was discontinued in September 2004 as a part of biosparge system implementation and monitoring.

As a part of the 1997 ROD selected remedy implementation, a number of activities were undertaken as follows:

- Drum and contaminated soil source materials were removed from several areas of the Site (Areas F and Building 53). Surface soil was also removed in Area K. Work performed was documented in the Excavation Summary Report (Arcadis, March 2001).
- A biosparge system was installed for contaminant mass removal in lieu of soil vapor extraction (SVE), which was pilot-tested and found to be impractical. The work was documented in the Interim Pilot Test Report (Arcadis, March 2001).
- Surface water, sediments, and stream bank investigation and assessment were performed by the Trust Parties and the DEC. The work was documented in the RI Report and a fact sheet was issued (NYSDEC, June/July 2001).
- Interim erosion controls were implemented along the stream bank. A final design was proposed to the DEC in "Concept Plan for River Bank Stabilization, West Branch of the Ramapo River (Southern Bank)" (Arcadis, November 2005).
- A Conceptual Site Model and Supplemental Remedial Action Work Plan report (HydroQual, May 2008) was developed and the work plan was implemented, which further defined groundwater flow and quality.
- In response to the implementation of the Supplemental Remedial Action Work Plan, the biosparge system was discontinued in 2008 and the Site entered a routine monitoring phase to confirm that groundwater impacts remain within the boundaries of the Site. Monitored natural attenuation to address residual ground water contaminants is on-going.

Additional details of the investigation and remediation work performed under the NYS Inactive Hazardous Waste Disposal Site program are provided in the Site-Wide Characterization Summary Report and other referenced documents. The Trust Parties are performing a SRI/FS pursuant to a separate work plan dated June 2014 pursuant to the Stipulation and Order.

1.3.3 RCRA Closure and Corrective Action

Manufacturing operations ceased in May 2005 triggering the Closure and Corrective Action requirements of the RCRA Permit. The hazardous waste incinerator was shutdown in August 2005 and the last product was shipped off site in September 2005. Equipment shutdown, cleanout and decontamination were completed between July 2005 and October 2006. The above-ground portions of TSD Units were closed pursuant to the RCRA Permit and the approved RCRA Closure Plan (Shaw Environmental, Inc., November 2005). Closure activities were documented in the Revised RCRA Closure Certification Report (Shaw Environmental, Inc., April 2007).

Following the cessation of manufacturing operations, areas previously deemed inaccessible because of ongoing operations became accessible and subject to the Module III Corrective Action Requirements of the RCRA Permit. Table III-1 of the RCRA Permit lists the SWMUs and AOCs known to exist when the permit was issued. The list includes Treatment, Storage and Disposal ("TSD") Units, "Accessible

Remediation SWMUs" and "Inaccessible SWMUs". The TSD Units, which include an incinerator, two container storage areas and five tanks, have undergone closure pursuant to the RCRA Permit and the approved RCRA Closure Plan - Hazardous Waste Container Storage Area and Incinerator (Shaw Environmental, Inc., 2005). The Accessible Remediation SWMUs correspond to study areas identified in the ROD as Areas A through J and include the thermal water sewers conveying blowdown from boiler and cooling tower systems, the deluge water collection system and building trench drains. The Inaccessible SWMUs include potentially contaminated soil under 72 buildings and process areas within Study Areas A, B, E, G, I, and J as shown on Figure 1-2.

In a letter dated May 3, 2006, the Department required that Rutherford prepare a RFI Work Plan to address specific SWMUs and AOCs subject to the Corrective Action requirements of the RCRA Permit. A draft RFI Work Plan was submitted to the DEC on August 31, 2006. Conditional approval of the RFI Work Plan was given by the Department in correspondence dated October 13, 2006. The comments and questions provided by the DEC in the conditional approval were addressed and the final RFI Work Plan was submitted on November 9, 2006.

The RFI was implemented from October 2006 until January 2007 and included the collection and analysis of over 150 shallow soil samples and over 200 subsurface soil samples. The RFI activities and findings were documented in the report entitled RCRA Facility Investigation Report, Former Nepera Plant Site, Harriman, New York dated April 2007 ("RFI Report"). The Department issued comments on the RFI Report in a letter dated July 10, 2007. An Addendum to the RFI Report, dated October 8, 2007, was submitted to the DEC as a response to the RFI Report comment letter.

In its July 10, 2007 letter the Department required that a Phase II RFI be conducted to investigate off-site areas adjacent to the former plant facility and across the Ramapo River. The DEC also required, in its July 10, 2007 letter that Rutherford move forward with a CMS. In response, an Addendum to the RFI Report was submitted dated October 8, 2007.

ELT purchased the Site in November 2007 and contractually assumed the responsibility for Rutherford's obligations under the RCRA permit. ELT and Rutherford submitted a permit transfer application that is pending approval by the Department. ELT is continuing to progress the work required under the RCRA Permit.

A Phase II RFI Work Plan was prepared and submitted to the DEC in November 2007. The Department approved the work plan in February 2008. ELT completed the sampling and analyses for the locations for which access could be obtained in June 2008. Analytical results were transmitted to the DEC in a technical memorandum dated August 6, 2008.

A CMS Plan and Task I Report was prepared and submitted to the DEC in November 2007. The CMS Plan and Task I Report presented the corrective action objectives, identified and screened remedial technologies, and described the approach to completing the remaining tasks of the CMS. The Department issued a letter dated September 11, 2008, that provided comments on the CMS Plan and Task I Report and guidance pertaining to the hazardous constituents and target cleanup levels to be evaluated in the CMS. The Department also requested an interim report providing "rough cost estimates for the various alternatives and the likely final use of the site". The cost estimates were intended to provide a basis for establishing the financial assurance limits.

ELT submitted the Interim Report – Corrective Measure Alternatives and Preliminary Cost Estimates to the DEC on March 16, 2009. The Interim Report presented a range of alternatives for remediation of the SWMUs and AOCs and preliminary cost estimates. The Department issued comments on the Interim Report in a letter dated May 21, 2009. The DEC indicated that no further evaluation of excavation/removal actions for achieving site wide "unrestricted use" and "residential use" for mercury, PCBs or benzene was necessary; the DEC also requested that further study include alternatives for

consolidation and excavation and address the potential use of the lagoon as a consolidation unit. The DEC also provided comments regarding the development of Soil Cleanup Objectives (SCOs) for mercury and specifically the use of mercury speciation that needed to be resolved for the CMS to be completed.

A work plan for Supplemental Mercury Speciation Evaluation was prepared and submitted to the DEC in September 2009. The Department issued comments on the Work Plan in a letter dated November 24, 2009 and indicated that further discussion of the study goals and proposed methods was needed. ELT continued to discuss this matter with DEC representatives. A conference call was held on August 6, 2010 in which the DEC indicated that further study is not necessary and that alternate SCOs may be used in the evaluation of remedial options for the CMS.

A meeting was held on December 1, 2010 to introduce newly assigned DEC staff to the project and review the previously completed work and current status. Following the meeting, in an email on December 21, 2010, the Department provided a draft Scope of Work for additional investigation to be performed at the Site. After further discussion and exchange of comments on the draft Scope of Work, the DEC issued a letter dated February 4, 2010 requesting submission of a Site-Wide Characterization Summary Report. ELT and the Trust Parties prepared and submitted the Site-Wide Characterization Summary Report to the DEC on March 8, 2011. Additional details of the investigations and studies performed under the RCRA Permit are provided in the Site-Wide Characterization Summary Report and other referenced documents.

Subsequent to submission of the Site-Wide Characterization Summary Report, a series of meetings was held among representatives of the Department, ELT and the Trust Parties and comments were exchanged on the draft Scope of Work. On January 31, 2013, the Department indicated via email that the proposed comments were acceptable and provided a modified version of the Scope of Work. During this time period and prior to the DEC Determination, ELT was not directed by the Department to proceed further with the CMS or other activities required under the RCRA Permit.

A Supplemental Remedial Investigation/Feasibility Study Work Plan was prepared in response to the DEC Determination and submitted to the Department on December 20, 2013. A revised Work Plan was submitted to the Department on January 31, 2014, which incorporated comments received at a meeting held at the DEC offices on January 16, 2014. The Work Plan was again revised to address conditions of the Order on Consent and re-submitted to the Department on March 21, 2014. The Department issued conditional approval of the SRI/FS Work Plan by letter dated May 2, 2014. The Work Plan was revised to incorporate the conditions and re-submitted on May 19, 2014 and approved via email on May 20, 2014. A letter describing proposed changes to sampling locations following the site reconnaissance and structural safety inspection was submitted to the Department on June 24, 2014 and approved via email on June 26, 2014.

In addition to the Supplemental Remedial Investigation, the work plan includes the completion of demolition and RCRA closure activities at the Site. A demolition and abatement work plan was provided to the Department on September 9, 2014, and approved on October 7, 2014. It is anticipated that demolition work will be initiated in November 2014. Preparation of the Feasibility Study will commence following approval of this investigation report.

1.4 Supplemental Remedial Investigation Objectives

The SRI is intended to address certain data gaps identified in discussions and correspondence with the Department and provide data to support an evaluation of all potential SCOs in the Feasibility Study. The SRI objectives are to:

- Further investigate SWMUs where a relatively small number of samples were collected based on the size of the SWMU;

- Collect data to support the development of a working definition of "source material" and to refine the delineation of potential source material beneath SWMUs and in Areas A and E;
- Investigate the potential for soil vapor intrusion in areas of the Site where VOC groundwater contamination has been noted;
- Investigate surface water drainage structures to determine if they contain sediment impacted by site contaminants; and
- Conduct an evaluation of the Lagoon to determine if it may be used as a consolidation area and conduct additional sampling and analysis to further characterize accumulated sediments.

1.4.1 Source Areas

Part 375 defines a source area or source to mean "a portion of a site or area of concern at a site where the investigation has identified a discrete area of soil, sediment, surface water or groundwater containing contaminants in sufficient concentrations to migrate in that medium, or to release significant levels of contaminants to another environmental medium, which could result in a threat to public health or the environment." The definition then goes on to identify typical source materials as concentrated solid or semi-solid hazardous substance, non-aqueous phase liquids, and grossly contaminated media. Grossly contaminated media is further defined (Part 375) as that which contains sources or substantial quantities of mobile contamination in the form of NAPL, that is identifiable either visually, through strong odor, by elevated contaminant vapor levels or is otherwise readily detectable without laboratory analysis. Overall, the key, operative terms in this definition are that a source area be discrete, contain readily identifiable, concentrated sources of contamination, and the contamination be mobile.

The NYSDEC has indicated that on-site soil/material that exceeds 220 mg/kg for mercury or 50 mg/kg for PCBs should be considered source material for the purposes of evaluating remedial action alternatives in the FS. This will be considered in the FS, and in the context of the mercury speciation data.

1.5 Report Structure

Section 2 of this report describes the scope of work completed to address the above objectives, including modifications to the scope of work based on field conditions. Section 3 summarizes the methods utilized to conduct sampling. Section 4 provides the results of the investigation. Section 5 provides the conclusions and recommendations based on the investigation findings.

Section 2
Scope of Investigation

This section presents the scope of the investigation as well as any modifications that were necessary as the result of field conditions. Field work was completed in compliance with Part 375 regulations, with a qualified environmental professional present during field activities. Notification of mobilization for sampling activities was provided to the Department at least seven days in advance. Field work was completed in compliance with the Health and Safety Plan (HASP) as well as the Community Air Monitoring Plan (CAMP).

2.1 Building Inspection

An inspection of the SWMU buildings targeted for sampling was conducted prior to mobilization for the SRI. The inspection was conducted by Christie Engineering, P.C. of Bedminster, New Jersey to identify structural safety concerns in areas where sampling would be conducted. All inspected work areas were cleared as being safe with the exception of SWMU Building 05. A portion of the roof in this building was identified as unsafe. The sample location in this area was moved to an area where the roof integrity was not a concern.

2.2 Soil Investigation

The SRI soil investigation was conducted between July 21 and 24, 2014, and consisted of the investigation of subsurface soils at specific SWMUs and locations outside of SWMUs in Areas A and E. The sample locations are presented in Figure 2-1 and summarized in Table 2-1. The investigation was conducted for two specific purposes:

- Further investigate SWMUs and open areas where a relatively small number of samples was collected based on the size of the SWMU; and
- Collect data to support the development of a working definition of "source material" and to refine the delineation of potential source material beneath SWMUs and in Areas A and E that would potentially be considered "source material".

Prior to conducting soil borings, each sample location was inspected by a geophysical contractor, Naeva Geophysics Inc. of Congers, New York, to clear sample locations for underground structures and other potential obstructions. Following completion of the soil investigation, sample locations were surveyed by a New York State licensed surveyor, Bertin Engineering of Glen Rock, New Jersey.

Representatives of the Department were present to observe soil sampling activities on July 22, 2014.

2.2.1 SWMUs and Open Areas Requiring Further Sampling

The specific SWMUs targeted for further investigation included Buildings 01, 02, 05, 13, 20, 28, 38, 57B, and 67. The open areas requiring further sampling included the areas southeast of SWMU 01, southwest of SWMU 04, and northeast of SWMU 68. At each boring location, a soil sample was collected from the 0-1 foot interval beneath the slab/pad or pavement sub base material. A second deeper sample was collected from the interval demonstrating the greatest impact (whether through visual inspection or field screening). When soils did not demonstrate evidence of impact, the second sample was collected from the next change in lithology or from immediately above the water table.

Samples collected for this portion of the soil investigation were analyzed for VOCs, SVOCs, PCBs, Metals, and Ammonia.

2.2.2 Delineation Samples

The locations of delineation samples were selected based upon prior detections of mercury above 220 mg/kg. The specific SWMUs identified for further investigation included Buildings 02, 05, 29, 37, and 70. Samples were also collected in open areas adjacent to Arden House Road, southeast of SWMU 70, and in the open areas surrounding SWMUs 05 and 02. The depth of samples collected at these locations was selected to be at or below the depth of prior samples with concentrations of mercury >220 mg/kg.

Samples collected for this portion of the soil investigation were analyzed only for mercury.

2.3 Soil Vapor Investigation

The SRI soil vapor investigation was conducted on July 23, 2014 and consisted of the investigation of soil vapor above the water table at SWMU locations where prior soil and groundwater investigations have shown the highest concentrations of VOCs. The sample locations are presented in Figure 2-1 and are listed in Table 2-1. The SWMUs initially targeted for sampling included Buildings 18, 28, and 67, as well as upgradient Building 01. As described further below, field conditions required the adjustment of the sample location at Building 28 to Building 70. Samples were analyzed for VOCs.

2.4 Stormwater Investigation

In discussions regarding the Scope of Work for further site investigations, the Department requested that a description of the on-site surface water flow systems as they currently exist be provided and that sediment samples be collected and analyzed from reasonably accessible major lines and catch basins. A drainage analysis was performed by Morris Associates, PLLC and was presented in the SRI Work Plan. Appendix A contains a map illustrating the direction of stormwater flow throughout the Site.

The SRI stormwater evaluation was conducted on July 7 and 8, 2014, and included the collection of sediment samples from stormwater catch basins and drains located throughout the Site and along Arden House Road. Sampling was conducted to determine if Site-related contamination has accumulated in stormwater drainage features. Sampling included a single grab sample of shallow sediment, to the degree recoverable, from each of the catch basins and drains. Sediment sample locations are presented in Figure 2-2, and are listed in Table 2-1. As described in greater detail below, field conditions precluded the collection of samples at some of the locations proposed in the work plan.

Samples collected for this portion of the soil investigation were analyzed for VOCs, SVOCs, PCBs, Metals, and Ammonia.

2.5 Lagoon Investigation

Additional investigation of the lagoon sediments was conducted to supplement the characterization performed as part of the initial RFI. The SRI of lagoon sediments was conducted on July 7 and 8, 2014, and included the collection of samples from four locations throughout the lagoon. Sediment sample locations are presented in Figure 2-2 and are listed in Table 2-1.

Samples collected for this portion of the investigation were analyzed for VOCs, SVOCs, PCBs, Metals, Ammonia, and grain size.

Representatives of the Department were present to observe soil sampling activities on July 8, 2014.

2.6 Work Plan Modifications

Modifications to the approved SRI scope were necessary in response to conditions encountered in the field. Changes to the initially proposed scope of work, and the significance of those changes are summarized below.

2.6.1 Soil Investigation

Modifications to the proposed scope of soil investigation were necessary for three primary reasons, safety/inaccessibility of the proposed sample locations, impenetrable building foundations, and the presence of asbestos floor material in boring locations.

As described above, the roofing of SWMU required the slight adjustment of boring location 05-B-002 to an area without structural safety concerns. Sample locations 37-B-002, 29-B-004, 57-B-001 were moved due to the presence of secondary containment walls and structures that precluded access by a GeoProbe® drilling rig. The boring locations were moved to the nearest accessible locations adjacent to the respective SWMU footprints. Exterior boring location E-B-008 was adjusted to the northeast due to the presence of heavy vegetation and trees in the area of the proposed sample location. These boring location adjustments were communicated prior to mobilization in a letter to the NYSDEC on June 24, 2014. These adjustments were approved by the NYSDEC prior to mobilization. While in some cases the adjustment of boring locations takes the samples outside the footprint of the targeted SWMU, the close proximity of the adjusted boring location assures the results of sampling are still useful for characterization purposes in advance of preparing the FS. The adjusted boring locations additionally achieve the goal of data collection prior to the completion of site demolition.

The building foundations in two buildings, SWMU-01 and SWMU-13 were impenetrable at boring locations 01-B-004 and 13-B-003 respectively. Multiple attempts were made to move the boring locations and achieve penetration; however, the additional attempts were similarly unsuccessful. The loss of these sample locations is not significant as there are other samples near to the proposed locations collected either during the RFI and/or the SRI. This modification was discussed with NYSDEC representatives in the field and verbally approved. Impenetrable sample location 01-B-004 is in close proximity to RFI boring 01-B-001 and SRI boring 01-B-003. Impenetrable sample location 13-B-003 is in close proximity to RFI borings 13-B-002 and A-B-014.

Soil borings at SWMU Building 38, including locations 38-B-002 and 38-B-003 could not be conducted due to the presence of asbestos floor tiling that was discovered during mobilization for sampling. Asbestos tiling may not be disturbed without removal by licensed abatement contractor. This modification was discussed with NYSDEC representatives in the field and verbally approved. The only portion of the building without asbestos tiling, was previously investigated at boring 38-B-001 during the initial RFI. While the data gap at this building remains, the structure is primarily an office building. The greatest concern for hazardous material usage in the building is in the boiler room, where the prior boring was conducted. The loss of the proposed SRI sample locations does not preclude the preparation of an FS.

2.6.2 Soil Vapor

As described above, sample location SV-28-01 was moved due to the presence of soil saturation immediately below the floor slab of SWMU building 28. Soil saturation prevents to collection of a soil vapor sample. In response to the shallow groundwater, the sample location was moved to the northeast to SWMU building 70, and renamed SV-70-01. This modification was discussed with NYSDEC representatives in the field and verbally approved.

During sample collection, a malfunction of the soil vapor sampling apparatus occurred at location 18-SV-001. Upon completion of the sample interval, very little reduction in vacuum pressure was noted on the summa canister pressure valve, indicating a sample had not been collected. The source of malfunction is unclear and may have been due to the summa canister itself. Despite the loss of sample 18-SV-01, the remaining samples provide characterization of soil vapor conditions at the Site to be used in the FS, including areas impacted by site related groundwater impacts and areas upgradient of the groundwater impacts.

2.6.3 Stormwater Investigation

Collection of several of the proposed storm drain sediment samples was not possible due to lack of recoverable sediment or inaccessible storm drain structures. The storm drainage structures along Arden House Road, including samples DRAIN-SD-003 through DRAIN-SD-007, contained no recoverable sediment material. Attempts were made to collect samples utilizing a dipper, and petit ponar dredge. Standing water was observed in these drains, but sufficient volume of sediment material to process a sample was not recoverable. This was discussed with NYSDEC personnel in the field during sampling.

Samples at locations DRAIN-SD-013 and DRAIN-SD-014 were not collected due to inaccessibility of the drainage structure. DRAIN-SD-13 is located below a mechanical apparatus that prevents access to the basin. The storm grate covering DRAIN-SD-014 was rusted shut and could not be lifted.

2.6.4 Lagoon Investigation

There were no modifications to the lagoon sediment sampling work plan. A maximum of one single foot of recoverable sediment was found at each sample location, limiting the investigation to one sample at each of the four sample locations. Due to the loose silty nature of the sediment material within the lagoon, samples were primarily collected utilizing a petit ponar dredge, rather than a manual coring device.

Section 3
Field Sampling Methodology

This section describes the field methodology employed during the SRI. A more detailed description the methods and procedures is provided in the SRI Work Plan.

3.1 Soil

Soil samples were collected using GeoProbe® (macro core) direct push technology, with new acetate liners used for each sample interval.

Each soil sample was field screened for VOCs using a photoionization detector (PID). During sampling with the macro core, the sample was screened immediately upon opening the sampling device. The PID was utilized to monitor for VOCs within "pockets" of the soil burrowed with a gloved hand of the sampler. The PID sampling tip was placed within the pocket and then enclosed by the cupped hand of the sampler. Conditions were allowed to stabilize and a reading was taken and recorded. This process was repeated at each observed change in material or evidence of impact. The portion of the soil cores sampled for analysis was biased toward the portion demonstrating the highest PID reading.

The VOC samples were collected directly from the sample device first, and not homogenized. Soil for other analyses was homogenized and containerized in the sample jars. A PID was used to field screen the soil.

After the completion of sample collection, any excess soil was placed back in the borehole. No investigation derived waste was generated as part of the soil investigation.

Air monitoring activities were conducted in accordance with the Community Air Monitoring Plan. No exceedances of monitoring limits were noted during sampling activities.

3.1.1 Soil Vapor

Soil vapor samples were collected from temporary sample points utilizing pre-evacuated stainless steel Summa Canisters. Sampling points were installed via GeoProbe® to four (4) feet below the slab of the building, depending on the depth of groundwater. A stainless steel vapor implant was attached to the end of the 0.25-inch tubing at 4 feet below grade. This implant acts as a filter of 40-60 microns. Following installation of the vapor implant, the sample point was sealed at the ground surface using bentonite, and allowed to equilibrate for a period of several hours. Prior to sample collection the sample points were purged for at least three sample line volumes at a rate no greater than 200 ml/min. As part of the purge, a helium leak test was performed to assure the integrity of the sample point and minimize short circuiting of ambient air into the soil vapor sample line. Samples were collected over a period of 2 hours.

3.1.2 Storm Drain and Lagoon Sediment

Sediment samples were collected using one of two methods: sediment coring device or petit ponar dredge. Sampling methodology was chosen in the field depending on the conditions and accessibility at each catch basin and sample location. Collection of lagoon sediments was initially attempted by coring device. However, given the loose and unconsolidated nature of the sediment material, samples were primarily collected by petit ponar dredge. A number of storm drains lacked standing water above the

accumulated sediment material. In such cases the sediment was collected using manual tools (Stainless steel shovels, hand scoops, and spoons). Sediment intended for VOC analysis was placed into the appropriate sample jars immediately upon retrieval. The remaining volume, from each sample analysis, was homogenized and placed within the appropriate sample jars.

Section 4
Investigation Results

4.1 Soil Investigation Results

A total of 25 soil borings were conducted across the Site. Soil samples were collected continuously during the drilling of each of the 25 soil borings resulting in the collection of 45 analytical samples. The soils were scanned for VOCs with a PID and general observations of soil type, moisture and/or any evidence of impacts were also made. Boring logs are provided in Appendix B. Borings were logged as the top of the soil representing ground surface and ground coverings such as pavement or concrete were noted in the logs.

Generally, the soils encountered were a mix of fill and medium-fine sand with varying amounts of silt. The deeper borings generally ended within a sandy silt or clay unit. Wet soils were encountered at varying depths across the Site depending on the elevation of the boring location. Wet soils were as shallow as less than 1 foot along the center of the Site, in the vicinity of SWMU Buildings 2, 5, 20, and 28, and as deep as 5.4 feet along the north-northwestern boundary of the Site in the vicinity of Building 1.

No separate phase liquids of any kind were observed. No buried containers or drums were encountered. Petroleum-like odors were occasionally noticed, particularly from soils in the vicinity of tank farms 29 and 81. Additionally, occasional elevated PID readings were observed in soils from those areas and generally around the center of the Site where tank farms are located.

Of the 45 samples, 28 were analyzed for VOCs, SVOCs, metals (including mercury), ammonia, and PCBs. The 17 other samples were analyzed only for mercury.

4.1.1 Calcium-sulfate Sludge Observations

Soil boring E-B-008 in the eastern side of the Site, south of Arden House Road encountered a gray fill material consistent with calcium sulfate sludge from approximately 3.25 to 9.5 feet bgs. The calcium sulfate sludge also contained black tar-like swirls. The sludge material was also encountered at soil boring 70-B-002 at depths of 3 to 3.5 feet bgs. This location is in Building 70, which is in the eastern portion of the Site, near the contractor's gate along Arden House Road. Both locations are consistent with prior observed locations of sludge material during the RFI investigation. The locations of observed calcium sulfate sludge are presented in Figure 4-1.

4.1.2 SWMUs and Open Areas Requiring Further Sampling

Table 4-1 presents the results of investigations at SWMUs and open areas subjected to further sampling. The results are compared to Part 375 Soil Cleanup Objectives (SCOs) [1]. The results of sampling are generally consistent with the results of prior RFI investigations. There are several locations with elevated concentrations of mercury, which are discussed in greater detail below.

4.1.2.1 Inorganic Compounds

Concentrations of mercury ranged from non-detect to 3,270 mg/kg. Mercury exceeded the Industrial SCO at 10 boring locations, including SWMU borings 01-B-003, 02-B-003, 05-B-002, 13-B-004, 20-B-002, 20-B-004, and 67-B-004, and open area borings A-B-125, A-B-126, and E-B-008. The results of mercury in soil for the 0-2 ft depth interval and below 2 ft are presented in Figures 4-2 and 4-3, respectively. Mercury was detected above 220 mg/kg at the following boring locations:

- 02-B-003 - 572 mg/kg at 1-2 ft bgs
- 67-B-004 - 3270 mg/kg at 2-4 ft bgs
- A-B-125 - 342 mg/kg at 0-1 ft bgs
- E-B-008-7-8 - 1130 mg/kg at 7-8 ft bgs (calcium sulfate sludge present)

Boring location 02-B-003 is in an area of the Site where prior sampling found concentrations of mercury above 220 mg/kg, and is consistent with those findings. Boring location 67-B-004 is located in the southeast of the Site, and is away from other areas where elevated concentrations of mercury were previously found. Boring location A-B-125 is adjacent to SWMU 1, and is in area where elevated concentrations of mercury have been found in prior investigations, although not above 220 mg/kg. The calcium sulfate sludge material observed in boring location E-B-008 was sampled and coincides with the elevated mercury concentration in that sample.

Aside from the detections noted above, concentrations of mercury were consistent with those found during the RFI.

In addition to mercury, exceedances of SCOs were found for arsenic, copper, lead, nickel, and zinc. None of these compounds exceeded the Industrial Use SCOs.

Arsenic exceeded the Unrestricted Use SCO in one boring location, 67-B-003 at a depth of 4-5 ft bgs.

Copper exceeded the Commercial Use SCO at two boring locations, 02-B-003 (0-1 ft and 1-2 ft bgs) and 67-B-004 (2-3 ft bgs). Copper also exceeded the Unrestricted Use SCO in an additional four borings, 13-B-004 (0-1 ft bgs), 20-B-003 (0-1 ft and 4-5 ft bgs), A-B-125 (0-1 ft), and E-B-008 (0-1 ft bgs).

Lead exceeded the Restricted Residential Use SCO at one location 67-B-004 (2-3 ft bgs). Lead also exceeded the Unrestricted Use SCO at an additional five borings, 02-B-003 (1-2 ft bgs), 05-B-002 (0-1 ft bgs), 20-B-003 (0-1 ft and 4-5 ft bgs), A-B-125 (0-1 ft bgs), and E-B-001 (0-1 ft bgs).

Nickel exceeded the Unrestricted Use SCO at three boring locations, 02-B-003 (1-2 ft bgs), 67-B-004 (2-3 ft bgs), E-B-008 (0-1 ft bgs).

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[1] The published SCO for mercury is based on elemental mercury. Table 375-6.8(b) notes that the mercury cleanup objective is "...the lower of the values for mercury (elemental) or mercury (inorganic salts). See TSD Table 5.6-1." The reference to TSD Table 5.6-1 is to "New York State Brownfield Cleanup Program, Development of Soil Cleanup Objectives Technical Support Document" (NYSDEC and NYSDOH, 2006). Table 5.6-1 provides additional detail on mercury soil cleanup objectives categorized by elemental mercury and inorganic mercury salts. As previously noted, the site data indicate that the mercury is present as a salt for which the relevant commercial or industrial SCG would be 47 mg/kg and 220 mg/kg, respectively, as shown in TSD Table 5.6-1.

Zinc exceeded the Unrestricted Use SCO at five boring locations, 02-B-003 (1-2 ft bgs), 05-B-002 (0-1 ft bgs), 20-B-003 (0-1 ft bgs), 67-B-004 (0-1 ft and 2-3 ft bgs), A-B-125 (0-1 ft bgs), and E-B-001 (0-1 ft bgs).

4.1.2.2 Polychlorinated Biphenyls

PCBs were detected in ten boring locations at concentrations ranging from 0.147 to 2.99 mg/kg. The Commercial Use SCO was exceeded in two boring locations, 57-B-001 at 2.11 mg/kg in the 0-1 ft depth interval, and A-B-125 at 2.99 mg/kg in the 0-1 ft depth interval. The remaining detections exceeded the Unrestricted Use SCO at the following boring locations and depths: 01-B-003 (0-1 ft bgs), 02-B-003 (0-1 ft bgs), 20-B-002 (0-1 ft bgs), 20-B-003 (0-1 ft bgs), 28-B-003 (0-1 ft bgs), 67-B-004 (2-3 ft bgs), A-B-126 (0-1 ft bgs), E-B-008 (0-1 ft bgs). The total PCBs in soil for 0-2 ft and below 2 ft are presented in Figures 4-4 and 4-5, respectively. Aroclor 1254 is the only specific Aroclor mixture detected in the soil samples. The concentrations of PCBs are consistent with those found during the RFI.

4.1.2.3 Volatile Organic Compounds

There were no exceedances of the Industrial Use SCOs for VOCs. The only compound exceeding the Commercial Use SCO was xylenes, detected at boring location 67-B-004 at 600 mg/kg in the 2-3 ft depth interval. Ethylbenzene exceeded the Restricted Residential Use SCO in the same sample at 95 mg/kg. Benzene exceeded the Unrestricted Use SCO at three boring locations 13-B-004 at 0.12 mg/kg in the 5-6 ft depth interval, 28-B-004 at 0.068 mg/kg in the 3.2-4.2 ft depth interval, and 67-B-004 at 0.98 mg/kg in the 2-3 ft interval. Other compounds exceeding the Unrestricted Use SCOs included n-propylbenzene at boring location 67-B-004 (2-3 ft bgs), chlorobenzene at boring location A-B-125 (0-1 ft bgs), and 2-butanone at boring location 28-B-003 (5.9-6.9 ft bgs). Sporadic detections of acetone, a common lab contaminant, were also found above the Unrestricted Use SCO. The concentrations of VOCs are consistent with those found during the RFI.

4.1.2.4 Semi-volatile Organic Compounds

Generally, there were no exceedances of the Restricted Residential, Commercial, or Industrial Use SCOs for SVOCs. There was a single exceedance of the Restricted Residential Use SCO for chrysene at boring location 02-B-003 in the 1-2 ft depth interval. Exceedances of the Unrestricted Use SCOs for 4-methylphenol and phenol were found at boring location 13-B-004 in the 5-6 ft depth interval. The concentrations of SVOCs are consistent with those found during the RFI.

4.1.2.5 Ammonia

Ammonia was detected in eighteen samples. The concentrations of detections ranged from 8.36 to 10,800 mg/kg. The highest concentration was detected in boring location 13-B-004 in the 5-6 ft depth interval. The ammonia concentrations found during the SRI are higher than what was found during the RFI, where the maximum concentration was 520 mg/kg. There are no soil cleanup objectives for ammonia.

4.1.3 Delineation Samples

Table 4-2 presents the results of soil investigations to delineate locations where mercury was detected at concentrations above 220 mg/kg during the RFI. In general, these samples provided vertical and horizontal delineation of prior mercury detections above 220 mg/kg. Among the samples collected during the SRI, only two samples resulted in concentrations of mercury above 220 mg/kg. These included boring location A-B-129 at 7,920 mg/kg in the 2-3 ft interval, and boring location E-B-006-4-5 at 727 mg/kg in the 4-5 ft depth interval. In both cases a deeper sample in the same boring was

collected that had a lower concentration of mercury. As discussed in Section 4.1.2.1, four samples collected as part of the investigations at SWMUs and open areas subjected to further sampling also had mercury concentrations above 220 mg/kg. The locations of mercury exceeding 220 mg/kg in the RFI and SRI are presented in Figure 4-6.

4.2 Soil Vapor Investigation Results

The results of soil vapor sampling are presented in Table 4-3. Compounds associated with the site VOC groundwater plume (benzene, toluene, ethylbenzene, and xylenes) and residual contamination in the fine-grained deposits on site, were found in all soil vapor samples. The highest concentration of benzene (19.6 µg/m^3) was found at sample location 70-SV-001. The highest concentrations of toluene (43.7 µg/m^3) and ethylbenzene (12.4 µg/m^3) were found in the upgradient sample location 01-SV-001. The highest concentration of total xylenes (142.1 µg/m^3) was found at location 67-SV-001. The results indicate that compounds found in site groundwater and in vadose zone soils off-gas to shallow soil vapor. The State of New York does not have standards or guidance values for soil vapor contaminants. The results of these compounds are presented in Figure 4-7.

Additionally other compounds were detected in soil vapor, including chlorinated VOCs trichloroethene (TCE), tetrachioroethene (PCE), 1,2-dichloroethene (cis and trans), 1,1,1-trichloroethane, 1,1-dichloroethene, 1,1-dichloroethane, and chloroform. The highest concentrations of these compounds are found in sample location 01-SV-001, which is hydraulically upgradient of the site VOC groundwater plume. Chlorinated VOCs have been detected in groundwater in a well located across Route 17 and hydraulically upgradient from sample location 01-SV-001, as discussed in the Site-Wide Characterization Summary Report. This indicates the presence of these compounds is unrelated to the Site.

Other VOCs detected in soil vapor include 1,3-dichlorobenzene (max. 1.2 µg/m^3), 1,2,4-trimethylbenzene (max 43.6 µg/m^3), 1,3,5-trimethylbenzene (max. 11.7 µg/m^3), 2-butanone (max. 33.4 µg/m^3), 4-methyl-2-pentanone (max. 11 µg/m^3), acetone (max. 173 µg/m^3), carbon disulfide (max. 56.1 µg/m^3), carbon tetrachloride (max. 24.1 µg/m^3), chloromethane (max. 0.85 µg/m^3), dibromochloromethane (max. 1.87 µg/m^3), Freon 11 (max, 29.4 µg/m^3), Freon 12 (max. 360 µg/m^3), and methylene chloride (max. 21 µg/m^3).

4.3 Drain Sediment investigation Resuits

Sediment samples were collected from seven drains at the Site (DRAIN-SD-001, DRAIN-SD-002, DRAIN-SD-008, DRAIN-SD-009, DRAIN-SD-010, DRAIN-SD-011, and DRAIN-SD-012). The drain at location DRAIN-SD-001 appeared dry and contained loose gravel and asphalt pieces from the surrounding parking lot. DRAIN-SD-002 was largely full of soil that appeared to have eroded into the drain from the surrounding lawn area. DRAIN-SD-009 appeared to have collapsed and was full of soil, while the adjacent drain at location DRAIN-SD-010 appeared intact and contained standing water. DRAIN-SD-011 was largely full of leaves and refuse from the surrounding buildings. The shallow trench drains at DRAIN-SD-012 and DRAIN-SD-008 were full of sediment.

The results of the drain sediment investigation are presented in Table 4-4. In general, the results of sediment sampling are consistent with site soils, indicating that site-related contaminants have migrated into the drainage structures.

4.3.1 Inorganic Compounds

Mercury was detected in drain sediment in every sample and ranged from 0.438 mg/kg at sample location DRAIN-SD-002 to 149 mg/kg at location DRAIN-SD-12. The results of mercury in sediment are presented in Figure 4-8. Concentrations of arsenic ranged from 5.35 mg/kg at sample location

DRAIN-SD-009 to 15 mg/kg at location DRAIN-SD-001. The concentrations of arsenic in sediment are presented in Figure 4-9. These and the remaining inorganic results are consistent with the ranges of concentrations found in site soils.

4.3.2 Polychlorinated Biphenyls

PCBs were detected in five drain sediment samples, ranging in concentrations from 0.213 mg/kg at DRAIN-SD-001 to 32.2 mg/kg at DRAIN-SD-011. Aroclor 1254 was the only specific Aroclor detected in the PCB results.

4.3.3 Volatile Organic Compounds

VOCs were not detected in drain sediments, with the exception of one trace detection of carbon disulfide at 0.00267 mg/kg in DRAIN-SD-002.

4.3.4 Semi-volatile Organic Compounds

There were detections of polycyclic aromatic hydrocarbon (PAH) compounds in drain sediments, including acenaphthene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, indeno(1,2,3-c,d)pyrene, fluoranthene, phenanthrene, chrysene, naphthalene, and pyrene. These compounds were been detected during prior RFI investigations. The concentrations of PAHs in drain sediments are within the range seen in site soils. There were also detections of other SVOCs, including dibenzofuran, di-n-butyl phthalate, 2-methylnaphthalene, and carbazole.

4.3.5 Ammonia

Ammonia was detected in two drain samples, at 4.9 mg/kg at DRAIN-SD-011 and 6.6 mg/kg at DRAIN-SD-012. These concentrations are lower than what has been seen in site soils.

4.4 Lagoon Sediment Investigation Results

Investigation of lagoon sediments found similar results to what was encountered during the RFI. Sediment thickness in the field ranged from 18-20 inches. The sediment material was loose, fine grained, dark in color, and high in moisture content. Grain-size analysis indicated the majority of the samples consisted of fine sand, silt, and clay. A dense gray clay material was encountered below the sediment at each sample location, consistent with the liner demonstrated on historic site drawings.

The results of lagoon sediment sampling are presented in Table 4-5. In general, the results of analytical sampling are consistent with the results of the RFI.

4.4.1 Inorganic Compounds

Concentrations of mercury ranged from 4.12 mg/kg at sample location C-SD-008 to 8.67 mg/kg at location C-SD-009. The results of mercury in sediment are presented in Figure 4-8. Concentrations of arsenic ranged from 4.15 mg/kg at sample location C-SD-008 to 10.2 mg/kg at location C-SD-009. The concentrations of arsenic in sediment are presented in Figure 4-9. These and the remaining inorganic results are consistent with the ranges of concentrations found during the RFI.

4.4.2 Polychlorinated Biphenyls

PCBs were detected in three of the four lagoon samples, ranging in concentrations from 0.426 to 0.701 mg/kg, with the maximum concentration found in the duplicate sample at location C-SD-008. Aroclor 1254 was the only specific Aroclor detected in PCB results.

4.4.3 Volatile Organic Compounds

With the exception of known laboratory contaminants 2-butanone and acetone, there were no detections of VOCs in the lagoon sediment samples.

4.4.4 Semi-volatile Organic Compounds

There were scattered detections of SVOCs in lagoon sediment, including bis(2-ethylhexyl)phthalate, di-n-butyl phthalate, and pyrene. There were also detections of polycyclic aromatic hydrocarbon (PAH) compounds Benzo(a)anthracenem, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, phenanthrene, and chrysene were detected in a duplicate sample at location C-SD-008. These findings are consistent with the RFI sediment investigation.

4.4.5 Ammonia

Ammonia was detected in all lagoon sediment samples and ranged between 16.8 mg/kg at location S-SD-008 and 109 mg/kg at location C-SD-009.

4.5 Data Usability Review

The Category B analytical reports for the investigation are presented in Appendix C. The Data Usability Summary Reports (DUSRs) are presented in Appendix D. Data reviews were conducted in accordance with the NYSDEC Guidance for the Development of Data Usability Summary Reports. The DUSRs provide detail where data qualification was necessary and applied. A small number of results were rejected in the following analytical reports.

- Laboratory Report 14070208
  - Bromomethane results in this sample package were rejected due to low Laboratory Control Sample recovery.
  - Matrix Spike/Matrix Spike Duplicate recoveries in sample DRAIN-SD-002 were low resulting in the rejection of results for Hexachlorocyclopentadiene, 2,4-dimethylphenol, 4,chloroaniline, 2,4-dinitrophenol, and 3,3'-dichlorobenzidine in that sample.
- Laboratory Report 14070264
  - Matrix Spike recovery in sample DRAIN-SD-010 was low resulting in the rejection of results for 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, and hexachlorocyclopentadiene in that sample.
- Laboratory Report 14070874
  - Matrix Spike recovery in sample 05-B-002-0-1 was low resulting in the rejection of results for hexachlorocyclopentadiene in that sample.

The rejected results do not correspond to known contaminants of concern at the Site, and do not impact the usability of the investigation results for the purposes of the SRI.

Section 5
Conclusions

5.1 Soil

The Supplemental Remedial Investigation provided greater characterization of site soils at previously inaccessible SWMUs and uninvestigated open areas. The results of this investigation are consistent with the previous RI and RFI investigations. Mercury remains the primary contaminant of concern at the Site, and was the only contaminant found to exceed Industrial Use SCOs.

The investigation revealed two locations, including boring location A-B-125 (adjacent to SWMU 1) and boring location SB-67-004 (beneath SWMU 67), where concentrations of mercury in soil exceeded 220 mg/kg. The concentration of mercury at boring A-B-125 decreases with depth based on sampling, and is delineated horizontally based on prior sampling. The elevated concentration of mercury at boring SB-67-004 is not delineated vertically. However, other sampling conducted at and nearby SWMU 67 has not revealed elevated concentrations, indicating the result is a localized finding. Other SRI investigation locations where mercury exceeded 220 mg/kg are consistent with prior findings of the RFI, or collocated with apparent calcium sulfate sludge, which generally contains high concentrations mercury.

The locations where apparent calcium sulfate sludge was encountered during the SRI are consistent with prior investigations and were limited to the area near the contractor's gate on Arden House Road.

There was no indication of a previously unidentified area of concern based upon results of PCB, VOC, or SVOC sampling.

The results of the soil investigation do not change the conclusions of the qualitative human health exposure assessment provided in the Site-Wide Characterization Summary Report, dated March 2011.

5.2 Soil Vapor

The supplemental remedial investigation of soil vapor revealed the presence of VOCs that are consistent with the site groundwater plume, including benzene, toluene, ethylbenzene, and xylenes. The investigation also revealed the presence of chlorinated VOCs, including TCE and PCE. Chlorinated VOCs have been detected in groundwater in a well located across Route 17 and hydraulically upgradient from the Site, indicating the presence of these compounds is unrelated to the Site. While there are no standards for soil vapor contaminants, future development of the Site will need address the potential for vapor intrusion of groundwater contaminants to indoor air.

5.3 Drain Sediment

The supplemental remedial investigation of storm water drain structures revealed the presence of sediment material with similar contaminants to those found in site soils, primarily mercury. Based on the lack of recoverable sediment material in the Arden House Road drains, it is uncertain to what degree the material found in the on-site drains is being transported through the drainage structures. The presence of site contaminants in lagoon sediments indicates there has been some transport of site contamination through the drainage system.

The site SPDES Permit includes a requirement to implement a Mercury Minimization Plan (MMP). Annual sampling for mercury concentrations in stormwater runoff from the Site, in accordance with the MMP, have shown fluctuations in mercury levels from year-to-year although no permit violations have resulted since 2011. Mercury containing sediment collected within the drainage system may be a factor in the mercury concentration found in stormwater runoff from the Site. It can be expected that capping of the Site and elimination of the collected sediment in the drainage system will result in noticeable reductions in stormwater mercury levels.

5.4 Lagoon Sediment

The supplemental remedial investigation of lagoon sediments confirmed the findings of the RFI sediment sampling efforts. Sediment in the lagoon is primarily made up of fine silt and clay with high moisture content. Contaminants consistent with the site soils were found in the lagoon, although at generally lower concentrations. A gray clay material, consistent with the lagoon liner indicated on historic site drawings, was encountered at each sample location within the lagoon.

5.5 Feasibility Study

The data obtained in the SRI are sufficient to support preparation of the Feasibility Study. The remedial alternatives to be evaluated in the FS are outlined in the SRI/FS Work Plan and include:

- **RA-1:** No Action
- **RA-2:** Excavation and Off-Site Treatment and/or Disposal
  - **2a:** Excavation to Unrestricted-Use SCOs (0.18 mg/kg Mercury, 0.1 mg/kg PCBs, and 0.06 mg/kg Benzene)
  - **2b:** Excavation to Residential-Use SCOs (0.81 mg/kg Mercury, 1 mg/kg PCBs, and 2.9 mg/kg Benzene)
  - **2c:** Excavation to Industrial-Use SCOs (5.7 mg/kg Mercury, 25 mg/kg PCBs, and 89 mg/kg Benzene)
- **RA-3:** Site Cover and Institutional Controls
- **RA-4:** Re-graded Site Surface Cover and Institutional Controls
- **RA-5:** Targeted Excavation and Off-Site Treatment and/or Disposal, Site Cover, and Institutional Controls
  - **5a:** Excavation SCOs: 47 mg/kg Mercury, 25 mg/kg PCBs, and 89 mg/kg Benzene
  - **5b:** Excavation SCOs: 220 mg/kg Mercury, 25 mg/kg PCBs, and 89 mg/kg Benzene
- **RA-6:** Targeted Excavation and On-Site Ex-Situ Treatment and/or Disposal, Site Cover, and Institutional Controls
  - **6a:** Targeted Excavation (SCOs: 47 mg/kg Mercury, 25 mg/kg PCBs, and 89 mg/kg Benzene) and On-Site Ex-Situ Treatment
  - **6b:** Targeted Excavation (SCOs: 47 mg/kg Mercury, 25 mg/kg PCBs, and 89 mg/kg Benzene) and On-Site Consolidation
  - **6c:** Targeted Excavation (SCOs: 220 mg/kg Mercury, 25 mg/kg PCBs, and 89 mg/kg Benzene) and On-Site Ex-Situ Treatment
  - **6d:** Targeted Excavation (SCOs: 220 mg/kg Mercury, 25 mg/kg PCBs, and 89 mg/kg Benzene) and On-Site Consolidation

- **RA-7:** Targeted In-Situ Treatment, Site Cover, and Institutional Controls
  - **7a:** In-Situ Treatment SCOs: 47 mg/kg Mercury, 25 mg/kg PCBs, and 89 mg/kg Benzene
  - **7b:** In-Situ Treatment SCOs: 220 mg/kg Mercury, 25 mg/kg PCBs, and 89 mg/kg Benzene

Further description of the RAs including conceptual plans are provided in the SRI/FS Work Plan (refer to Section 4.7.4 and Appendix D). These RAs may be modified for consistency with the working definition of source material to be developed in the FS. The preliminary estimates of remediation areas and volumes will be updated and refined in the FS to incorporate the data obtained in the SRI. The FS will be submitted to the Department within 55 calendar days of approval of the final SRI Report.

Supplemental RI FS Work Plan ELT May 2014

Section 6

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Tables

TABLE 1-1
SITE CHRONOLOGY
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Year	Month	CERCLA Activities	RCRA Activities	SPDES Activities	Description
1942					Nepera plant begins operations. Operated by Pyridium Corporation. Manufactures bulk and fine pharmaceutical chemicals, hydrogels, and pyridine-based chemical intermediates.
1942					Begin spreading of solidified process wastes (neutralized with lime) in location of present-day parking lot.
1945	September				Incineration of waste products in bum pits commences.
1947-1948					Land spreading of solidified process wastes ceases.
1953					On-site disposal of calcium sulfate sludge ceases.
1956					Pyridium Corporation and its affiliate, Nepera Chemical Company, purchased by Warner-Lambert Company. Nepera, Inc. formed as a wholly owned subsidiary in 1957 of Warner-Lambert Company.
1957	May				Incineration of waste products in bum pits ceases.
Mid 1960s					Wastewater lagoon constructed.
1976					In 1976, Nepera, Inc. becomes a wholly owned subsidiary of Schering, A.G. of Berlin, Germany.
Mid 1980s					Buried drums removed from areas near Buildings 67 and 75 and southern boundary of Site.
1986					Schering, A.G. sells Nepera to Cambrex.
1986	March	X			Plant Wide Hydrogeologic Investigation report issued.
1988	March	X			Nepera, Inc. and Warner Lambert enter into Stipulation Agreement with NYSDEC.
1989	Juiy	X			Phase I Hydrogeologic Investigation/Interim Remedial Measures report issued.
1989	December	X			Remedial Investigation/Feasibility Study (RI/FS) Work Plan submitted to NYSDEC.
1990	Juiy	X			NYSDEC conditionally approves RI/FS Work Plan.
1990		X			IRM groundwater extraction system installed and begins operating.
1991	March	X			Revised RI/FS Work Plan Addendum and QAPP submitted to NYSDEC.
1991	April	X			Commence RI field investigations.
1992	June	X			RI field investigations completed.
1992	July	X			RI Report submitted to NYSDEC.
1994	April	X			NYSDEC provides comments on RI Report.
1994	June		X		NYSDEC completes RCRA Facility Assessment (RFA).
1994	November	X			FS Report submitted to NYSDEC. (NYSDEC did not review the report and requested submission of a Phase I FS report.)
1994	December	X			NYSDEC provides additional comments on RI Report.

TABLE 1-1
SITE CHRONOLOGY
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Year	Month	CERCLA Activities	RCRA Activities	SPDES Activities	Description
1995	1st half	X			Additional RI activities performed.
1995	June	X			Phase I FS Report submitted to NYSDEC. (NYSDEC provided comments that were incorporated into a revised FS report.)
1995	July	X			Revised RI Report submitted to NYSDEC.
1995	September	X			NYSDEC provides comments on revised RI Report. Response to comments submitted to NYSDEC.
1995	September	X			Revised FS Report submitted to NYSDEC.
1995	November	X			Final RI Report submitted to NYSDEC.
1995	November	X			NYSDEC provides comments on revised FS Report.
1995	November	X			NYSDEC conducts surface water sampling in West Branch of Ramapo River.
1996	January	X			FS Report Addendum submitted to NYSDEC.
1997	March	X			NYSDEC issues Record of Decision (ROD).
1998	May	X			Trust enters into Consent Decree to implement the remedy selected in the ROD.
1999	July		X		Part 373 Hazardous Waste Management Permit issued to Nepera Inc. Permit subsequently transferred to Rutherford Chemicals, LLC.
1999		X			Additional sentry wells installed to complete array of down-gradient monitoring; additional wells installed in vicinity of Building 53.
1999-2001		X			Drum and contaminated soil removal from Area F and Building 53 performed. Excavation Summary Report submitted to NYSDEC in March 2001.
2001		X			Sediment excavation from Area K completed.
2001		X			Soil vapor extraction tested and found to be ineffective. SVE/VER Test Report submitted to NYSDEC.
2001-2002		X			Building 13 seep investigation and IRM completed. Building 13 Seep Investigation Report submitted to NYSDEC in October 2002.
2001-2005				X	Pollutant Minimization Plan developed and implemented under SPDES permit to identify/control plant sources of mercury.
2001	June/July	X			NYSDEC conducts a fish study for West Branch of Ramapo River and issues a fact sheet.
2002		X			Groundwater remediation by biosparging commences.
2002-2005		X			Activities performed in MW-1S area. MW-1 Groundwater Evaluation Work Plan developed and implemented. Biosparge system installed and operated for two years. MW-1 Groundwater Evaluation Report submitted to NYSDEC in February 2004.
2003	November				Nepera, Inc. purchased by Rutherford Chemicals, LLC.
2004	September	X			Groundwater extraction wells taken off line.
2005	May	X			Riverbank Capping Work Plan submitted to NYSDEC.
2005	May				All manufacturing operations ceased.

TABLE 1-1
SITE CHRONOLOGY
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Year	Month	CERCLA Activities	RCRA Activities	SPDES Activities	Description
2005	May	X			Erosion control IRM implemented along the stream bank.
2005	July		X		Equipment shutdown, cleanout and decontamination begun.
2005	August		X		Incinerator shut down.
2005	September		X		NYSDEC issues Documentation of Environmental Indicator (EI) Determination; concludes current human exposures are under control.
2005	September				Last product shipped off site.
2005	November	X			Conceptual Plan for Riverbank Stabilization submitted to NYSDEC.
2005			X		Above-ground portions of all TSD units closed pursuant to permit and approved RCRA Closure Plan
2006	May		X		NYSDEC requires Rutherford Chemicals to prepare RCRA Facility Investigation (RFI) Work Plan.
2006	July		X		Meeting with NYSDEC on 7/26/06 to review scope of RFI and proposed sampling approach.
2006	August		X		Draft RFI Work Plan submitted to NYSDEC.
2006	October		X		Equipment shutdown, cleanout and decontamination completed.
2006	October		X		NYSDEC conditional approval of RFI Work Plan. RFI field investigation begun.
2006	November		X		Final RFI Work Plan submitted to NYSDEC.
2007	January		X		RFI field activities completed.
2007	January		X		NYSDEC site visit to observe RCRA Closure activities; letter issued 1/11/07 regarding sampling requirements.
2007	April		X		RFI Report submitted to NYSDEC.
2007	April		X		Meeting with NYSDEC on 4/25/07 to review findings of RFI.
2007	April	X			Stream bank IRM repaired and enhanced following a flooding event that caused minor damage.
2007	July		X		NYSDEC comments on RFI Report; requires Phase II RFI Work Plan and CMS Plan.
2007	August		X		Draft responses to comments on RFI Report submitted to NYSDEC for review and discussion.
2007	September		X		Meeting with NYSDEC and NYSDOH to discuss comments on RFI Report.
2007	October		X		Addendum to RFI Report submitted to NYSDEC.
2007	November		X		Phase II RFI Work Plan, CMS Plan and Task I Report submitted to NYSDEC.
2007	November				ELT Harriman, LLC purchases the site.
2007	December			X	ELT Harriman submits application for transfer of existing SPDES permit.
2008	February		X		NYSDEC approves Phase II RFI Work Plan.
2008	May	X			Conceptual Site Model and Supplemental Remedial Action Work Plan submitted to NYSDEC.
2008	August		X		Phase II (Supplemental) RFI Technical Memo submitted to NYSDEC.

TABLE 1-1
SITE CHRONOLOGY
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Year	Month	CERCLA Activities	RCRA Activities	SPDES Activities	Description
2008	September	X			Biosparge system taken off line.
2008	September		X		NYSDEC comments on CMS Plan and Task I Report. States that parking lot must be included in CMS.
2008	November	X	X		Letter from West Firm to NYSDEC in response to NYSDEC comment to include parking lot in CMS.
2008-present		X			Semiannual groundwater sampling and analysis performed at on-site monitoring wells in accordance with Supplemental Remedial Action Work Plan.
2009	February		X		NYSDEC letter re CMS scope and schedule clarifies that parking lot is not to be included in CMS, requests interim CMS Report by March 16, 2009 and CMS Report by April 30, 2009.
2009	March		X		Interim CMS Report submitted to NYSDEC on March 16, 2009.
2009	May		X		NYSDEC comments on Interim CMS report; requires additional mercury speciation analysis.
2009	June		X		Letter from ELT to NYSDEC regarding schedule for responding to comments in Interim CMS report.
2009	July		X		Letter from BC to NYSDEC responding to comments on Interim CMS Report.
2009	September		X		Supplemental Mercury Speciation Work Plan submitted to NYSDEC.
2009	November		X		NYSDEC comments on Supplemental Mercury Speciation Work Plan and requests a conference call to further discuss the issues.
2009	November	X			Letter from NYSDEC OGC to multiple parties requesting delineation sampling of parking lot area.
2009	November	X	X		Letter from West Firm to NYSDEC OGC regarding responsibilities under regulatory programs.
2009	December	X	X		Letter from NYSDEC OGC to West Firm regarding responsibilities under regulatory programs.
2010	April	X			Parking Lot investigation completed and report submitted to NYSDEC.
2010	April			X	SPDES permit expires after DEC elects not to transfer the existing permit to ELT Harriman.
2010	June			X	Closure Plan submitted to NYSDEC for SPDES Lagoon.
2010	August			X	ELT Harriman submits application for new SPDES permit.
2010	August		X		Conference call with NYSDEC on 8/6/11 to discuss supplemental mercury speciation study and CMS.
2010	August				NYSDEC site visit on 8/11/11 to observe condition of parking lot area and fencing.
2010	August				Letter from West Firm to NYSDEC regarding condition of parking lot and fencing.
2010	August				Letter from NYSDEC regarding fencing around parking lot area.
2010	October				NYSDEC letter to ELT regarding condition of parking lot and fencing.
2010	October				Work plan for fence installation submitted to NYSDEC by Environmental Operations, Inc.
2010	November				NYSDEC approves work plan for fence installation; work completed (documented in 2/18/11 memo prepared by BC).
2010	December	X	X		ELT/Trust meet with NYSDEC to provide site technical orientation and update.

TABLE 1-1
SITE CHRONOLOGY
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Year	Month	CERCLA Activities	RCRA Activities	SPDES Activities	Description
2010	December	X	X		NYSDEC provides draft Scope of Work requiring additional investigation to address alleged data gaps.
2011	January	X	X		Response to draft Scope of Work submitted to NYSDEC.
2011	February	X	X		NYSDEC issues letter requesting submission of a Sitewide Characterization Summary Report within 30 days.
2011	March	X	X		Site-Wide Characterization Summary Report submitted jointly by ELT and Trust to NYSDEC.
2011	August			X	NYSDEC issues new SPDES Permit to ELT.
2011	August	X	X		Meeting with NYSDEC at Site to discuss Summary Report and draft SOW.
2011	September	X	X		ELT and Trust provide comments on draft SOW to NYSDEC.
2012	September	X	X		NYSDEC provides draft Consent Order with SOW to ELT and Trust for review.
2012	October	X	X		Meeting with NYSDEC to discuss draft Consent Order and SOW.
2012	November	X	X		ELT and Trust provide comments on draft SOW to NYSDEC.
2012	December	X	X		Additional correspondence with NYSDEC regarding draft SOW; ELT and Trust submit proposed revisions.
2013	January	X	X		NYSDEC indicates that proposed revisions to draft SOW are acceptable.
2013	October	X	X	X	NYSDEC issues letter dated October 28, 2013, revised October 29, 2013, setting forth outstanding liability for remediation and the parties responsible for various aspects of the remediation ("DEC Determination").
2013	December		X		ELT submits Supplemental Remedial Investigation/Feasibility Study (SRI/FS) Work Plan on December 20, 2013.
2014	January		X		NYSDE holds meeting with ELT at NYSDEC Offices on January 16, 2014. Comments on work plan are provided.
2014	January		X		ELT submits revised SRI/FS Work Plan on January 31, 2014.
2014	February	X			Trust submits Supplemental Remedial Investigation/Feasibility Study Work Plan.
2014	March		X		ELT submits revised SRI/FS Work Plan on March 21, 2014.
2014	April			X	ELT submits application to modify SPDES permit to allow discharges related to demolition and remediation activities.
2014	May		X		ELT submits final SRI/FS Work Plan on May 19, 2014.
2014	May		X		NYSDEC approves SRI/FS Work Plan on May 20, 2014 via email.
2014	May		X		NYSDEC issues new Consent Order to ELT, dated May 29, 2014.
2014	July	X			SRI Field Activities: Sediment sampling during the week of 7/7/2014, Soil and Soil Vapor sampling during the week of 7/21/2014
2014	September		X		ELT provide demolition and abatement work plan to NYSDEC on 9/9/2014
2014	September			X	Modification to SPDES Permit approved by NYSDEC to allow for demolition and remediation activities on 9/11/2014.
2014	October		X		NYSDEC approves demolition and abatement work plan on 10/7/2014

TABLE 2-1
SAMPLING AND ANALYSIS SUMMARY
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Site Area	Sample Location	Sample ID	Matrix	Sample Date	Rationale	Sample Depth	Analytes (see notes)
Soil Samples							
Area A	01-B-003	01-B-003-0-1	Soil	7/22/2014	SWMU Soil Characterization	0-1 ft	VOC, SVOC, Metals, Ammonia, PCBs
Area A	01-B-003	01-B-003-3.6-4.6	Soil	7/22/2014	SWMU Soil Characterization	3.6-4.6 ft	VOC, SVOC, Metals, Ammonia, PCBs
Area A	02-B-003	02-B-003-0-1	Soil	7/24/2014	SWMU Soil Characterization	0-1 ft	VOC, SVOC, Metals, Ammonia, PCBs
Area A	02-B-003	DUP-20140724	Soil Duplicate	7/24/2014	Soil Investigation QA/QC	0-1 ft	VOC, SVOC, Metals, Ammonia, PCBs
Area A	02-B-003	02-B-003-1-2	Soil	7/24/2014	SWMU Soil Characterization	1-2 ft	VOC, SVOC, Metals, Ammonia, PCBs
Area A	13-B-004	13-B-004-0-1	Soil	7/24/2014	SWMU Soil Characterization	0-1 ft	VOC, SVOC, Metals, Ammonia, PCBs
Area A	13-B-004	13-B-004-5-6	Soil	7/24/2014	SWMU Soil Characterization	4-5 ft	VOC, SVOC, Metals, Ammonia, PCBs
Area A	20-B-002	20-B-002-0-1	Soil	7/23/2014	SWMU Soil Characterization	0-1 ft	VOC, SVOC, Metals, Ammonia, PCBs
Area A	20-B-002	20-B-002-4-5	Soil	7/23/2014	SWMU Soil Characterization	4-5 ft	VOC, SVOC, Metals, Ammonia, PCBs
Area A	20-B-002	DUP-2-20140723	Soil Duplicate	7/23/2014	Soil Investigation QA/QC	4-5 ft	VOC, SVOC, Metals, Ammonia, PCBs
Area A	20-B-003	20-B-003-0-1	Soil	7/23/2014	SWMU Soil Characterization	0-1 ft	VOC, SVOC, Metals, Ammonia, PCBs
Area A	20-B-003	20-B-003-4-5	Soil	7/23/2014	SWMU Soil Characterization	4-5 ft	VOC, SVOC, Metals, Ammonia, PCBs
Area A	28-B-003	28-B-003-0-1	Soil	7/22/2014	SWMU Soil Characterization	0-1 ft	VOC, SVOC, Metals, Ammonia, PCBs
Area A	28-B-003	28-B-003-5.9-6.9	Soil	7/22/2014	SWMU Soil Characterization	5.9-6.9 ft	VOC, SVOC, Metals, Ammonia, PCBs
Area A	28-B-004	28-B-004-0-1	Soil	7/22/2014	SWMU Soil Characterization	0-1 ft	VOC, SVOC, Metals, Ammonia, PCBs
Area A	28-B-004	28-B-004-3.2-4.2	Soil	7/22/2014	SWMU Soil Characterization	3.2-4.2 ft	VOC, SVOC, Metals, Ammonia, PCBs
Area A	05-B-002	05-B-002-0-1	Soil	7/24/2014	SWMU Soil Characterization	0-1ft	VOC, SVOC, Metals, Ammonia, PCBs
Area A	05-B-002	05-B-002-5-6	Soil	7/24/2014	SWMU Soil Characterization	5-6 ft	VOC, SVOC, Metals, Ammonia, PCBs
Area A	A-B-125	A-B-125-0-1	Soil	7/22/2014	Non-SWMU Soil Characterization	0-1 ft	VOC, SVOC, Metals, Ammonia, PCBs
Area A	A-B-125	A-B-125-4.4-5.4	Soil	7/22/2014	Non-SWMU Soil Characterization	4.4-5.4 ft	VOC, SVOC, Metals, Ammonia, PCBs
Area A	A-B-126	A-B-126-0-1	Soil	7/22/2014	Non-SWMU Soil Characterization	0-1 ft	VOC, SVOC, Metals, Ammonia, PCBs
Area A	A-B-126	A-B-126-4-5	Soil	7/22/2014	Non-SWMU Soil Characterization	4-5 ft	VOC, SVOC, Metals, Ammonia, PCBs
Area E	E-B-008	E-B-008-0-1	Soil	7/23/2014	Non-SWMU Soil Characterization	0-1 ft	VOC, SVOC, Metals, Ammonia, PCBs
Area E	E-B-008	E-B-008-7-8	Soil	7/23/2014	Non-SWMU Soil Characterization	7-8 ft	VOC, SVOC, Metals, Ammonia, PCBs
Area G	57-B-001	57-B-001-0-1	Soil	7/23/2014	SWMU Soil Characterization	0-1 ft	VOC, SVOC, Metals, Ammonia, PCBs
Area G	57-B-001	57-B-001-1-2	Soil	7/23/2014	SWMU Soil Characterization	1-2 ft	VOC, SVOC, Metals, Ammonia, PCBs
Area G	57-B-001	DUP-20140723	Soil Duplicate	7/23/2014	Soil Investigation QA/QC	1-2 ft	VOC, SVOC, Metals, Ammonia, PCBs
Area G	67-B-003	67-B-003-0-1	Soil	7/22/2014	SWMU Soil Characterization	2 Samples/Boring	VOC, SVOC, Metals, Ammonia, PCBs
Area G	67-B-003	67-B-003-4-5	Soil	7/22/2014	SWMU Soil Characterization	2 Samples/Boring	VOC, SVOC, Metals, Ammonia, PCBs
Area G	67-B-004	67-B-004-0-1	Soil	7/22/2014	SWMU Soil Characterization	0-1 ft	VOC, SVOC, Metals, Ammonia, PCBs
Area G	67-B-004	67-B-004-2-3	Soil	7/22/2014	SWMU Soil Characterization	2-3 ft	VOC, SVOC, Metals, Ammonia, PCBs
Area A	02-B-004	02-B-004-7-8	Soil	7/24/2014	Delineation of Source Material	7-8 ft	Total Mercury
Area A	05-B-002	05-B-002-7-8	Soil	7/24/2014	Delineation of Source Material	7-8 ft	Total Mercury
Area A	29-B-004	29-B-004-6-7	Soil	7/24/2014	Delineation of Source Material	7-8 ft	Total Mercury
Area A	37-B-002	37-B-002-5-6	Soil	7/24/2014	Delineation of Source Material	5-6 ft	Total Mercury
Area A	70-B-002	70-B-002-7-8	Soil	7/23/2014	Delineation of Source Material	7-8 ft	Total Mercury
Area A	A-B-127	A-B-127-5-6	Soil	7/24/2014	Non-SWMU Delineation of Source Material	5-6 ft	Total Mercury
Area A	A-B-127	A-B-127-7-8	Soil	7/24/2014	Non-SWMU Delineation of Source Material	7-8 ft	Total Mercury
Area A	A-B-128	A-B-128-2-3	Soil	7/24/2014	Non-SWMU Delineation of Source Material	2-3 ft	Total Mercury
Area A	A-B-128	A-B-128-7-8	Soil	7/24/2014	Non-SWMU Delineation of Source Material	7-8 ft	Total Mercury
Area A	A-B-129	A-B-129-2-3	Soil	7/24/2014	Non-SWMU Delineation of Source Material	2-3 ft	Total Mercury
Area A	A-B-129	A-B-129-7-8	Soil	7/24/2014	Non-SWMU Delineation of Source Material	7-8 ft	Total Mercury
Area A	A-B-130	A-B-130-6-7	Soil	7/23/2014	Non-SWMU Delineation of Source Material	6-7 ft	Total Mercury
Area A	A-B-130	A-B-130-7-8	Soil	7/23/2014	Non-SWMU Delineation of Source Material	7-8 ft	Total Mercury
Area A	A-B-131	A-B-131-6-7	Soil	7/23/2014	Non-SWMU Delineation of Source Material	6-7 ft	Total Mercury
Area A	A-B-131	A-B-131-7-8	Soil	7/23/2014	Non-SWMU Delineation of Source Material	7-8 ft	Total Mercury
Area E	E-B-006	E-B-006-4-5	Soil	7/23/2014	Delineation of Source Material	4-5 ft	Total Mercury
Area E	E-B-006	E-B-006-7-8	Soil	7/23/2014	Delineation of Source Material	7-8 ft	Total Mercury
Area E	E-B-007	E-B-007-4-5	Soil	7/23/2014	Delineation of Source Material	4-5 ft	Total Mercury
Area E	E-B-007	E-B-007-6-7	Soil	7/23/2014	Delineation of Source Material	6-7 ft	Total Mercury
	N/A	FB-20140722	Field Blank	7/22/2014	Soil Investigation QA/QC	N/A	VOC, SVOC, Metals, Ammonia, PCBs
	N/A	FB-20140723	Field Blank	7/23/2014	Soil Investigation QA/QC	N/A	VOC, SVOC, Metals, Ammonia, PCBs
	N/A	FB-20140724	Field Blank	7/24/2014	Soil Investigation QA/QC	N/A	VOC, SVOC, Metals, Ammonia, PCBs
	N/A	TRIPBLANK	Trip Blank	7/22/2014	Soil Investigation QA/QC	N/A	VOCs
	N/A	TRIP BLANK 20140723	Trip Blank	7/23/2014	Soil Investigation QA/QC	N/A	VOCs
	N/A	TRIP BLANK 20140724	Trip Blank	7/24/2014	Soil Investigation QA/QC	N/A	VOCs
	N/A	TRIP BLANK -2- 20140724	Trip Blank	7/24/2014	Soil Investigation QA/QC	N/A	VOCs
Soil Vapor Samples							
Area A	01-SV-001	01-SV-001	Soil Vapor	7/23/2014	Soil Vapor Investigation	4 ft	VOCs
Area A	70-SV-001	70-SV-001	Soil Vapor	7/23/2014	Soil Vapor Investigation	4 ft	VOCs
Area G	67-SV-001	67-SV-001	Soil Vapor	7/23/2014	Soil Vapor Investigation	4 ft	VOCs
Area G	67-SV-001	SV-DUP072314	Soil Vapor Duplicate	7/23/2014	Soil Vapor Investigation QA/QC	4 ft	VOCs

TABLE 2-1
SAMPLING AND ANALYSIS SUMMARY
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Site Area	Sample Location	Sample ID	Matrix	Sample Date	Rationale	Sample Depth	Analytes (see notes)
Stormwater Sediment Samples							
Area B	Drain-SD-001	Drain-SD-001	Sediment	7/7/2014	Stormwater Evaluation	0-6" within catch basin	VOC, SVOC, Metals, Ammonia, PCBs
Area B	Drain-SD-001	DUP-20140707	Sediment	7/7/2014	Stormwater Evaluation QA/QC	0-6" within catch basin	VOC, SVOC, Metals, Ammonia, PCBs
Area B	Drain-SD-002	Drain-SD-002	Sediment	7/7/2014	Stormwater Evaluation	0-6" within catch basin	VOC, SVOC, Metals, Ammonia, PCBs
Area A	Drain-SD-008	Drain-SD-008	Sediment	7/8/2014	Stormwater Evaluation	0-6" within catch basin	VOC, SVOC, Metals, Ammonia, PCBs
Area A	Drain-SD-009	Drain-SD-009	Sediment	7/7/2014	Stormwater Evaluation	0-6" within catch basin	VOC, SVOC, Metals, Ammonia, PCBs
Area A	Drain-SD-010	Drain-SD-010	Sediment	7/7/2014	Stormwater Evaluation	0-6" within catch basin	VOC, SVOC, Metals, Ammonia, PCBs
Area A	Drain-SD-011	Drain-SD-011	Sediment	7/7/2014	Stormwater Evaluation	0-6" within catch basin	VOC, SVOC, Metals, Ammonia, PCBs
Area A	Drain-SD-012	Drain-SD-012	Sediment	7/7/2014	Stormwater Evaluation	0-6" within catch basin	VOC, SVOC, Metals, Ammonia, PCBs
Lagoon Sediment Samples							
Area C	C-SD-006	C-SD-006-0-1	Sediment	7/8/2014	Lagoon Evaluation	0-1 ft	VOC, SVOC, Metals, Ammonia, PCBs, Grain Size
Area C	C-SD-007	C-SD-007-0-1	Sediment	7/8/2014	Lagoon Evaluation	0-1 ft	VOC, SVOC, Metals, Ammonia, PCBs, Grain Size
Area C	C-SD-008	C-SD-008-0-1	Sediment	7/8/2014	Lagoon Evaluation	0-1 ft	VOC, SVOC, Metals, Ammonia, PCBs, Grain Size
Area C	C-SD-008	DUP-20140708	Sediment Duplicate	7/8/2014	Lagoon Evaluation QA/QC	0-1 ft	VOC, SVOC, Metals, Ammonia, PCBs, Grain Size
Area C	C-SD-009	C-SD-009-0-1	Sediment	7/7/2014	Lagoon Evaluation	0-1 ft	VOC, SVOC, Metals, Ammonia, PCBs, Grain Size
	N/A	FB-20140707	Field Blank	7/7/2014	Lagoon/Drain Evaluation QA/QC	N/A	VOC, SVOC, Metals, Ammonia, PCBs, Grain Size
	N/A	FB-20140708	Field Blank	7/8/2014	Lagoon/Drain Evaluation QA/QC	N/A	VOC, SVOC, Metals, Ammonia, PCBs, Grain Size
	N/A	TRIP BLANK 20140707	Trip Blank	7/7/2014	Lagoon/Drain Evaluation QA/QC	N/A	VOC
	N/A	TRIP BLANK 20140708	Trip Blank	7/8/2014	Lagoon/Drain Evaluation QA/QC	N/A	VOC

NOTES - ANALYTES:
- VOCs to be analyzed by Method 8260B for soils, Method TO-15 for Soil Vapor.
- SVOCs to be analyzed by Method 8270C and to include pyridine and alpha-picoline.
- Metals to be analyzed by Method 7000/7471A/6020 and to include lead and total mercury.
- PCBs to be analyzed by Method 8082.
- Ammonia to be analyzed by MCAW 350.2M.

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Sample ID	01-B-003-0-1	01-B-003-3.6-4.6	02-B-003-0-1	DUP-20140724	02-B-003-1-2
						Location ID	01-B-003	01-B-003	02-B-003	02-B-003	02-B-003
						Sample Date	7/22/2014	7/22/2014	7/24/2014	7/24/2014	7/24/2014
						Sample Interval	0-1	3.6-4.6	0-1	0-1	1-2
						Units					
Metals											
Aluminum						MG/KG	12500	14100	12200	10800	15300
Antimony						MG/KG	0.564 U	0.544 U	0.668 J	0.537 UJ	0.88 UJ
Arsenic	13	16	16	16	16	MG/KG	2.39	3.78	4.3	4.02	6.63
Barium	350	350	400	400	10000	MG/KG	39.5	39.7	48.6	40.3	160
Beryllium	7.2	14	72	590	2700	MG/KG	0.572	0.598	0.468	0.443	0.704 U
Cadmium	2.5	2.5	4.3	9.3	60	MG/KG	0.451 U	0.436 U	0.481	0.535	1.13
Calcium						MG/KG	1210	3710	8120 J	22100 J	15800
Chromium				400		MG/KG	14	17.9	20	13.6	23
Cobalt						MG/KG	6.49	9.91	8.8	8.87	8.8
Copper	50	270	270	270	10000	MG/KG	18.1	21.3	1090 J	28.7 J	1380
Iron						MG/KG	23400	28300	20900	23100	28200
Lead	63	400	400	1000	3900	MG/KG	14.6	10.7	26.4 J	10.8 J	136
Magnesium						MG/KG	3990	6090	4490	5780	6340
Manganese	1600	2000	2000	10000	10000	MG/KG	174	892	554	528	644
Mercury	0.18	0.81	0.81	2.8	5.7	MG/KG	32.6	0.0414 UJ	0.575 J	0.141 J	572
Nickel	30	140	310	310	10000	MG/KG	18.2	26	23	19.3	41
Potassium						MG/KG	1140	1070	1200	1180	2530
Selenium	3.9	36	180	1500	6800	MG/KG	1.13 U	1.09 U	1.12 U	1.07 U	1.76 U
Silver	2	36	180	1500	6800	MG/KG	0.789 U	0.762 U	0.783 U	0.752 U	1.23 U
Sodium						MG/KG	74.5	68.1	169 J	72.1 J	459
Thallium						MG/KG	1.13 U	1.09 U	1.12 U	1.07 U	1.76 U
Vanadium						MG/KG	16.5	18.3	16	13.5	20.9
Zinc	109	2200	10000	10000	10000	MG/KG	53.6	73.3	102	64.2	197

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID	01-B-003-0-1	01-B-003-3.6-4.6	02-B-003-0-1	DUP-20140724	02-B-003-1-2
							Location ID	01-B-003	01-B-003	02-B-003	02-B-003	02-B-003
							Sample Date	7/22/2014	7/22/2014	7/24/2014	7/24/2014	7/24/2014
							Sample Interval	0-1	3.6-4.6	0-1	0-1	1-2
PCBs												
Aroclor 1016				1		MG/KG		0.0575 U	0.0539 U	0.0557 U	0.0513 U	0.0876 U
Aroclor 1221				1		MG/KG		0.0575 U	0.0539 U	0.0557 U	0.0513 U	0.0876 U
Aroclor 1232				1		MG/KG		0.0575 U	0.0539 U	0.0557 U	0.0513 U	0.0876 U
Aroclor 1242				1		MG/KG		0.0575 U	0.0539 U	0.0557 U	0.0513 U	0.0876 U
Aroclor 1248				1		MG/KG		0.0575 U	0.0539 U	0.0557 U	0.0513 U	0.0876 U
Aroclor 1254				1		MG/KG		0.609 J	0.0539 U	0.884 J	0.0513 UJ	0.0876 U
Aroclor 1260				1		MG/KG		0.0575 U	0.0539 U	0.0557 U	0.0513 U	0.0876 U
Total PCBs	0.1	1	1	1	25	MG/KG		0.609 J	0.0539 U	0.884 J	0.0513 UJ	0.0876 U
VOCs												
1,1,1,2-Tetrachloroethane						MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
1,1,1-Trichloroethane	0.68	100	100	500	1000	MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
1,1,2,2-Tetrachloroethane						MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
1,1,2-Trichloro-1,2,2-trifluoroethane						MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
1,1,2-Trichloroethane						MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
1,1-Dichloroethane	0.27	19	26	240	480	MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
1,1-Dichloroethene	0.33	100	100	500	1000	MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
1,1-Dichloropropene						MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
1,2,3-Trichlorobenzene						MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
1,2,3-Trichloropropane						MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
1,2,4,5-Tetramethylbenzene						MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.5
1,2,4-Trichlorobenzene						MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
1,2,4-Trimethylbenzene	3.6	47	52	190	380	MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.5
1,2-Dibromo-3-chloropropane (DBCP)						MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
1,2-Dibromoethane (EDB)						MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
1,2-Dichlorobenzene	1.1	100	100	500	1000	MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
1,2-Dichloroethane	0.02	2.3	3.1	30	60	MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID 01-B-003-0-1 Location ID 01-B-003 Sample Date 7/22/2014 Sample Interval 0-1	Sample ID 01-B-003-3.6-4.6 Location ID 01-B-003 Sample Date 7/22/2014 Sample Interval 3.6-4.6	Sample ID 02-B-003-0-1 Location ID 02-B-003 Sample Date 7/24/2014 Sample Interval 0-1	Sample ID DUP-20140724 Location ID 02-B-003 Sample Date 7/24/2014 Sample Interval 0-1	Sample ID 02-B-003-1-2 Location ID 02-B-003 Sample Date 7/24/2014 Sample Interval 1-2
1,2-Dichloropropane						MG/KG	0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
1,2-Dimethylbenzene (o-Xylene)						MG/KG	0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
1,3,5-Trimethylbenzene (mesitylene)	8.4	47	52	190	380	MG/KG	0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
1,3-Dichlorobenzene	2.4	17	49	280	560	MG/KG	0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
1,3-Dichloropropane						MG/KG	0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
1,4-Dichlorobenzene	1.8	9.8	13	130	250	MG/KG	0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
2,2-Dichloropropane						MG/KG	0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
2-Butanone (MEK)	0.12	100	100	500	1000	MG/KG	0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
2/4-Chlorotoluene Coelution						MG/KG	0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
4-Isopropyltoluene (p-Cymene)						MG/KG	0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
4-Methyl-2-pentanone (MIBK)						MG/KG	0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
Acetone	0.05	100	100	500	1000	MG/KG	0.0097 UJ	0.029 UJ	0.0088 U	0.0089 U	1.4 U
Benzene	0.06	2.9	4.8	44	89	MG/KG	0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
Bromobenzene						MG/KG	0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
Bromochloromethane						MG/KG	0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
Bromodichloromethane						MG/KG	0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
Bromoform						MG/KG	0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
Bromomethane						MG/KG	0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
Carbon tetrachloride	0.76	1.4	2.4	22	44	MG/KG	0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
Chlorobenzene	1.1	100	100	500	1000	MG/KG	0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
CHLORODIFLUOROMETHANE						MG/KG	0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
Chloroethane						MG/KG	0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
Chloroform	0.37	10	49	350	700	MG/KG	0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
Chloromethane						MG/KG	0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
cis-1,2-Dichloroethene	0.25	59	100	500	1000	MG/KG	0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
cis-1,3-Dichloropropene						MG/KG	0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
Dibromochloromethane						MG/KG	0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID	01-B-003-0-1	01-B-003-3.6-4.6	02-B-003-0-1	DUP-20140724	02-B-003-1-2
							Location ID	01-B-003	01-B-003	02-B-003	02-B-003	02-B-003
							Sample Date	7/22/2014	7/22/2014	7/24/2014	7/24/2014	7/24/2014
							Sample Interval	0-1	3.6-4.6	0-1	0-1	1-2
Dibromomethane						MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
Dichlorodifluoromethane (Freon 12)						MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
Ethyibenzene	1	30	41	390	780	MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
Hexachlorobutadiene						MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
Isopropylbenzene (Cumene)						MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
Methylene chloride	0.05	51	100	500	1000	MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
Naphthalene	12	100	100	500	1000	MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
n-Butylbenzene	12	100	100	500	1000	MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
n-Propylbenzene	3.9	100	100	500	1000	MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
p-Diethylbenzene						MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
sec-Butylbenzene	11	100	100	500	1000	MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
Styrene						MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
tert-Butylbenzene	5.9	100	100	500	1000	MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
Tetrachioroethene (PCE)	1.3	5.5	19	150	300	MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
Toluene	0.7	100	100	500	1000	MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
trans-1,2-Dichloroethene	0.19	100	100	500	1000	MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
trans-1,3-Dichloropropene						MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
Trichloroethene (TCE)	0.47	10	21	200	400	MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
Trichlorofluoromethane (Freon 11)						MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
Vinyl chloride	0.02	0.21	0.9	13	27	MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
Xylenes, m & p						MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U
Xylenes, total	0.26	100	100	500	1000	MG/KG		0.008 U	0.0091 U	0.0088 U	0.0089 U	1.4 U

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Sample ID	01-B-003-0-1	01-B-003-3.6-4.6	02-B-003-0-1	DUP-20140724	02-B-003-1-2
						Location ID	01-B-003	01-B-003	02-B-003	02-B-003	02-B-003
						Sample Date	7/22/2014	7/22/2014	7/24/2014	7/24/2014	7/24/2014
						Sample Interval	0-1	3.6-4.6	0-1	0-1	1-2
						Units					
SVOCs											
1,2,4-Trichlorobenzene						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
1,2-Dichlorobenzene	1.1	100	100	500	1000	MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
1,3-Dichlorobenzene	2.4	17	49	280	560	MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
1,4-Dichlorobenzene	1.8	9.8	13	130	250	MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
2,4,5-Trichlorophenol						MG/KG	0.95 U	0.92 U	0.93 U	0.87 U	1.1 U
2,4,6-Trichlorophenol						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
2,4-Dichlorophenol						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
2,4-Dimethylphenol						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
2,4-Dinitrophenol						MG/KG	0.95 U	0.92 U	0.93 U	0.87 U	5.5 U
2,4-Dinitrotoluene						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
2,6-Dinitrotoluene						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
2-Chloronaphthalene						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
2-Chlorophenol						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
2-Methylnaphthalene						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
2-Methylphenol (o-cresol)	0.33	100	100	500	1000	MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
2-Nitroaniline						MG/KG	0.95 U	0.92 U	0.93 U	0.87 U	1.1 U
2-Nitrophenol						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
3,3'-Dichlorobenzidine						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
3-Nitroaniline	5	10	15	20	25	MG/KG	0.95 U	0.92 U	0.93 U	0.87 U	1.1 U
4,6-Dinitro-2-methylphenol						MG/KG	0.95 U	0.92 U	0.93 U	0.87 U	5.5 U
4-Bromophenyl phenyl ether						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
4-Chloro-3-methylphenol						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
4-Chloroaniline						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
4-Chlorophenyl phenyl ether						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
4-Methylphenol	0.33	34	100	500	1000	MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
4-Nitroaniline						MG/KG	0.95 U	0.92 U	0.93 U	0.87 U	1.1 U

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Sample ID	01-B-003-0-1	01-B-003-3.6-4.6	02-B-003-0-1	DUP-20140724	02-B-003-1-2
						Location ID	01-B-003	01-B-003	02-B-003	02-B-003	02-B-003
						Sample Date	7/22/2014	7/22/2014	7/24/2014	7/24/2014	7/24/2014
						Sample Interval	0-1	3.6-4.6	0-1	0-1	1-2
						Units					
4-Nitrophenol						MG/KG	0.95 U	0.92 U	0.93 U	0.87 U	5.5 U
Acenaphthene	20	100	100	500	1000	MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
Acenaphthylene	100	100	100	500	1000	MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
Anthracene	100	100	100	500	1000	MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
Benzo(a)anthracene	1	1	1	5.6	11	MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
Benzo(a)pyrene	1	1	1	1	1.1	MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
Benzo(b)fluoranthene	1	1	1	5.6	11	MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
Benzo(g,h,i)perylene	100	100	100	500	1000	MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
Benzo(k)fluoranthene	0.8	1	3.9	56	110	MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
Benzyl butyl phthalate						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
bis(2-Chloroethoxy)methane						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
bis(2-Chloroethyl)ether						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
bis(2-Chloroisopropyl)ether						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
bis(2-Ethylhexyl)phthalate						MG/KG	0.39	0.37 U	0.42	0.35 U	1.1 U
Carbazole						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
Chrysene	1	1	3.9	56	110	MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1
Dibenz(a,h)anthracene	0.33	0.33	0.33	0.56	1.1	MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
Dibenzofuran	7	14	59	350	1000	MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
Diethyl phthalate						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
Dimethyl phthalate						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
dl-n-Butyl phthalate						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
dl-n-Octyl phthalate						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
Fluoranthene	100	100	100	500	1000	MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
Fluorene	30	100	100	500	1000	MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.2
Hexachlorobenzene	0.33	0.33	1.2	6	12	MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
Hexachlorobutadiene						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
Hexachlorocyclopentadiene						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Sample ID / Location ID / Sample Date / Sample Interval / Units	01-B-003-0-1 / 01-B-003 / 7/22/2014 / 0-1 / MG/KG	01-B-003-3.6-4.6 / 01-B-003 / 7/22/2014 / 3.6-4.6 / MG/KG	02-B-003-0-1 / 02-B-003 / 7/24/2014 / 0-1 / MG/KG	DUP-20140724 / 02-B-003 / 7/24/2014 / 0-1 / MG/KG	02-B-003-1-2 / 02-B-003 / 7/24/2014 / 1-2 / MG/KG
Hexachioroethane						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
Indeno(1,2,3-c,d)pyrene	0.5	0.5	0.5	5.6	11	MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
Isophorone						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
Naphthalene	12	100	100	500	1000	MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
Nitrobenzene						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
N-Nitroso-di-n-propylamine						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
N-Nitrosodiphenylamine						MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
Pentachlorophenol	0.8	2.4	6.7	6.7	55	MG/KG	0.95 U	0.92 U	0.93 U	0.87 U	5.5 U
Phenanthrene	100	100	100	500	1000	MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	2.7
Phenol	0.33	100	100	500	1000	MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
Pyrene	100	100	100	500	1000	MG/KG	0.38 U	0.37 U	0.37 U	0.35 U	1.1 U
Ammonia (as N)						MG/KG	14	60.9	5.59 U	5.27 U	32.7

Notes:
UU - Part 375 Unrestricted Use Criteria
Res - Part 375 Residential Criteria
RRes - Part 375 Restricted Residential Criteria
C - Part 375 Commercial Criteria
I - Part 375 Industrial Criteria
U - Constituent not detected above the associated detection limit
J - Estimated value
R - Rejected Result
Blue Box - Exceeds Part 375 Unrestricted Use Criteria
Green Box - Exceeds Part 375 Residential Criteria
Yellow Box- Exceeds Part 375 Restricted Residential Criteria
Orange Box- Exceeds Part 375 Commercial Criteria
Red Box - Exceeds Part 375 Industrial Criteria

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID	Location ID	Sample Date	Sample Interval
							05-B-002-0-1	05-B-002	7/24/2014	0-1
							05-B-002-5-6	05-B-002	7/24/2014	5-6
							05-B-002-7-8	05-B-002	7/24/2014	7-8
							13-B-004-0-1	13-B-004	7/24/2014	0-1
							13-B-004-5-6	13-B-004	7/24/2014	5-6
Metals										
Aluminum						MG/KG	12500	10200	10500	10100	12300
Antimony						MG/KG	0.573 UJ	0.524 UJ	0.554 UJ	0.557 U	0.568 U
Arsenic	13	16	16	16	16	MG/KG	9.94	3.53	3.75	5.88	4.36
Barium	350	350	400	400	10000	MG/KG	56.9	27	33.6	28.4	54
Beryllium	7.2	14	72	590	2700	MG/KG	0.571	0.451	0.461	0.446 U	0.527
Cadmium	2.5	2.5	4.3	9.3	60	MG/KG	0.581	0.564	0.56	0.792	0.902
Calcium						MG/KG	2000 J	1090	6440	11900	1960
Chromium				400		MG/KG	14	13.6	15.2	19.1	15.7
Cobalt						MG/KG	8.09	9.07	8.62	6.95	7.9
Copper	50	270	270	270	10000	MG/KG	37.1	19.9	24.2	177	33.2
Iron						MG/KG	21500	23400	21900	22400	23900
Lead	63	400	400	1000	3900	MG/KG	72.1 J	9.05	10.1	11.8	45
Magnesium						MG/KG	3520 J	4980	4880	6500	5240
Manganese	1600	2000	2000	10000	10000	MG/KG	402 J	572	506	459	616
Mercury	0.18	0.81	0.81	2.8	5.7	MG/KG	156	0.114	10.2	0.565	16
Nickel	30	140	310	310	10000	MG/KG	18.5	19.8	17.7	19.6	21.3
Potassium						MG/KG	1080 J	1050	970	934	1020
Selenium	3.9	36	180	1500	6800	MG/KG	1.15 U	1.05 U	1.11 U	1.11 U	1.14 U
Silver	2	36	180	1500	6800	MG/KG	0.803 U	0.734 U	0.776 U	0.78 U	0.795 U
Sodium						MG/KG	66.1	52.4 U	275	59.2	361
Thallium						MG/KG	1.15 U	1.05 U	1.11 U	1.11 U	1.14 U
Vanadium						MG/KG	17.5	15.6	18.3	13.4	21.2
Zinc	109	2200	10000	10000	10000	MG/KG	121 J	60.3	55.3	70.7	95.7

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID	05-B-002-0-1	05-B-002-5-6	05-B-002-7-8	13-B-004-0-1	13-B-004-5-6
							Location ID	05-B-002	05-B-002	05-B-002	13-B-004	13-B-004
							Sample Date	7/24/2014	7/24/2014	7/24/2014	7/24/2014	7/24/2014
							Sample Interval	0-1	5-6	7-8	0-1	5-6
PCBs												
Aroclor 1016				1		MG/KG		0.0553 U	0.0521 U	0.0543 U	0.0547 U	0.0584 U
Aroclor 1221				1		MG/KG		0.0553 U	0.0521 U	0.0543 U	0.0547 U	0.0584 U
Aroclor 1232				1		MG/KG		0.0553 U	0.0521 U	0.0543 U	0.0547 U	0.0584 U
Aroclor 1242				1		MG/KG		0.0553 U	0.0521 U	0.0543 U	0.0547 U	0.0584 U
Aroclor 1248				1		MG/KG		0.0553 U	0.0521 U	0.0543 U	0.0547 U	0.0584 U
Aroclor 1254				1		MG/KG		0.0553 U	0.0521 U	0.0543 U	0.0547 U	0.0584 U
Aroclor 1260				1		MG/KG		0.0553 U	0.0521 U	0.0543 U	0.0547 U	0.0584 U
Total PCBs	0.1	1	1	1	25	MG/KG		0.0553 U	0.0521 U	0.0543 U	0.0547 U	0.0584 U
VOCs												
1,1,1,2-Tetrachloroethane						MG/KG		0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U
1,1,1-Trichloroethane	0.68	100	100	500	1000	MG/KG		0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U
1,1,2,2-Tetrachloroethane						MG/KG		0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U
1,1,2-Trichloro-1,2,2-trifluoroethane						MG/KG		0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U
1,1,2-Trichloroethane						MG/KG		0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U
1,1-Dichloroethane	0.27	19	26	240	480	MG/KG		0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U
1,1-Dichloroethene	0.33	100	100	500	1000	MG/KG		0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U
1,1-Dichloropropene						MG/KG		0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U
1,2,3-Trichlorobenzene						MG/KG		0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U
1,2,3-Trichloropropane						MG/KG		0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U
1,2,4,5-Tetramethylbenzene						MG/KG		0.0083 U	0.0092 U	0.0097 U	0.011 U	0.023
1,2,4-Trichlorobenzene						MG/KG		0.0083 UJ	0.0092 U	0.0097 U	0.011 U	0.0097 U
1,2,4-Trimethylbenzene	3.6	47	52	190	380	MG/KG		0.0083 U	0.0092 U	0.0097 U	0.011 U	0.15
1,2-Dibromo-3-chloropropane (DBCP)						MG/KG		0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U
1,2-Dibromoethane (EDB)						MG/KG		0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U
1,2-Dichlorobenzene	1.1	100	100	500	1000	MG/KG		0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U
1,2-Dichloroethane	0.02	2.3	3.1	30	60	MG/KG		0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID	Location ID	Sample Date	Sample Interval		
							05-B-002-0-1	05-B-002-5-6	05-B-002-7-8	13-B-004-0-1	13-B-004-5-6	
							05-B-002	05-B-002	05-B-002	13-B-004	13-B-004	
							7/24/2014	7/24/2014	7/24/2014	7/24/2014	7/24/2014	
							0-1	5-6	7-8	0-1	5-6	
1,2-Dichloropropane						MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U	
1,2-Dimethylbenzene (o-Xylene)						MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.081	
1,3,5-Trimethylbenzene (mesitylene)	8.4	47	52	190	380	MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.074	
1,3-Dichlorobenzene	2.4	17	49	280	560	MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U	
1,3-Dichloropropane						MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U	
1,4-Dichlorobenzene	1.8	9.8	13	130	250	MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U	
2,2-Dichloropropane						MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U	
2-Butanone (MEK)	0.12	100	100	500	1000	MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.11	
2/4-Chlorotoluene Coelution						MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U	
4-Isopropyltoluene (p-Cymene)						MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.036	
4-Methyl-2-pentanone (MIBK)						MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U	
Acetone	0.05	100	100	500	1000	MG/KG	0.0083 U	0.0092 U	0.011 UJ	0.011 U	0.16	
Benzene	0.06	2.9	4.8	44	89	MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.12	
Bromobenzene						MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U	
Bromochloromethane						MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U	
Bromodichloromethane						MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U	
Bromoform						MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U	
Bromomethane						MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U	
Carbon tetrachloride	0.76	1.4	2.4	22	44	MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U	
Chlorobenzene	1.1	100	100	500	1000	MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U	
CHLORODIFLUOROMETHANE						MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U	
Chloroethane						MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U	
Chloroform	0.37	10	49	350	700	MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U	
Chloromethane						MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U	
cis-1,2-Dichloroethene	0.25	59	100	500	1000	MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U	
cis-1,3-Dichloropropene						MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U	
Dibromochloromethane						MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U	

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Sample ID	05-B-002-0-1	05-B-002-5-6	05-B-002-7-8	13-B-004-0-1	13-B-004-5-6
						Location ID	05-B-002	05-B-002	05-B-002	13-B-004	13-B-004
						Sample Date	7/24/2014	7/24/2014	7/24/2014	7/24/2014	7/24/2014
						Sample Interval	0-1	5-6	7-8	0-1	5-6
						Units					
Dibromomethane						MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U
Dichlorodifluoromethane (Freon 12)						MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U
Ethylbenzene	1	30	41	390	780	MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.037
Hexachlorobutadiene						MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U
Isopropylbenzene (Cumene)						MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.022
Methylene chloride	0.05	51	100	500	1000	MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U
Naphthalene	12	100	100	500	1000	MG/KG	0.0083 UJ	0.0092 U	0.0097 U	0.011 U	0.025
n-Butylbenzene	12	100	100	500	1000	MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.023
n-Propylbenzene	3.9	100	100	500	1000	MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.022
p-Diethylbenzene						MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.062
sec-Butylbenzene	11	100	100	500	1000	MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U
Styrene						MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U
tert-Butylbenzene	5.9	100	100	500	1000	MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U
Tetrachloroethene (PCE)	1.3	5.5	19	150	300	MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U
Toluene	0.7	100	100	500	1000	MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.097
trans-1,2-Dichloroethene	0.19	100	100	500	1000	MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U
trans-1,3-Dichloropropene						MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U
Trichloroethene (TCE)	0.47	10	21	200	400	MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U
Trichlorofluoromethane (Freon 11)						MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U
Vinyl chloride	0.02	0.21	0.9	13	27	MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.0097 U
Xylenes, m & p						MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.14
Xylenes, total	0.26	100	100	500	1000	MG/KG	0.0083 U	0.0092 U	0.0097 U	0.011 U	0.22

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID	Location ID	Sample Date	Sample Interval
							05-B-002-0-1	05-B-002-5-6	05-B-002-7-8	13-B-004-0-1	13-B-004-5-6
							05-B-002	05-B-002	05-B-002	13-B-004	13-B-004
							7/24/2014	7/24/2014	7/24/2014	7/24/2014	7/24/2014
							0-1	5-6	7-8	0-1	5-6
SVOCs											
1,2,4-Trichlorobenzene						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
1,2-Dichlorobenzene	1.1	100	100	500	1000	MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
1,3-Dichlorobenzene	2.4	17	49	280	560	MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
1,4-Dichlorobenzene	1.8	9.8	13	130	250	MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
2,4,5-Trichlorophenol						MG/KG	0.96 U	0.9 U	0.9 U	0.9 U	1 U
2,4,6-Trichlorophenol						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
2,4-Dichlorophenol						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
2,4-Dimethylphenol						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
2,4-Dinitrophenol						MG/KG	0.96 U	0.9 U	0.9 U	0.9 U	1 U
2,4-Dinitrotoluene						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
2,6-Dinitrotoluene						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
2-Chloronaphthalene						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
2-Chlorophenol						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
2-Methylnaphthalene						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
2-Methylphenol (o-cresol)	0.33	100	100	500	1000	MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
2-Nitroaniline						MG/KG	0.96 U	0.9 U	0.9 U	0.9 U	1 U
2-Nitrophenol						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
3,3'-Dichlorobenzidine						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
3-Nitroaniline	5	10	15	20	25	MG/KG	0.96 U	0.9 U	0.9 U	0.9 U	1 U
4,6-Dinitro-2-methylphenol						MG/KG	0.96 U	0.9 U	0.9 U	0.9 U	1 U
4-Bromophenyl phenyl ether						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
4-Chloro-3-methylphenol						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
4-Chloroaniline						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
4-Chlorophenyl phenyl ether						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
4-Methylphenol	0.33	34	100	500	1000	MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	1.1
4-Nitroaniline						MG/KG	0.96 U	0.9 U	0.9 U	0.9 U	1 U

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID	Location ID	Sample Date	Sample Interval	
							05-B-002-0-1	05-B-002-5-6	05-B-002-7-8	13-B-004-0-1	13-B-004-5-6
							05-B-002	05-B-002	05-B-002	13-B-004	13-B-004
							7/24/2014	7/24/2014	7/24/2014	7/24/2014	7/24/2014
							0-1	5-6	7-8	0-1	5-6
4-Nitrophenol						MG/KG	0.96 U	0.9 U	0.9 U	0.9 U	1 U
Acenaphthene	20	100	100	500	1000	MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
Acenaphthylene	100	100	100	500	1000	MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
Anthracene	100	100	100	500	1000	MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
Benzo(a)anthracene	1	1	1	5.6	11	MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.45
Benzo(a)pyrene	1	1	1	1	1.1	MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
Benzo(b)fluoranthene	1	1	1	5.6	11	MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.5
Benzo(g,h,i)perylene	100	100	100	500	1000	MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
Benzo(k)fluoranthene	0.8	1	3.9	56	110	MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
Benzyl butyl phthalate						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
bis(2-Chloroethoxy)methane						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
bis(2-Chloroethyl)ether						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
bis(2-Chloroisopropyl)ether						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
bis(2-Ethylhexyl)phthalate						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
Carbazole						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
Chrysene	1	1	3.9	56	110	MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.61
Dibenz(a,h)anthracene	0.33	0.33	0.33	0.56	1.1	MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
Dibenzofuran	7	14	59	350	1000	MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
Diethyl phthalate						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
Dimethyl phthalate						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
dl-n-Butyl phthalate						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
dl-n-Octyl phthalate						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
Fluoranthene	100	100	100	500	1000	MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.69
Fluorene	30	100	100	500	1000	MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
Hexachlorobenzene	0.33	0.33	1.2	6	12	MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
Hexachlorobutadiene						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
Hexachlorocyclopentadiene						MG/KG	0.38 R	0.36 U	0.36 U	0.36 U	0.4 U

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID	Location ID	Sample Date	Sample Interval
							05-B-002-0-1	05-B-002-5-6	05-B-002-7-8	13-B-004-0-1	13-B-004-5-6
							05-B-002	05-B-002	05-B-002	13-B-004	13-B-004
							7/24/2014	7/24/2014	7/24/2014	7/24/2014	7/24/2014
							0-1	5-6	7-8	0-1	5-6
Hexachioroethane						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
Indeno(1,2,3-c,d)pyrene	0.5	0.5	0.5	5.6	11	MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
Isophorone						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
Naphthalene	12	100	100	500	1000	MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
Nitrobenzene						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
N-Nitroso-di-n-propylamine						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
N-Nitrosodiphenylamine						MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.4 U
Pentachlorophenol	0.8	2.4	6.7	6.7	55	MG/KG	0.96 U	0.9 U	0.9 U	0.9 U	1 U
Phenanthrene	100	100	100	500	1000	MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.82
Phenol	0.33	100	100	500	1000	MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	0.71
Pyrene	100	100	100	500	1000	MG/KG	0.38 U	0.36 U	0.36 U	0.36 U	1
Ammonia (as N)						MG/KG	5.78 U	5.43 U	5.45 U	5.41 U	10800

Notes:
UU - Part 375 Unrestricted Use Criteria
Res - Part 375 Residential Criteria
RRes - Part 375 Restricted Residential Criteria
C - Part 375 Commercial Criteria
I - Part 375 Industrial Criteria
U - Constituent not detected above the associated detection limit
J - Estimated value
R - Rejected Result
Blue Box - Exceeds Part 375 Unrestricted Use Criteria
Green Box - Exceeds Part 375 Residential Criteria
Yellow Box- Exceeds Part 375 Restricted Residential Criteria
Orange Box- Exceeds Part 375 Commercial Criteria
Red Box - Exceeds Part 375 Industrial Criteria

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID	20-B-002-0-1	20-B-002-4-5	20-B-003-0-1	20-B-003-4-5	DUP-2-20140723
							Location ID	20-B-002	20-B-002	20-B-003	20-B-003	20-B-003
							Sample Date	7/23/2014	7/23/2014	7/23/2014	7/23/2014	7/23/2014
							Sample Interval	0-1	4-5	0-1	4-5	4-5
Metals												
Aluminum						MG/KG		14100	9150	14600	11800	8750
Antimony						MG/KG		0.603 UJ	0.556 U	0.667 U	0.639 U	0.548 U
Arsenic	13	16	16	16	16	MG/KG		5.92 J	4.85	6.36	7.68 J	3.18 J
Barium	350	350	400	400	10000	MG/KG		33.1 J	34.5	74.2	94.4 J	25.3 J
Beryllium	7.2	14	72	590	2700	MG/KG		0.578	0.452	0.641	0.511 U	0.438 U
Cadmium	2.5	2.5	4.3	9.3	60	MG/KG		1.03	0.697	0.995	1.02	0.628
Calcium						MG/KG		4330 J	3470	9310	21200 J	1770 J
Chromium				400		MG/KG		18.2 J	12.3	21.5	16.1	11.9
Cobalt						MG/KG		11 J	7.87	9.17	8.12	7.66
Copper	50	270	270	270	10000	MG/KG		30	25.1	214	84.3 J	18.3 J
Iron						MG/KG		28800 J	18000	27500	25600	18400
Lead	63	400	400	1000	3900	MG/KG		11 J	17.1	89.6	80.5 J	6.58 J
Magnesium						MG/KG		7070	3640	5220	4580	3550
Manganese	1600	2000	2000	10000	10000	MG/KG		864 J	226	572	500 J	234 J
Mercury	0.18	0.81	0.81	2.8	5.7	MG/KG		0.151 J	8.46	167	139 J	0.194 J
Nickel	30	140	310	310	10000	MG/KG		26.6 J	17.8	22.4	21.1	17.6
Potassium						MG/KG		1200 J	1020	1120	990	915
Selenium	3.9	36	180	1500	6800	MG/KG		1.21 U	1.11 U	1.33 U	1.28 U	1.1 U
Silver	2	36	180	1500	6800	MG/KG		0.844 U	0.778 U	0.933 U	0.895 U	0.767 U
Sodium						MG/KG		60.3 U	70.2	88.1	75.6	64.9
Thallium						MG/KG		1.21 UJ	1.11 U	1.33 U	1.28 U	1.1 U
Vanadium						MG/KG		18.5	14.7	24.5	18.8	12.5
Zinc	109	2200	10000	10000	10000	MG/KG		84.2 J	75.3	150	99.1 J	46.9 J

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID	20-B-002-0-1	20-B-002-4-5	20-B-003-0-1	20-B-003-4-5	DUP-2-20140723
							Location ID	20-B-002	20-B-002	20-B-003	20-B-003	20-B-003
							Sample Date	7/23/2014	7/23/2014	7/23/2014	7/23/2014	7/23/2014
							Sample Interval	0-1	4-5	0-1	4-5	4-5
PCBs												
Aroclor 1016				1		MG/KG		0.0592 U	0.056 U	0.0669 U	0.0655 U	0.0538 U
Aroclor 1221				1		MG/KG		0.0592 U	0.056 U	0.0669 U	0.0655 U	0.0538 U
Aroclor 1232				1		MG/KG		0.0592 U	0.056 U	0.0669 U	0.0655 U	0.0538 U
Aroclor 1242				1		MG/KG		0.0592 U	0.056 U	0.0669 U	0.0655 U	0.0538 U
Aroclor 1248				1		MG/KG		0.0592 U	0.056 U	0.0669 U	0.0655 U	0.0538 U
Aroclor 1254				1		MG/KG		0.234 J	0.056 U	0.64 J	0.0655 U	0.0538 U
Aroclor 1260				1		MG/KG		0.0592 U	0.056 U	0.0669 U	0.0655 U	0.0538 U
Total PCBs	0.1	1	1	1	25	MG/KG		0.234	0.056 U	0.64	0.0655 U	0.0538 U
VOCs												
1,1,1,2-Tetrachloroethane						MG/KG		0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
1,1,1-Trichloroethane	0.68	100	100	500	1000	MG/KG		0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
1,1,2,2-Tetrachloroethane						MG/KG		0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
1,1,2-Trichloro-1,2,2-trifluoroethane						MG/KG		0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
1,1,2-Trichloroethane						MG/KG		0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
1,1-Dichloroethane	0.27	19	26	240	480	MG/KG		0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
1,1-Dichloroethene	0.33	100	100	500	1000	MG/KG		0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
1,1-Dichloropropene						MG/KG		0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
1,2,3-Trichlorobenzene						MG/KG		0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
1,2,3-Trichloropropane						MG/KG		0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
1,2,4,5-Tetramethylbenzene						MG/KG		0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
1,2,4-Trichlorobenzene						MG/KG		0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
1,2,4-Trimethylbenzene	3.6	47	52	190	380	MG/KG		0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
1,2-Dibromo-3-chloropropane (DBCP)						MG/KG		0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
1,2-Dibromoethane (EDB)						MG/KG		0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
1,2-Dichlorobenzene	1.1	100	100	500	1000	MG/KG		0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
1,2-Dichloroethane	0.02	2.3	3.1	30	60	MG/KG		0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

						Sample ID	20-B-002-0-1	20-B-002-4-5	20-B-003-0-1	20-B-003-4-5	DUP-2-20140723
						Location ID	20-B-002	20-B-002	20-B-003	20-B-003	20-B-003
						Sample Date	7/23/2014	7/23/2014	7/23/2014	7/23/2014	7/23/2014
	New York Part 375 Criteria					Sample Interval	0-1	4-5	0-1	4-5	4-5
Constituent	UU	Res	Rres	C	I	Units					
1,2-Dichloropropane						MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
1,2-Dimethylbenzene (o-Xylene)						MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
1,3,5-Trimethylbenzene (mesitylene)	8.4	47	52	190	380	MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
1,3-Dichlorobenzene	2.4	17	49	280	560	MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
1,3-Dichloropropane						MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
1,4-Dichlorobenzene	1.8	9.8	13	130	250	MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
2,2-Dichloropropane						MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
2-Butanone (MEK)	0.12	100	100	500	1000	MG/KG	0.0097 U	0.0091 U	0.0096 U	0.039 J	0.011 UJ
2/4-Chlorotoluene Coelution						MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
4-Isopropyltoluene (p-Cymene)						MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
4-Methyl-2-pentanone (MIBK)						MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
Acetone	0.05	100	100	500	1000	MG/KG	0.0097 U	0.029 UJ	0.017 UJ	0.14 J	0.021 UJ
Benzene	0.06	2.9	4.8	44	89	MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
Bromobenzene						MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
Bromochloromethane						MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
Bromodichloromethane						MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
Bromoform						MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
Bromomethane						MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
Carbon tetrachloride	0.76	1.4	2.4	22	44	MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
Chlorobenzene	1.1	100	100	500	1000	MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
CHLORODIFLUOROMETHANE						MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
Chloroethane						MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
Chloroform	0.37	10	49	350	700	MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
Chloromethane						MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
cis-1,2-Dichloroethene	0.25	59	100	500	1000	MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
cis-1,3-Dichloropropene						MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U
Dibromochloromethane						MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Sample ID	Location ID	Sample Date	Sample Interval	Units	20-B-002-0-1	20-B-002-4-5	20-B-003-0-1	20-B-003-4-5	DUP-2-20140723
							20-B-002	20-B-002	20-B-003	20-B-003	20-B-003				
							7/23/2014	7/23/2014	7/23/2014	7/23/2014	7/23/2014				
							0-1	4-5	0-1	4-5	4-5				
Dibromomethane						MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U				
Dichlorodifluoromethane (Freon 12)						MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U				
Ethylbenzene	1	30	41	390	780	MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U				
Hexachlorobutadiene						MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U				
Isopropylbenzene (Cumene)						MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U				
Methylene chloride	0.05	51	100	500	1000	MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U				
Naphthalene	12	100	100	500	1000	MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U				
n-Butylbenzene	12	100	100	500	1000	MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U				
n-Propylbenzene	3.9	100	100	500	1000	MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U				
p-Diethylbenzene						MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U				
sec-Butylbenzene	11	100	100	500	1000	MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U				
Styrene						MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U				
tert-Butylbenzene	5.9	100	100	500	1000	MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U				
Tetrachloroethene (PCE)	1.3	5.5	19	150	300	MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U				
Toluene	0.7	100	100	500	1000	MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U				
trans-1,2-Dichloroethene	0.19	100	100	500	1000	MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U				
trans-1,3-Dichloropropene						MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U				
Trichloroethene (TCE)	0.47	10	21	200	400	MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U				
Trichlorofluoromethane (Freon 11)						MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U				
Vinyl chloride	0.02	0.21	0.9	13	27	MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U				
Xylenes, m & p						MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U				
Xylenes, total	0.26	100	100	500	1000	MG/KG	0.0097 U	0.0091 U	0.0096 U	0.012 U	0.011 U				

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID	Location ID	Sample Date	Sample Interval
							20-B-002-0-1	20-B-002-4-5	20-B-003-0-1	20-B-003-4-5	DUP-2-20140723
							20-B-002	20-B-002	20-B-003	20-B-003	20-B-003
							7/23/2014	7/23/2014	7/23/2014	7/23/2014	7/23/2014
							0-1	4-5	0-1	4-5	4-5
SVOCs											
1,2,4-Trichlorobenzene						MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
1,2-Dichlorobenzene	1.1	100	100	500	1000	MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
1,3-Dichlorobenzene	2.4	17	49	280	560	MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
1,4-Dichlorobenzene	1.8	9.8	13	130	250	MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
2,4,5-Trichlorophenol						MG/KG	0.93 U	0.95 U	0.93 U	1.2 U	0.97 U
2,4,6-Trichlorophenol						MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
2,4-Dichlorophenol						MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
2,4-Dimethylphenol						MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
2,4-Dinitrophenol						MG/KG	0.93 U	0.95 U	0.93 U	1.2 U	0.97 U
2,4-Dinitrotoluene						MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
2,6-Dinitrotoluene						MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
2-Chloronaphthalene						MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
2-Chlorophenol						MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
2-Methylnaphthalene						MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
2-Methylphenol (o-cresol)	0.33	100	100	500	1000	MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
2-Nitroaniline						MG/KG	0.93 U	0.95 U	0.93 U	1.2 U	0.97 U
2-Nitrophenol						MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
3,3'-Dichlorobenzidine						MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
3-Nitroaniline	5	10	15	20	25	MG/KG	0.93 U	0.95 U	0.93 U	1.2 U	0.97 U
4,6-Dinitro-2-methylphenol						MG/KG	0.93 U	0.95 U	0.93 U	1.2 U	0.97 U
4-Bromophenyl phenyl ether						MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
4-Chloro-3-methylphenol						MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
4-Chloroaniline						MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
4-Chlorophenyl phenyl ether						MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
4-Methylphenol	0.33	34	100	500	1000	MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
4-Nitroaniline						MG/KG	0.93 U	0.95 U	0.93 U	1.2 U	0.97 U

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID	20-B-002-0-1	20-B-002-4-5	20-B-003-0-1	20-B-003-4-5	DUP-2-20140723
							Location ID	20-B-002	20-B-002	20-B-003	20-B-003	20-B-003
							Sample Date	7/23/2014	7/23/2014	7/23/2014	7/23/2014	7/23/2014
							Sample Interval	0-1	4-5	0-1	4-5	4-5
4-Nitrophenol						MG/KG		0.93 U	0.95 U	0.93 U	1.2 U	0.97 U
Acenaphthene	20	100	100	500	1000	MG/KG		0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
Acenaphthylene	100	100	100	500	1000	MG/KG		0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
Anthracene	100	100	100	500	1000	MG/KG		0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
Benzo(a)anthracene	1	1	1	5.6	11	MG/KG		0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
Benzo(a)pyrene	1	1	1	1	1.1	MG/KG		0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
Benzo(b)fluoranthene	1	1	1	5.6	11	MG/KG		0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
Benzo(g,h,i)perylene	100	100	100	500	1000	MG/KG		0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
Benzo(k)fluoranthene	0.8	1	3.9	56	110	MG/KG		0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
Benzyl butyl phthalate						MG/KG		0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
bis(2-Chloroethoxy)methane						MG/KG		0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
bis(2-Chloroethyl)ether						MG/KG		0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
bis(2-Chloroisopropyl)ether						MG/KG		0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
bis(2-Ethylhexyl)phthalate						MG/KG		0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
Carbazole						MG/KG		0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
Chrysene	1	1	3.9	56	110	MG/KG		0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
Dibenz(a,h)anthracene	0.33	0.33	0.33	0.56	1.1	MG/KG		0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
Dibenzofuran	7	14	59	350	1000	MG/KG		0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
Diethyl phthalate						MG/KG		0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
Dimethyl phthalate						MG/KG		0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
dl-n-Butyl phthalate						MG/KG		0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
dl-n-Octyl phthalate						MG/KG		0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
Fluoranthene	100	100	100	500	1000	MG/KG		0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
Fluorene	30	100	100	500	1000	MG/KG		0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
Hexachlorobenzene	0.33	0.33	1.2	6	12	MG/KG		0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
Hexachlorobutadiene						MG/KG		0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
Hexachlorocyclopentadiene						MG/KG		0.37 U	0.38 U	0.37 U	0.49 U	0.38 U

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID / Location ID / Sample Date / Sample Interval: 20-B-002-0-1 / 20-B-002 / 7/23/2014 / 0-1	20-B-002-4-5 / 20-B-002 / 7/23/2014 / 4-5	20-B-003-0-1 / 20-B-003 / 7/23/2014 / 0-1	20-B-003-4-5 / 20-B-003 / 7/23/2014 / 4-5	DUP-2-20140723 / 20-B-003 / 7/23/2014 / 4-5
Hexachloroethane						MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
Indeno(1,2,3-c,d)pyrene	0.5	0.5	0.5	5.6	11	MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
Isophorone						MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
Naphthalene	12	100	100	500	1000	MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
Nitrobenzene						MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
N-Nitroso-di-n-propylamine						MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
N-Nitrosodiphenylamine						MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
Pentachlorophenol	0.8	2.4	6.7	6.7	55	MG/KG	0.93 U	0.95 U	0.93 U	1.2 U	0.97 U
Phenanthrene	100	100	100	500	1000	MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
Phenol	0.33	100	100	500	1000	MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
Pyrene	100	100	100	500	1000	MG/KG	0.37 U	0.38 U	0.37 U	0.49 U	0.38 U
Ammonia (as N)						MG/KG	5.62 U	122	18.8	135	83.7

Notes:
UU - Part 375 Unrestricted Use Criteria
Res - Part 375 Residential Criteria
RRes - Part 375 Restricted Residential Criteria
C - Part 375 Commercial Criteria
I - Part 375 Industrial Criteria
U - Constituent not detected above the associated detection limit
J - Estimated value
R - Rejected Result
Blue Box - Exceeds Part 375 Unrestricted Use Criteria
Green Box - Exceeds Part 375 Residential Criteria
Yellow Box- Exceeds Part 375 Restricted Residential Criteria
Orange Box- Exceeds Part 375 Commercial Criteria
Red Box - Exceeds Part 375 Industrial Criteria

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID / Location ID / Sample Date / Sample Interval				
							28-B-003-0-1 / 28-B-003 / 7/22/2014 / 0-1	28-B-003-5.9-6.9 / 28-B-003 / 7/22/2014 / 5.9-6.9	28-B-004-0-1 / 28-B-004 / 7/22/2014 / 0-1	28-B-004-3.2-4.2 / 28-B-004 / 7/22/2014 / 3.2-4.2	57-B-001-0-1 / 57-B-001 / 7/23/2014 / 0-1
Metals											
Aluminum						MG/KG	7390	11400	10400	10900	14700
Antimony						MG/KG	0.527 U	0.598 U	0.57 U	0.549 U	0.579 U
Arsenic	13	16	16	16	16	MG/KG	3.33	4.42	4.29	3.89	5.92
Barium	350	350	400	400	10000	MG/KG	23.5	49.6	34.3	23.1	49.3
Beryllium	7.2	14	72	590	2700	MG/KG	0.421 U	0.61	0.456 U	0.523	0.614
Cadmium	2.5	2.5	4.3	9.3	60	MG/KG	0.724	0.616	0.891	0.732	0.885
Calcium						MG/KG	17600	827	44500	10300	4980
Chromium				400		MG/KG	12.3	14.3	13.3	15.3	17.7
Cobalt						MG/KG	6.46	8.54	8.2	6.95	9.9
Copper	50	270	270	270	10000	MG/KG	21.3	20.8	19.7	18.1	26.9
Iron						MG/KG	18100	20700	22900	22300	25500
Lead	63	400	400	1000	3900	MG/KG	10.6	11.3	10.8	10.5	14.8
Magnesium						MG/KG	3990	3600	6030	4980	5570
Manganese	1600	2000	2000	10000	10000	MG/KG	321	958	714	419	538
Mercury	0.18	0.81	0.81	2.8	5.7	MG/KG	4.37	0.0574 UJ	0.044 UJ	0.053 UJ	4.92 J
Nickel	30	140	310	310	10000	MG/KG	17.1	19.5	19.1	18.8	24.7
Potassium						MG/KG	669	934	916	759	1000
Selenium	3.9	36	180	1500	6800	MG/KG	1.05 U	1.2 U	1.14 U	1.1 U	1.16 U
Silver	2	36	180	1500	6800	MG/KG	0.737 U	0.837 U	0.798 U	0.768 U	0.811 U
Sodium						MG/KG	79.3	715	175	289	113
Thallium						MG/KG	1.05 U	1.2 U	1.14 U	1.1 U	1.16 U
Vanadium						MG/KG	10.6	14.5	14.1	15	28.7
Zinc	109	2200	10000	10000	10000	MG/KG	56.4	43.5	66.5	55	70.1

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID	28-B-003-0-1	28-B-003-5.9-6.9	28-B-004-0-1	28-B-004-3.2-4.2	57-B-001-0-1
							Location ID	28-B-003	28-B-003	28-B-004	28-B-004	57-B-001
							Sample Date	7/22/2014	7/22/2014	7/22/2014	7/22/2014	7/23/2014
							Sample Interval	0-1	5.9-6.9	0-1	3.2-4.2	0-1
PCBs												
Aroclor 1016				1		MG/KG		0.0531 U	0.0612 U	0.0546 U	0.0542 U	0.111 U
Aroclor 1221				1		MG/KG		0.0531 U	0.0612 U	0.0546 U	0.0542 U	0.111 U
Aroclor 1232				1		MG/KG		0.0531 U	0.0612 U	0.0546 U	0.0542 U	0.111 U
Aroclor 1242				1		MG/KG		0.0531 U	0.0612 U	0.0546 U	0.0542 U	0.111 U
Aroclor 1248				1		MG/KG		0.0531 U	0.0612 U	0.0546 U	0.0542 U	0.111 U
Aroclor 1254				1		MG/KG		0.344 J	0.0612 U	0.0546 U	0.0542 U	2.11 J
Aroclor 1260				1		MG/KG		0.0531 U	0.0612 U	0.0546 U	0.0542 U	0.111 U
Total PCBs	0.1	1	1	1	25	MG/KG		0.344	0.0612 U	0.0546 U	0.0542 U	2.11
VOCs												
1,1,1,2-Tetrachloroethane						MG/KG		0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
1,1,1-Trichloroethane	0.68	100	100	500	1000	MG/KG		0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
1,1,2,2-Tetrachloroethane						MG/KG		0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
1,1,2-Trichloro-1,2,2-trifluoroethane						MG/KG		0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
1,1,2-Trichloroethane						MG/KG		0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
1,1-Dichloroethane	0.27	19	26	240	480	MG/KG		0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
1,1-Dichloroethene	0.33	100	100	500	1000	MG/KG		0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
1,1-Dichloropropene						MG/KG		0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
1,2,3-Trichlorobenzene						MG/KG		0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
1,2,3-Trichloropropane						MG/KG		0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
1,2,4,5-Tetramethylbenzene						MG/KG		0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
1,2,4-Trichlorobenzene						MG/KG		0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
1,2,4-Trimethylbenzene	3.6	47	52	190	380	MG/KG		0.017	0.0095 U	0.0083 U	0.0085 U	0.0091 U
1,2-Dibromo-3-chloropropane (DBCP)						MG/KG		0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
1,2-Dibromoethane (EDB)						MG/KG		0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
1,2-Dichlorobenzene	1.1	100	100	500	1000	MG/KG		0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
1,2-Dichloroethane	0.02	2.3	3.1	30	60	MG/KG		0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

						Sample ID	28-B-003-0-1	28-B-003-5.9-6.9	28-B-004-0-1	28-B-004-3.2-4.2	57-B-001-0-1
						Location ID	28-B-003	28-B-003	28-B-004	28-B-004	57-B-001
						Sample Date	7/22/2014	7/22/2014	7/22/2014	7/22/2014	7/23/2014
	New York Part 375 Criteria					Sample Interval	0-1	5.9-6.9	0-1	3.2-4.2	0-1
Constituent	UU	Res	Rres	C	I	Units					
1,2-Dichloropropane						MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
1,2-Dimethylbenzene (o-Xylene)						MG/KG	0.29	0.057	0.97	0.79	0.0091 U
1,3,5-Trimethylbenzene (mesitylene)	8.4	47	52	190	380	MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
1,3-Dichlorobenzene	2.4	17	49	280	560	MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
1,3-Dichloropropane						MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
1,4-Dichlorobenzene	1.8	9.8	13	130	250	MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
2,2-Dichloropropane						MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
2-Butanone (MEK)	0.12	100	100	500	1000	MG/KG	0.033	0.17	0.0083 U	0.0085 U	0.0091 U
2/4-Chlorotoluene Coelution						MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
4-Isopropyltoluene (p-Cymene)						MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
4-Methyl-2-pentanone (MIBK)						MG/KG	0.01 U	0.59 U	0.0083 U	0.0085 U	0.0091 U
Acetone	0.05	100	100	500	1000	MG/KG	0.19	1.5	0.044	0.04	0.0091 U
Benzene	0.06	2.9	4.8	44	89	MG/KG	0.03	0.047	0.02	0.068	0.0091 U
Bromobenzene						MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
Bromochloromethane						MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
Bromodichloromethane						MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
Bromoform						MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
Bromomethane						MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
Carbon tetrachloride	0.76	1.4	2.4	22	44	MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
Chlorobenzene	1.1	100	100	500	1000	MG/KG	0.25	0.039	0.11	0.14	0.0091 U
CHLORODIFLUOROMETHANE						MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
Chloroethane						MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
Chloroform	0.37	10	49	350	700	MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
Chloromethane						MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
cis-1,2-Dichloroethene	0.25	59	100	500	1000	MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
cis-1,3-Dichloropropene						MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U
Dibromochloromethane						MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID	Location ID	Sample Date	Sample Interval		
							28-B-003-0-1	28-B-003-5.9-6.9	28-B-004-0-1	28-B-004-3.2-4.2	57-B-001-0-1	
							28-B-003	28-B-003	28-B-004	28-B-004	57-B-001	
							7/22/2014	7/22/2014	7/22/2014	7/22/2014	7/23/2014	
							0-1	5.9-6.9	0-1	3.2-4.2	0-1	
Dibromomethane						MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U	
Dichlorodifluoromethane (Freon 12)						MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U	
Ethylbenzene	1	30	41	390	780	MG/KG	0.16	0.03	0.56	0.13	0.0091 U	
Hexachlorobutadiene						MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U	
Isopropylbenzene (Cumene)						MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U	
Methylene chloride	0.05	51	100	500	1000	MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U	
Naphthalene	12	100	100	500	1000	MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U	
n-Butylbenzene	12	100	100	500	1000	MG/KG	0.027	0.0095 U	0.0083 U	0.0085 U	0.0091 U	
n-Propylbenzene	3.9	100	100	500	1000	MG/KG	2.8	0.059	0.044	0.022	0.0091 U	
p-Diethylbenzene						MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U	
sec-Butylbenzene	11	100	100	500	1000	MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U	
Styrene						MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U	
tert-Butylbenzene	5.9	100	100	500	1000	MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U	
Tetrachloroethene (PCE)	1.3	5.5	19	150	300	MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U	
Toluene	0.7	100	100	500	1000	MG/KG	2.8	3.3	0.21	0.011	0.0091 U	
trans-1,2-Dichloroethene	0.19	100	100	500	1000	MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U	
trans-1,3-Dichloropropene						MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U	
Trichloroethene (TCE)	0.47	10	21	200	400	MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U	
Trichlorofluoromethane (Freon 11)						MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U	
Vinyl chloride	0.02	0.21	0.9	13	27	MG/KG	0.01 U	0.0095 U	0.0083 U	0.0085 U	0.0091 U	
Xylenes, m & p						MG/KG	0.76	0.12	3.3	3	0.0091 U	
Xylenes, total	0.26	100	100	500	1000	MG/KG	1.1	0.18	4.6	4.1	0.0091 U	

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Sample ID	28-B-003-0-1	28-B-003-5.9-6.9	28-B-004-0-1	28-B-004-3.2-4.2	57-B-001-0-1
						Location ID	28-B-003	28-B-003	28-B-004	28-B-004	57-B-001
						Sample Date	7/22/2014	7/22/2014	7/22/2014	7/22/2014	7/23/2014
						Sample Interval	0-1	5.9-6.9	0-1	3.2-4.2	0-1
						Units					
SVOCs											
1,2,4-Trichlorobenzene						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
1,2-Dichlorobenzene	1.1	100	100	500	1000	MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
1,3-Dichlorobenzene	2.4	17	49	280	560	MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
1,4-Dichlorobenzene	1.8	9.8	13	130	250	MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
2,4,5-Trichlorophenol						MG/KG	0.92 U	1 U	0.93 U	0.93 U	0.95 U
2,4,6-Trichlorophenol						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
2,4-Dichlorophenol						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
2,4-Dimethylphenol						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
2,4-Dinitrophenol						MG/KG	0.92 U	1 U	0.93 U	0.93 U	0.95 U
2,4-Dinitrotoluene						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
2,6-Dinitrotoluene						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
2-Chloronaphthalene						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
2-Chlorophenol						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
2-Methylnaphthalene						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
2-Methylphenol (o-cresol)	0.33	100	100	500	1000	MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
2-Nitroaniline						MG/KG	0.92 U	1 U	0.93 U	0.93 U	0.95 U
2-Nitrophenol						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
3,3'-Dichlorobenzidine						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
3-Nitroaniline	5	10	15	20	25	MG/KG	0.92 U	1 U	0.93 U	0.93 U	0.95 U
4,6-Dinitro-2-methylphenol						MG/KG	0.92 U	1 U	0.93 U	0.93 U	0.95 U
4-Bromophenyl phenyl ether						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
4-Chloro-3-methylphendl						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
4-Chloroaniline						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
4-Chlorophenyl phenyl ether						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
4-Methylphenol	0.33	34	100	500	1000	MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
4-Nitroaniline						MG/KG	0.92 U	1 U	0.93 U	0.93 U	0.95 U

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID: 28-B-003-0-1 / Location ID: 28-B-003 / Sample Date: 7/22/2014 / Sample Interval: 0-1	Sample ID: 28-B-003-5.9-6.9 / Location ID: 28-B-003 / Sample Date: 7/22/2014 / Sample Interval: 5.9-6.9	Sample ID: 28-B-004-0-1 / Location ID: 28-B-004 / Sample Date: 7/22/2014 / Sample Interval: 0-1	Sample ID: 28-B-004-3.2-4.2 / Location ID: 28-B-004 / Sample Date: 7/22/2014 / Sample Interval: 3.2-4.2	Sample ID: 57-B-001-0-1 / Location ID: 57-B-001 / Sample Date: 7/23/2014 / Sample Interval: 0-1
4-Nitrophenol						MG/KG	0.92 U	1 U	0.93 U	0.93 U	0.95 U
Acenaphthene	20	100	100	500	1000	MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
Acenaphthylene	100	100	100	500	1000	MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
Anthracene	100	100	100	500	1000	MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
Benzo(a)anthracene	1	1	1	5.6	11	MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
Benzo(a)pyrene	1	1	1	1	1.1	MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
Benzo(b)fluoranthene	1	1	1	5.6	11	MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
Benzo(g,h,i)perylene	100	100	100	500	1000	MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
Benzo(k)fluoranthene	0.8	1	3.9	56	110	MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
Benzyl butyl phthalate						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
bis(2-Chloroethoxy)methane						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
bis(2-Chloroethyl)ether						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
bis(2-Chloroisopropyl)ether						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
bis(2-Ethylhexyl)phthalate						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
Carbazole						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
Chrysene	1	1	3.9	56	110	MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
Dibenz(a,h)anthracene	0.33	0.33	0.33	0.56	1.1	MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
Dibenzofuran	7	14	59	350	1000	MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
Diethyl phthalate						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
Dimethyl phthalate						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
dl-n-Butyl phthalate						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
dl-n-Octyl phthalate						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
Fluoranthene	100	100	100	500	1000	MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
Fluorene	30	100	100	500	1000	MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
Hexachlorobenzene	0.33	0.33	1.2	6	12	MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
Hexachiorobutadiene						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
Hexachlorocyclopentadiene						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID / Location ID / Sample Date / Sample Interval				
							28-B-003-0-1 / 28-B-003 / 7/22/2014 / 0-1	28-B-003-5.9-6.9 / 28-B-003 / 7/22/2014 / 5.9-6.9	28-B-004-0-1 / 28-B-004 / 7/22/2014 / 0-1	28-B-004-3.2-4.2 / 28-B-004 / 7/22/2014 / 3.2-4.2	57-B-001-0-1 / 57-B-001 / 7/23/2014 / 0-1
Hexachloroethane						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
Indeno(1,2,3-c,d)pyrene	0.5	0.5	0.5	5.6	11	MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
Isophorone						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
Naphthalene	12	100	100	500	1000	MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
Nitrobenzene						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
N-Nitroso-di-n-propylamine						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
N-Nitrosodiphenylamine						MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
Pentachlorophenol	0.8	2.4	6.7	6.7	55	MG/KG	0.92 U	1 U	0.93 U	0.93 U	0.95 U
Phenanthrene	100	100	100	500	1000	MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
Phenol	0.33	100	100	500	1000	MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
Pyrene	100	100	100	500	1000	MG/KG	0.36 U	0.41 U	0.37 U	0.37 U	0.38 U
Ammonia (as N)						MG/KG	641	3990	1350	963	5.76 U

Notes:
UU - Part 375 Unrestricted Use Criteria
Res - Part 375 Residential Criteria
RRes - Part 375 Restricted Residential Criteria
C - Part 375 Commercial Criteria
I - Part 375 Industrial Criteria
U - Constituent not detected above the associated detection limit
J - Estimated value
R - Rejected Result
Blue Box - Exceeds Part 375 Unrestricted Use Criteria
Green Box - Exceeds Part 375 Residential Criteria
Yellow Box- Exceeds Part 375 Restricted Residential Criteria
Orange Box- Exceeds Part 375 Commercial Criteria
Red Box - Exceeds Part 375 Industrial Criteria

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID	57-B-001-1-2	DUP-20140723	67-B-003-0-1	67-B-003-4-5	67-B-004-0-1
							Location ID	57-B-001	57-B-001	01-B-003	01-B-003	67-B-004
							Sample Date	7/23/2014	7/23/2014	7/22/2014	7/22/2014	7/22/2014
							Sample Interval	1-2	0-1	0-1	4-5	0-1
Metals												
Aluminum						MG/KG		13200	13500	10600	8850	13100
Antimony						MG/KG		0.528 U	0.531 U	0.574 U	0.597 UJ	0.545 U
Arsenic	13	16	16	16	16	MG/KG		3.96	5.57	4.28	15 J	5.55
Barium	350	350	400	400	10000	MG/KG		26.4	36.8	25.5	30	55.9
Beryllium	7.2	14	72	590	2700	MG/KG		0.584	0.576	0.512	0.478 U	0.515
Cadmium	2.5	2.5	4.3	9.3	60	MG/KG		0.876	0.869	0.459 U	0.478 U	0.461
Calcium						MG/KG		653	3980	1290	25400 J	5410
Chromium				400		MG/KG		16.2	16.8	13.4	12.4 J	26.3
Cobalt						MG/KG		9.54	9.28	7.7	7.98 J	7.63
Copper	50	270	270	270	10000	MG/KG		23	27.1	20.1	19.4	225
Iron						MG/KG		25300	24200	20900	22000 J	21300
Lead	63	400	400	1000	3900	MG/KG		11	14	8.3	8.35 J	37.4
Magnesium						MG/KG		6110	5380	5000	15800 J	5100
Manganese	1600	2000	2000	10000	10000	MG/KG		517	535	380	579 J	579
Mercury	0.18	0.81	0.81	2.8	5.7	MG/KG		0.0525 UJ	2.95 J	0.0446 UJ	0.0442 UJ	74.5
Nickel	30	140	310	310	10000	MG/KG		22.4	23.2	18.1	19.1 J	23.3
Potassium						MG/KG		949	1020	866	833 J	1020
Selenium	3.9	36	180	1500	6800	MG/KG		1.06 U	1.06 U	1.15 U	1.19 U	1.09 U
Silver	2	36	180	1500	6800	MG/KG		0.739 U	0.743 U	0.803 U	0.836 U	0.763 U
Sodium						MG/KG		52.8 U	53.1 U	104	59.7 U	286
Thallium						MG/KG		1.06 U	1.06 U	1.15 U	1.19 UJ	1.09 U
Vanadium						MG/KG		17.3	21.9	13.9	13.1	19.5
Zinc	109	2200	10000	10000	10000	MG/KG		58.7	65.2	49.6	44.4 J	112

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID	57-B-001-1-2	DUP-20140723	67-B-003-0-1	67-B-003-4-5	67-B-004-0-1
							Location ID	57-B-001	57-B-001	01-B-003	01-B-003	67-B-004
							Sample Date	7/23/2014	7/23/2014	7/22/2014	7/22/2014	7/22/2014
							Sample Interval	1-2	0-1	0-1	4-5	0-1
PCBs												
Aroclor 1016				1		MG/KG		0.0531 U	0.0528 U	0.0562 U	0.0575 U	0.0553 U
Aroclor 1221				1		MG/KG		0.0531 U	0.0528 U	0.0562 U	0.0575 U	0.0553 U
Aroclor 1232				1		MG/KG		0.0531 U	0.0528 U	0.0562 U	0.0575 U	0.0553 U
Aroclor 1242				1		MG/KG		0.0531 U	0.0528 U	0.0562 U	0.0575 U	0.0553 U
Aroclor 1248				1		MG/KG		0.0531 U	0.0528 U	0.0562 U	0.0575 U	0.0553 U
Aroclor 1254				1		MG/KG		0.0531 U	0.782 J	0.0562 U	0.0575 U	0.0553 U
Aroclor 1260				1		MG/KG		0.0531 U	0.0528 U	0.0562 U	0.0575 U	0.0553 U
Total PCBs	0.1	1	1	1	25	MG/KG		0.0531 U	0.782	0.0562 U	0.0575 U	0.0553 U
VOCs												
1,1,1,2-Tetrachloroethane						MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
1,1,1-Trichloroethane	0.68	100	100	500	1000	MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
1,1,2,2-Tetrachloroethane						MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
1,1,2-Trichloro-1,2,2-trifluoroethane						MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
1,1,2-Trichloroethane						MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
1,1-Dichloroethane	0.27	19	26	240	480	MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
1,1-Dichloroethene	0.33	100	100	500	1000	MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
1,1-Dichloropropene						MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
1,2,3-Trichlorobenzene						MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
1,2,3-Trichloropropane						MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
1,2,4,5-Tetramethylbenzene						MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
1,2,4-Trichlorobenzene						MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
1,2,4-Trimethylbenzene	3.6	47	52	190	380	MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
1,2-Dibromo-3-chloropropane (DBCP)						MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
1,2-Dibromoethane (EDB)						MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
1,2-Dichlorobenzene	1.1	100	100	500	1000	MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
1,2-Dichloroethane	0.02	2.3	3.1	30	60	MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

						Sample ID	57-B-001-1-2	DUP-20140723	67-B-003-0-1	67-B-003-4-5	67-B-004-0-1
						Location ID	57-B-001	57-B-001	01-B-003	01-B-003	67-B-004
						Sample Date	7/23/2014	7/23/2014	7/22/2014	7/22/2014	7/22/2014
	New York Part 375 Criteria					Sample Interval	1-2	0-1	0-1	4-5	0-1
Constituent	UU	Res	Rres	C	I	Units					
1,2-Dichloropropane						MG/KG	0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
1,2-Dimethylbenzene (o-Xylene)						MG/KG	0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
1,3,5-Trimethylbenzene (mesitylene)	8.4	47	52	190	380	MG/KG	0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
1,3-Dichlorobenzene	2.4	17	49	280	560	MG/KG	0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
1,3-Dichloropropane						MG/KG	0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
1,4-Dichlorobenzene	1.8	9.8	13	130	250	MG/KG	0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
2,2-Dichloropropane						MG/KG	0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
2-Butanone (MEK)	0.12	100	100	500	1000	MG/KG	0.01 U	0.0096 U	0.0094 U	0.0071 U	0.065
2/4-Chlorotoluene Coelution						MG/KG	0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
4-Isopropyltoluene (p-Cymene)						MG/KG	0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
4-Methyl-2-pentanone (MIBK)						MG/KG	0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
Acetone	0.05	100	100	500	1000	MG/KG	0.01 U	0.0096 U	0.0094 U	0.0071 U	0.2
Benzene	0.06	2.9	4.8	44	89	MG/KG	0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
Bromobenzene						MG/KG	0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
Bromochloromethane						MG/KG	0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
Bromodichloromethane						MG/KG	0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
Bromoform						MG/KG	0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
Bromomethane						MG/KG	0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
Carbon tetrachloride	0.76	1.4	2.4	22	44	MG/KG	0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
Chlorobenzene	1.1	100	100	500	1000	MG/KG	0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
CHLORODIFLUOROMETHANE						MG/KG	0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
Chloroethane						MG/KG	0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
Chloroform	0.37	10	49	350	700	MG/KG	0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
Chloromethane						MG/KG	0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
cis-1,2-Dichloroethene	0.25	59	100	500	1000	MG/KG	0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
cis-1,3-Dichloropropene						MG/KG	0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
Dibromochloromethane						MG/KG	0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID	57-B-001-1-2	DUP-20140723	67-B-003-0-1	67-B-003-4-5	67-B-004-0-1
							Location ID	57-B-001	57-B-001	01-B-003	01-B-003	67-B-004
							Sample Date	7/23/2014	7/23/2014	7/22/2014	7/22/2014	7/22/2014
							Sample Interval	1-2	0-1	0-1	4-5	0-1
Dibromomethane						MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
Dichlorodifluoromethane (Freon 12)						MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
Ethyibenzene	1	30	41	390	780	MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
Hexachlorobutadiene						MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
Isopropylbenzene (Cumene)						MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
Methylene chloride	0.05	51	100	500	1000	MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
Naphthalene	12	100	100	500	1000	MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
n-Butylbenzene	12	100	100	500	1000	MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
n-Propylbenzene	3.9	100	100	500	1000	MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
p-Diethylbenzene						MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
sec-Butylbenzene	11	100	100	500	1000	MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
Styrene						MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
tert-Butylbenzene	5.9	100	100	500	1000	MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
Tetrachloroethene (PCE)	1.3	5.5	19	150	300	MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
Toluene	0.7	100	100	500	1000	MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
trans-1,2-Dichloroethene	0.19	100	100	500	1000	MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
trans-1,3-Dichloropropene						MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
Trichloroethene (TCE)	0.47	10	21	200	400	MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
Trichlorofluoromethane (Freon 11)						MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
Vinyl chloride	0.02	0.21	0.9	13	27	MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
Xylenes, m & p						MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U
Xylenes, total	0.26	100	100	500	1000	MG/KG		0.01 U	0.0096 U	0.0094 U	0.0071 U	0.0086 U

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID	57-B-001-1-2	DUP-20140723	67-B-003-0-1	67-B-003-4-5	67-B-004-0-1
							Location ID	57-B-001	57-B-001	01-B-003	01-B-003	67-B-004
							Sample Date	7/23/2014	7/23/2014	7/22/2014	7/22/2014	7/22/2014
							Sample Interval	1-2	0-1	0-1	4-5	0-1
SVOCs												
1,2,4-Trichlorobenzene						MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
1,2-Dichlorobenzene	1.1	100	100	500	1000	MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
1,3-Dichlorobenzene	2.4	17	49	280	560	MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
1,4-Dichlorobenzene	1.8	9.8	13	130	250	MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
2,4,5-Trichlorophenol						MG/KG		0.89 U	0.93 U	0.9 U	0.97 U	0.98 U
2,4,6-Trichlorophenol						MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
2,4-Dichlorophenol						MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
2,4-Dimethylphenol						MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
2,4-Dinitrophenol						MG/KG		0.89 U	0.93 U	0.9 U	0.97 U	0.98 U
2,4-Dinitrotoluene						MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
2,6-Dinitrotoluene						MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
2-Ghloronaphthalene						MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
2-Chlorophenol						MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
2-Methylnaphthalene						MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
2-Methylphenol (o-cresol)	0.33	100	100	500	1000	MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
2-Nitroaniline						MG/KG		0.89 U	0.93 U	0.9 U	0.97 U	0.98 U
2-Nitrophenol						MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
3,3'-Dichlorobenzidine						MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
3-Nitroaniline	5	10	15	20	25	MG/KG		0.89 U	0.93 U	0.9 U	0.97 U	0.98 U
4,6-Dinitro-2-methylphenol						MG/KG		0.89 U	0.93 U	0.9 U	0.97 U	0.98 U
4-Bromophenyl phenyl ether						MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
4-Chloro-3-methylphenol						MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
4-Chloroaniline						MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
4-Chlorophenyl phenyl ether						MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
4-Methylphenol	0.33	34	100	500	1000	MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
4-Nitroaniline						MG/KG		0.89 U	0.93 U	0.9 U	0.97 U	0.98 U

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID	57-B-001-1-2	DUP-20140723	67-B-003-0-1	67-B-003-4-5	67-B-004-0-1
							Location ID	57-B-001	57-B-001	01-B-003	01-B-003	67-B-004
							Sample Date	7/23/2014	7/23/2014	7/22/2014	7/22/2014	7/22/2014
							Sample Interval	1-2	0-1	0-1	4-5	0-1
4-Nitrophenol						MG/KG		0.89 U	0.93 U	0.9 U	0.97 U	0.98 U
Acenaphthene	20	100	100	500	1000	MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
Acenaphthylene	100	100	100	500	1000	MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
Anthracene	100	100	100	500	1000	MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
Benzo(a)anthracene	1	1	1	5.6	11	MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
Benzo(a)pyrene	1	1	1	1	1.1	MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
Benzo(b)fluoranthene	1	1	1	5.6	11	MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
Benzo(g,h,i)perylene	100	100	100	500	1000	MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
Benzo(k)fluoranthene	0.8	1	3.9	56	110	MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
Benzyl butyl phthalate						MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
bis(2-Chloroethoxy)methane						MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
bis(2-Chloroethyl)ether						MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
bis(2-Chloroisopropyl)ether						MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
bis(2-Ethylhexyl)phthalate						MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
Carbazole						MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
Chrysene	1	1	3.9	56	110	MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
Dibenz(a,h)anthracene	0.33	0.33	0.33	0.56	1.1	MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
Dibenzofuran	7	14	59	350	1000	MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
Diethyl phthalate						MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
Dimethyl phthalate						MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
dl-n-Butyl phthalate						MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
dl-n-Octyl phthalate						MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
Fluoranthene	100	100	100	500	1000	MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
Fluorene	30	100	100	500	1000	MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
Hexachlorobenzene	0.33	0.33	1.2	6	12	MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
Hexachlorobutadiene						MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
Hexachlorocyclopentadiene						MG/KG		0.36 U	0.37 U	0.36 U	0.38 U	0.39 U

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID	Location ID	Sample Date	Sample Interval
							57-B-001-1-2	57-B-001	7/23/2014	1-2
							DUP-20140723	57-B-001	7/23/2014	0-1
							67-B-003-0-1	01-B-003	7/22/2014	0-1
							67-B-003-4-5	01-B-003	7/22/2014	4-5
							67-B-004-0-1	67-B-004	7/22/2014	0-1
Hexachloroethane						MG/KG	0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
Indeno(1,2,3-c,d)pyrene	0.5	0.5	0.5	5.6	11	MG/KG	0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
Isophorone						MG/KG	0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
Naphthalene	12	100	100	500	1000	MG/KG	0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
Nitrobenzene						MG/KG	0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
N-Nitroso-di-n-propylamine						MG/KG	0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
N-Nitrosodiphenylamine						MG/KG	0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
Pentachlorophenol	0.8	2.4	6.7	6.7	55	MG/KG	0.89 U	0.93 U	0.9 U	0.97 U	0.98 U
Phenanthrene	100	100	100	500	1000	MG/KG	0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
Phenol	0.33	100	100	500	1000	MG/KG	0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
Pyrene	100	100	100	500	1000	MG/KG	0.36 U	0.37 U	0.36 U	0.38 U	0.39 U
Ammonia (as N)						MG/KG	5.4 U	5.63 U	5.42 U	5.86 U	260

Notes:
UU - Part 375 Unrestricted Use Criteria
Res - Part 375 Residential Criteria
RRes - Part 375 Restricted Residential Criteria
C - Part 375 Commercial Criteria
I - Part 375 Industrial Criteria
U - Constituent not detected above the associated detection limit
J - Estimated value
R - Rejected Result
Blue Box - Exceeds Part 375 Unrestricted Use Criteria
Green Box - Exceeds Part 375 Residential Criteria
Yellow Box- Exceeds Part 375 Restricted Residential Criteria
Orange Box- Exceeds Part 375 Commercial Criteria
Red Box - Exceeds Part 375 Industrial Criteria

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID	Location ID	Sample Date	Sample Interval
							67-B-004-2-3	67-B-004	7/22/2014	2-3
							A-B-125-0-1	A-B-125	7/22/2014	0-1
							A-B-125-4.4-5.4	A-B-125	7/22/2014	4.4-5.4
							A-B-126-0-1	A-B-126	7/22/2014	0-1
							A-B-126-4-5	A-B-126	7/22/2014	4-5
Metals										
Aluminum						MG/KG	9910	10300	11200	11300	12600
Antimony						MG/KG	3.65	0.668 J	0.564 U	0.544 U	0.585 U
Arsenic	13	16	16	16	16	MG/KG	12.6	6.95	4.97	2.43	4.85
Barium	350	350	400	400	10000	MG/KG	223	55.3	34.4	36.2	32.8
Beryllium	7.2	14	72	590	2700	MG/KG	0.554 U	0.444	0.584	0.449	0.542
Cadmium	2.5	2.5	4.3	9.3	60	MG/KG	2.44	0.72	0.452 U	0.435 U	0.468 U
Calcium						MG/KG	54700	27800	1930	12400	1740
Chromium				400		MG/KG	85.1	17.5	15	17.4	16.3
Cobalt						MG/KG	9.08	7.6	12.2	8.55	9.95
Copper	50	270	270	270	10000	MG/KG	1100	174	24.1	39.7	24.2
Iron						MG/KG	36600	30100	26200	23400	25400
Lead	63	400	400	1000	3900	MG/KG	408	118	10.6	20	11.4
Magnesium						MG/KG	6220	4760	4360	5380	5410
Manganese	1600	2000	2000	10000	10000	MG/KG	687	407	809	499	400
Mercury	0.18	0.81	0.81	2.8	5.7	MG/KG	3270	342	56	19.4	0.502
Nickel	30	140	310	310	10000	MG/KG	44.9	18.6	28.6	24.8	23.3
Potassium						MG/KG	1040	934	870	1030	977
Selenium	3.9	36	180	1500	6800	MG/KG	1.38 U	1.1 U	1.13 U	1.09 U	1.17 U
Silver	2	36	180	1500	6800	MG/KG	0.969 U	0.773 U	0.79 U	0.762 U	0.818 U
Sodium						MG/KG	1470	188	56.4 U	399	1250
Thallium						MG/KG	1.38 U	1.1 U	1.13 U	1.09 U	1.17 U
Vanadium						MG/KG	19.5	24.7	14.1	28.1	15.7
Zinc	109	2200	10000	10000	10000	MG/KG	839	152	78.1	84.1	63.1

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID / Location ID / Sample Date / Sample Interval: 67-B-004-2-3 / 67-B-004 / 7/22/2014 / 2-3	A-B-125-0-1 / A-B-125 / 7/22/2014 / 0-1	A-B-125-4.4-5.4 / A-B-125 / 7/22/2014 / 4.4-5.4	A-B-126-0-1 / A-B-126 / 7/22/2014 / 0-1	A-B-126-4-5 / A-B-126 / 7/22/2014 / 4-5
PCBs											
Aroclor 1016				1		MG/KG	0.0694 U	0.165 U	0.0542 U	0.0546 U	0.0558 U
Aroclor 1221				1		MG/KG	0.0694 U	0.165 U	0.0542 U	0.0546 U	0.0558 U
Aroclor 1232				1		MG/KG	0.0694 U	0.165 U	0.0542 U	0.0546 U	0.0558 U
Aroclor 1242				1		MG/KG	0.0694 U	0.165 U	0.0542 U	0.0546 U	0.0558 U
Aroclor 1248				1		MG/KG	0.0694 U	0.165 U	0.0542 U	0.0546 U	0.0558 U
Aroclor 1254				1		MG/KG	0.371 J	2.99 J	0.0542 U	0.147 J	0.0558 U
Aroclor 1260				1		MG/KG	0.0694 U	0.165 U	0.0542 U	0.0546 U	0.0558 U
Total PCBs	0.1	1	1	1	25	MG/KG	0.371 J	2.99 J	0.0542 U	0.147 J	0.0558 U
VOCs											
1,1,1,2-Tetrachloroethane						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U
1,1,1-Trichloroethane	0.68	100	100	500	1000	MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U
1,1,2,2-Tetrachloroethane						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U
1,1,2-Trichloro-1,2,2-trifluoroethane						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U
1,1,2-Trichloroethane						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U
1,1-Dichloroethane	0.27	19	26	240	480	MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U
1,1-Dichloroethene	0.33	100	100	500	1000	MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U
1,1-Dichloropropene						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U
1,2,3-Trichlorobenzene						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U
1,2,3-Trichloropropane						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U
1,2,4,5-Tetramethylbenzene						MG/KG	0.55	0.01 U	0.29	0.008 U	0.0084 U
1,2,4-Trichlorobenzene						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U
1,2,4-Trimethylbenzene	3.6	47	52	190	380	MG/KG	1.2	0.01 U	0.42 U	0.008 U	0.0084 U
1,2-Dibromo-3-chloropropane (DBCP)						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U
1,2-Dibromoethane (EDB)						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U
1,2-Dichlorobenzene	1.1	100	100	500	1000	MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U
1,2-Dichloroethane	0.02	2.3	3.1	30	60	MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID	Location ID	Sample Date	Sample Interval				
							67-B-004-2-3	A-B-125-0-1	A-B-125-4.4-5.4	A-B-126-0-1	A-B-126-4-5			
							67-B-004	A-B-125	A-B-125	A-B-126	A-B-126			
							7/22/2014	7/22/2014	7/22/2014	7/22/2014	7/22/2014			
							2-3	0-1	4.4-5.4	0-1	4-5			
1,2-Dichloropropane						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U			
1,2-Dimethylbenzene (o-Xylene)						MG/KG	180	0.01 U	0.42 U	0.008 U	0.0084 U			
1,3,5-Trimethylbenzene (mesitylene)	8.4	47	52	190	380	MG/KG	4.4	0.01 U	0.42 U	0.008 U	0.0084 U			
1,3-Dichlorobenzene	2.4	17	49	280	560	MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U			
1,3-Dichloropropane						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U			
1,4-Dichlorobenzene	1.8	9.8	13	130	250	MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U			
2,2-Dichloropropane						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U			
2-Butanone (MEK)	0.12	100	100	500	1000	MG/KG	3.3 U	0.018	0.42 U	0.008 U	0.0084 U			
2/4-Chlorotoluene Coelution						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U			
4-Isopropyltoluene (p-Cymene)						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U			
4-Methyl-2-pentanone (MIBK)						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U			
Acetone	0.05	100	100	500	1000	MG/KG	3.3 U	0.09	0.42 U	0.019 UJ	0.014 UJ			
Benzene	0.06	2.9	4.8	44	89	MG/KG	0.98	0.019	0.42 U	0.008 U	0.0084 U			
Bromobenzene						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U			
Bromochloromethane						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U			
Bromodichloromethane						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U			
Bromoform						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U			
Bromomethane						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U			
Carbon tetrachloride	0.76	1.4	2.4	22	44	MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U			
Chlorobenzene	1.1	100	100	500	1000	MG/KG	3.3 U	4.2	0.53	0.008 U	0.0084 U			
CHLORODIFLUOROMETHANE						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U			
Chloroethane						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U			
Chloroform	0.37	10	49	350	700	MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U			
Chloromethane						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U			
cis-1,2-Dichloroethene	0.25	59	100	500	1000	MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U			
cis-1,3-Dichloropropene						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U			
Dibromochloromethane						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U			

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

	New York Part 375 Criteria										
Sample ID							67-B-004-2-3	A-B-125-0-1	A-B-125-4.4-5.4	A-B-126-0-1	A-B-126-4-5
Location ID							67-B-004	A-B-125	A-B-125	A-B-126	A-B-126
Sample Date							7/22/2014	7/22/2014	7/22/2014	7/22/2014	7/22/2014
Sample Interval							2-3	0-1	4.4-5.4	0-1	4-5
Constituent	UU	Res	Rres	C	I	Units					
Dibromomethane						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U
Dichlorodifluoromethane (Freon 12)						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U
Ethylbenzene	1	30	41	390	780	MG/KG	95	0.01 U	0.42 U	0.008 U	0.042
Hexachlorobutadiene						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U
Isopropylbenzene (Cumene)						MG/KG	14	0.01 U	0.1	0.008 U	0.0084 U
Methylene chloride	0.05	51	100	500	1000	MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U
Naphthalene	12	100	100	500	1000	MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U
n-Butylbenzene	12	100	100	500	1000	MG/KG	3.3 U	0.01 U	0.094	0.008 U	0.0084 U
n-Propylbenzene	3.9	100	100	500	1000	MG/KG	5.7	0.01 U	1.2	0.008 U	0.0084 U
p-Diethylbenzene						MG/KG	3.3 U	0.01 U	0.061	0.008 U	0.0084 U
sec-Butylbenzene	11	100	100	500	1000	MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U
Styrene						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U
tert-Butylbenzene	5.9	100	100	500	1000	MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U
Tetrachloroethene (PCE)	1.3	5.5	19	150	300	MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U
Toluene	0.7	100	100	500	1000	MG/KG	0.74	0.027	0.42 U	0.008 U	0.0084 U
trans-1,2-Dichloroethene	0.19	100	100	500	1000	MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U
trans-1,3-Dichloropropene						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U
Trichloroethene (TCE)	0.47	10	21	200	400	MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U
Trichlorofluoromethane (Freon 11)						MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U
Vinyl chloride	0.02	0.21	0.9	13	27	MG/KG	3.3 U	0.01 U	0.42 U	0.008 U	0.0084 U
Xylenes, m & p						MG/KG	390	0.01 U	0.42 U	0.008 U	0.033
Xylenes, total	0.26	100	100	500	1000	MG/KG	600	0.01 U	0.42 U	0.008 U	0.039

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID 67-B-004-2-3 / Location ID 67-B-004 / Sample Date 7/22/2014 / Sample Interval 2-3	Sample ID A-B-125-0-1 / Location ID A-B-125 / Sample Date 7/22/2014 / Sample Interval 0-1	Sample ID A-B-125-4.4-5.4 / Location ID A-B-125 / Sample Date 7/22/2014 / Sample Interval 4.4-5.4	Sample ID A-B-126-0-1 / Location ID A-B-126 / Sample Date 7/22/2014 / Sample Interval 0-1	Sample ID A-B-126-4-5 / Location ID A-B-126 / Sample Date 7/22/2014 / Sample Interval 4-5
SVOCs											
1,2,4-Trichlorobenzene						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
1,2-Dichlorobenzene	1.1	100	100	500	1000	MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
1,3-Dichlorobenzene	2.4	17	49	280	560	MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
1,4-Dichlorobenzene	1.8	9.8	13	130	250	MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
2,4,5-Trichlorophenol						MG/KG	1.2 U	0.37 U	0.89 U	0.92 U	0.38 U
2,4,6-Trichlorophenol						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
2,4-Dichlorophenol						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
2,4-Dimethylphenol						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
2,4-Dinitrophenol						MG/KG	1.2 U	1.8 U	0.89 U	0.92 U	1.9 U
2,4-Dinitrotoluene						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
2,6-Dinitrotoluene						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
2-Chloronaphthalene						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
2-Chlorophenol						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
2-Methylnaphthalene						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
2-Methylphenol (o-cresol)	0.33	100	100	500	1000	MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
2-Nitroaniline						MG/KG	1.2 U	0.37 U	0.89 U	0.92 U	0.38 U
2-Nitrophenol						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
3,3'-Dichlorobenzidine						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
3-Nitroaniline	5	10	15	20	25	MG/KG	1.2 U	0.37 U	0.89 U	0.92 U	0.38 U
4,6-Dinitro-2-methylphenol						MG/KG	1.2 U	1.8 U	0.89 U	0.92 U	1.9 U
4-Bromophenyl phenyl ether						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
4-Chloro-3-methylphenol						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
4-Chloroaniline						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
4-Chlorophenyl phenyl ether						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
4-Methylphenol	0.33	34	100	500	1000	MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
4-Nitroaniline						MG/KG	1.2 U	0.37 U	0.89 U	0.92 U	0.38 U

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID: 67-B-004-2-3 / Location ID: 67-B-004 / Sample Date: 7/22/2014 / Sample Interval: 2-3	Sample ID: A-B-125-0-1 / Location ID: A-B-125 / Sample Date: 7/22/2014 / Sample Interval: 0-1	Sample ID: A-B-125-4.4-5.4 / Location ID: A-B-125 / Sample Date: 7/22/2014 / Sample Interval: 4.4-5.4	Sample ID: A-B-126-0-1 / Location ID: A-B-126 / Sample Date: 7/22/2014 / Sample Interval: 0-1	Sample ID: A-B-126-4-5 / Location ID: A-B-126 / Sample Date: 7/22/2014 / Sample Interval: 4-5
4-Nitrophenol						MG/KG	1.2 U	1.8 U	0.89 U	0.92 U	1.9 U
Acenaphthene	20	100	100	500	1000	MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
Acenaphthylene	100	100	100	500	1000	MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
Anthracene	100	100	100	500	1000	MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
Benzo(a)anthracene	1	1	1	5.6	11	MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
Benzo(a)pyrene	1	1	1	1	1.1	MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
Benzo(b)fluoranthene	1	1	1	5.6	11	MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
Benzo(g,h,i)perylene	100	100	100	500	1000	MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
Benzo(k)fluoranthene	0.8	1	3.9	56	110	MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
Benzyl butyl phthalate						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
bis(2-Chloroethoxy)methane						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
bis(2-Chloroethyl)ether						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
bis(2-Chloroisopropyl)ether						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
bis(2-Ethylhexyl)phthalate						MG/KG	0.96	0.37 U	0.81	0.36 U	0.38 U
Carbazole						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
Chrysene	1	1	3.9	56	110	MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
Dibenz(a,h)anthracene	0.33	0.33	0.33	0.56	1.1	MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
Dibenzofuran	7	14	59	350	1000	MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
Diethyl phthalate						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
Dimethyl phthalate						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
dl-n-Butyl phthalate						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
dl-n-Octyl phthalate						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
Fluoranthene	100	100	100	500	1000	MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
Fluorene	30	100	100	500	1000	MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
Hexachlorobenzene	0.33	0.33	1.2	6	12	MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
Hexachlorobutadiene						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
Hexachlorocyclopentadiene						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID 67-B-004-2-3 / Location ID 67-B-004 / Sample Date 7/22/2014 / Sample Interval 2-3	A-B-125-0-1 / A-B-125 / 7/22/2014 / 0-1	A-B-125-4.4-5.4 / A-B-125 / 7/22/2014 / 4.4-5.4	A-B-126-0-1 / A-B-126 / 7/22/2014 / 0-1	A-B-126-4-5 / A-B-126 / 7/22/2014 / 4-5
Hexachloroethane						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
Indeno(1,2,3-c,d)pyrene	0.5	0.5	0.5	5.6	11	MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
Isophorone						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
Naphthalene	12	100	100	500	1000	MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
Nitrobenzene						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
N-Nitroso-di-n-propylamine						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
N-Nitrosodiphenylamine						MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
Pentachlorophenol	0.8	2.4	6.7	6.7	55	MG/KG	1.2 U	1.8 U	0.89 U	0.92 U	1.9 U
Phenanthrene	100	100	100	500	1000	MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
Phenol	0.33	100	100	500	1000	MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
Pyrene	100	100	100	500	1000	MG/KG	0.48 U	0.37 U	0.35 U	0.36 U	0.38 U
Ammonia (as N)						MG/KG	1890	74.7	29.3	148	166

Notes:
UU - Part 375 Unrestricted Use Criteria
Res - Part 375 Residential Criteria
RRes - Part 375 Restricted Residential Criteria
C - Part 375 Commercial Criteria
I - Part 375 Industrial Criteria
U - Constituent not detected above the associated detection limit
J - Estimated value
R - Rejected Result
Blue Box - Exceeds Part 375 Unrestricted Use Criteria
Green Box - Exceeds Part 375 Residential Criteria
Yellow Box- Exceeds Part 375 Restricted Residential Criteria
Orange Box- Exceeds Part 375 Commercial Criteria
Red Box - Exceeds Part 375 Industrial Criteria

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID: E-B-008-0-1 Location ID: E-B-008 Sample Date: 7/23/2014 Sample Interval: 0-1	Sample ID: E-B-008-7-8 Location ID: E-B-008 Sample Date: 7/23/2014 Sample Interval: 7-8
Metals								
Aluminum						MG/KG	11300	300
Antimony						MG/KG	1.08 J	4.43 U
Arsenic	13	16	16	16	16	MG/KG	4.07 J	4.43 U
Barium	350	350	400	400	10000	MG/KG	69.7 J	4.43 U
Beryllium	7.2	14	72	590	2700	MG/KG	4.95	3.54 U
Cadmium	2.5	2.5	4.3	9.3	60	MG/KG	0.986	3.54 U
Calcium						MG/KG	16300	267000
Chromium				400		MG/KG	34.4 J	4.43 U
Cobalt						MG/KG	12.7 J	4.43 U
Copper	50	270	270	270	10000	MG/KG	171 J	4.43 U
Iron						MG/KG	24600 J	370
Lead	63	400	400	1000	3900	MG/KG	103 J	25.8
Magnesium						MG/KG	11700	443 U
Manganese	1600	2000	2000	10000	10000	MG/KG	517 J	5.75
Mercury	0.18	0.81	0.81	2.8	5.7	MG/KG	21.1	1130
Nickel	30	140	310	310	10000	MG/KG	69.1 J	4.43 U
Potassium						MG/KG	985	443 U
Selenium	3.9	36	180	1500	6800	MG/KG	1.12 U	8.85 U
Silver	2	36	180	1500	6800	MG/KG	0.784 U	6.2 U
Sodium						MG/KG	143	443 U
Thallium						MG/KG	1.12 U	8.85 U
Vanadium						MG/KG	19	4.43 U
Zinc	109	2200	10000	10000	10000	MG/KG	447 J	12.9

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID / Location ID / Sample Date / Sample Interval: E-B-008-0-1 / E-B-008 / 7/23/2014 / 0-1	E-B-008-7-8 / E-B-008 / 7/23/2014 / 7-8
PCBs								
Aroclor 1016				1		MG/KG	0.0536 U	0.089 U
Aroclor 1221				1		MG/KG	0.0536 U	0.089 U
Aroclor 1232				1		MG/KG	0.0536 U	0.089 U
Aroclor 1242				1		MG/KG	0.0536 U	0.089 U
Aroclor 1248				1		MG/KG	0.0536 U	0.089 U
Aroclor 1254				1		MG/KG	0.607 J	0.089 U
Aroclor 1260				1		MG/KG	0.0536 U	0.089 U
Total PCBs	0.1	1	1	1	25	MG/KG	0.607	0.089 U
VOCs								
1,1,1,2-Tetrachloroethane						MG/KG	0.011 U	0.014 U
1,1,1-Trichloroethane	0.68	100	100	500	1000	MG/KG	0.011 U	0.014 U
1,1,2,2-Tetrachloroethane						MG/KG	0.011 U	0.014 U
1,1,2-Trichloro-1,2,2-trifluoroethane						MG/KG	0.011 U	0.014 U
1,1,2-Trichloroethane						MG/KG	0.011 U	0.014 U
1,1-Dichloroethane	0.27	19	26	240	480	MG/KG	0.011 U	0.014 U
1,1-Dichloroethene	0.33	100	100	500	1000	MG/KG	0.011 U	0.014 U
1,1-Dichloropropene						MG/KG	0.011 U	0.014 U
1,2,3-Trichlorobenzene						MG/KG	0.011 U	0.014 U
1,2,3-Trichloropropane						MG/KG	0.011 U	0.014 U
1,2,4,5-Tetramethylbenzene						MG/KG	0.011 U	0.014 U
1,2,4-Trichlorobenzene						MG/KG	0.011 U	0.014 U
1,2,4-Trimethylbenzene	3.6	47	52	190	380	MG/KG	0.011 U	0.014 U
1,2-Dibromo-3-chloropropane (DBCP)						MG/KG	0.011 U	0.014 U
1,2-Dibromoethane (EDB)						MG/KG	0.011 U	0.014 U
1,2-Dichlorobenzene	1.1	100	100	500	1000	MG/KG	0.011 U	0.014 U
1,2-Dichloroethane	0.02	2.3	3.1	30	60	MG/KG	0.011 U	0.014 U

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID / Location ID / Sample Date / Sample Interval: E-B-008-0-1 / E-B-008 / 7/23/2014 / 0-1	E-B-008-7-8 / E-B-008 / 7/23/2014 / 7-8
1,2-Dichloropropane						MG/KG	0.011 U	0.014 U
1,2-Dimethylbenzene (o-Xylene)						MG/KG	0.011 U	0.014 U
1,3,5-Trimethylbenzene (mesitylene)	8.4	47	52	190	380	MG/KG	0.011 U	0.014 U
1,3-Dichlorobenzene	2.4	17	49	280	560	MG/KG	0.011 U	0.014 U
1,3-Dichloropropane						MG/KG	0.011 U	0.014 U
1,4-Dichlorobenzene	1.8	9.8	13	130	250	MG/KG	0.011 U	0.014 U
2,2-Dichloropropane						MG/KG	0.011 U	0.014 U
2-Butanone (MEK)	0.12	100	100	500	1000	MG/KG	0.011 U	0.014 U
2/4-Chlorotoluene Coelution						MG/KG	0.011 U	0.014 U
4-Isopropyltoluene (p-Cymene)						MG/KG	0.011 U	0.014 U
4-Methyl-2-pentanone (MIBK)						MG/KG	0.011 U	0.014 U
Acetone	0.05	100	100	500	1000	MG/KG	0.011 U	0.037
Benzene	0.06	2.9	4.8	44	89	MG/KG	0.011 U	0.014 U
Bromobenzene						MG/KG	0.011 U	0.014 U
Bromochloromethane						MG/KG	0.011 U	0.014 U
Bromodichloromethane						MG/KG	0.011 U	0.014 U
Bromoform						MG/KG	0.011 U	0.014 U
Bromomethane						MG/KG	0.011 U	0.014 U
Carbon tetrachloride	0.76	1.4	2.4	22	44	MG/KG	0.011 U	0.014 U
Chlorobenzene	1.1	100	100	500	1000	MG/KG	0.011 U	0.014 U
CHLORODIFLUOROMETHANE						MG/KG	0.011 U	0.014 U
Chloroethane						MG/KG	0.011 U	0.014 U
Chloroform	0.37	10	49	350	700	MG/KG	0.011 U	0.014 U
Chloromethane						MG/KG	0.011 U	0.014 U
cis-1,2-Dichloroethene	0.25	59	100	500	1000	MG/KG	0.011 U	0.014 U
cis-1,3-Dichloropropene						MG/KG	0.011 U	0.014 U
Dibromochloromethane						MG/KG	0.011 U	0.014 U

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

						Sample ID	E-B-008-0-1	E-B-008-7-8
						Location ID	E-B-008	E-B-008
						Sample Date	7/23/2014	7/23/2014
	New York Part 375 Criteria					Sample Interval	0-1	7-8
Constituent	UU	Res	Rres	C	I	Units		
Dibromomethane						MG/KG	0.011 U	0.014 U
Dichlorodifluoromethane (Freon 12)						MG/KG	0.011 U	0.014 U
Ethylbenzene	1	30	41	390	780	MG/KG	0.011 U	0.014 U
Hexachlorobutadiene						MG/KG	0.011 U	0.014 U
Isopropylbenzene (Cumene)						MG/KG	0.011 U	0.014 U
Methylene chloride	0.05	51	100	500	1000	MG/KG	0.011 U	0.014 U
Naphthalene	12	100	100	500	1000	MG/KG	0.011 U	0.014 U
n-Butylbenzene	12	100	100	500	1000	MG/KG	0.011 U	0.014 U
n-Propylbenzene	3.9	100	100	500	1000	MG/KG	0.011 U	0.014 U
p-Diethylbenzene						MG/KG	0.011 U	0.014 U
sec-Butylbenzene	11	100	100	500	1000	MG/KG	0.011 U	0.014 U
Styrene						MG/KG	0.011 U	0.014 U
tert-Butylbenzene	5.9	100	100	500	1000	MG/KG	0.011 U	0.014 U
Tetrachloroethene (PCE)	1.3	5.5	19	150	300	MG/KG	0.011 U	0.014 U
Toluene	0.7	100	100	500	1000	MG/KG	0.011 U	0.014 U
trans-1,2-Dichloroethene	0.19	100	100	500	1000	MG/KG	0.011 U	0.014 U
trans-1,3-Dichloropropene						MG/KG	0.011 U	0.014 U
Trichloroethene (TCE)	0.47	10	21	200	400	MG/KG	0.011 U	0.014 U
Trichlorofluoromethane (Freon 11)						MG/KG	0.011 U	0.014 U
Vinyl chloride	0.02	0.21	0.9	13	27	MG/KG	0.011 U	0.014 U
Xylenes, m & p						MG/KG	0.011 U	0.014 U
Xylenes, total	0.26	100	100	500	1000	MG/KG	0.011 U	0.014 U

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID: E-B-008-0-1 Location ID: E-B-008 Sample Date: 7/23/2014 Sample Interval: 0-1	Sample ID: E-B-008-7-8 Location ID: E-B-008 Sample Date: 7/23/2014 Sample Interval: 7-8
SVOCs								
1,2,4-Trichlorobenzene						MG/KG	0.36 U	0.49 U
1,2-Dichlorobenzene	1.1	100	100	500	1000	MG/KG	0.36 U	0.49 U
1,3-Dichlorobenzene	2.4	17	49	280	560	MG/KG	0.36 U	0.49 U
1,4-Dichlorobenzene	1.8	9.8	13	130	250	MG/KG	0.36 U	0.49 U
2,4,5-Trichlorophenol						MG/KG	0.91 U	1.2 U
2,4,6-Trichlorophenol						MG/KG	0.36 U	0.49 U
2,4-Dichlorophenol						MG/KG	0.36 U	0.49 U
2,4-Dimethylphenol						MG/KG	0.36 U	0.49 U
2,4-Dinitrophenol						MG/KG	0.91 U	1.2 U
2,4-Dinitrotoluene						MG/KG	0.36 U	0.49 U
2,6-Dinitrotoluene						MG/KG	0.36 U	0.49 U
2-Chloronaphthalene						MG/KG	0.36 U	0.49 U
2-Chlorophenol						MG/KG	0.36 U	0.49 U
2-Methylnaphthalene						MG/KG	0.36 U	0.49 U
2-Methylphenol (o-cresol)	0.33	100	100	500	1000	MG/KG	0.36 U	0.49 U
2-Nitroaniline						MG/KG	0.91 U	1.2 U
2-Nitrophenol						MG/KG	0.36 U	0.49 U
3,3'-Dichlorobenzidine						MG/KG	0.36 U	0.49 U
3-Nitroaniline	5	10	15	20	25	MG/KG	0.91 U	1.2 U
4,6-Dinitro-2-methylphenol						MG/KG	0.91 U	1.2 U
4-Bromophenyl phenyl ether						MG/KG	0.36 U	0.49 U
4-Chloro-3-methylphenol						MG/KG	0.36 U	0.49 U
4-Chloroaniline						MG/KG	0.36 U	0.49 U
4-Chlorophenyl phenyl ether						MG/KG	0.36 U	0.49 U
4-Methylphenol	0.33	34	100	500	1000	MG/KG	0.36 U	0.49 U
4-Nitroaniline						MG/KG	0.91 U	1.2 U

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID / Location ID / Sample Date / Sample Interval: E-B-008-0-1 / E-B-008 / 7/23/2014 / 0-1	E-B-008-7-8 / E-B-008 / 7/23/2014 / 7-8
4-Nitrophenol						MG/KG	0.91 U	1.2 U
Acenaphthene	20	100	100	500	1000	MG/KG	0.36 U	0.49 U
Acenaphthylene	100	100	100	500	1000	MG/KG	0.36 U	0.49 U
Anthracene	100	100	100	500	1000	MG/KG	0.36 U	0.49 U
Benzo(a)anthracene	1	1	1	5.6	11	MG/KG	0.36 U	0.49 U
Benzo(a)pyrene	1	1	1	1	1.1	MG/KG	0.36 U	0.49 U
Benzo(b)fluoranthene	1	1	1	5.6	11	MG/KG	0.36 U	0.49 U
Benzo(g,h,i)perylene	100	100	100	500	1000	MG/KG	0.36 U	0.49 U
Benzo(k)fluoranthene	0.8	1	3.9	56	110	MG/KG	0.36 U	0.49 U
Benzyl butyl phthalate						MG/KG	0.36 U	0.49 U
bis(2-Chloroethoxy)methane						MG/KG	0.36 U	0.49 U
bis(2-Chloroethyl)ether						MG/KG	0.36 U	0.49 U
bis(2-Chloroisopropyl)ether						MG/KG	0.36 U	0.49 U
bis(2-Ethylhexyl)phthalate						MG/KG	0.36 U	0.49 U
Carbazole						MG/KG	0.36 U	0.49 U
Chrysene	1	1	3.9	56	110	MG/KG	0.36 U	0.49 U
Dibenz(a,h)anthracene	0.33	0.33	0.33	0.56	1.1	MG/KG	0.36 U	0.49 U
Dibenzofuran	7	14	59	350	1000	MG/KG	0.36 U	0.49 U
Diethyl phthalate						MG/KG	0.36 U	0.49 U
Dimethyl phthalate						MG/KG	0.36 U	0.49 U
dI-n-Butyl phthalate						MG/KG	0.36 U	0.49 U
dI-n-Octyl phthalate						MG/KG	0.36 U	0.49 U
Fluoranthene	100	100	100	500	1000	MG/KG	0.36 U	0.49 U
Fluorene	30	100	100	500	1000	MG/KG	0.36 U	0.49 U
Hexachlorobenzene	0.33	0.33	1.2	6	12	MG/KG	0.36 U	0.49 U
Hexachlorobutadiene						MG/KG	0.36 U	0.49 U
Hexachlorocyclopentadiene						MG/KG	0.36 U	0.49 U

TABLE 4-1
SOIL RESULTS: SWMUs AND OPEN AREAS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	New York Part 375 Criteria UU	Res	Rres	C	I	Units	Sample ID / Location ID / Sample Date / Sample Interval	E-B-008-0-1 / E-B-008 / 7/23/2014 / 0-1	E-B-008-7-8 / E-B-008 / 7/23/2014 / 7-8
Hexachioroethane						MG/KG		0.36 U	0.49 U
Indeno(1,2,3-c,d)pyrene	0.5	0.5	0.5	5.6	11	MG/KG		0.36 U	0.49 U
Isophorone						MG/KG		0.36 U	0.49 U
Naphthalene	12	100	100	500	1000	MG/KG		0.36 U	0.49 U
Nitrobenzene						MG/KG		0.36 U	0.49 U
N-Nitroso-di-n-propylamine						MG/KG		0.36 U	0.49 U
N-Nitrosodiphenylamine						MG/KG		0.36 U	0.49 U
Pentachlorophenol	0.8	2.4	6.7	6.7	55	MG/KG		0.91 U	1.2 U
Phenanthrene	100	100	100	500	1000	MG/KG		0.36 U	0.49 U
Phenol	0.33	100	100	500	1000	MG/KG		0.36 U	0.49 U
Pyrene	100	100	100	500	1000	MG/KG		0.36 U	0.49 U
Ammonia (as N)						MG/KG		5.49 U	8.36

Notes:
UU - Part 375 Unrestricted Use Criteria
Res - Part 375 Residential Criteria
RRes - Part 375 Restricted Residential Criteria
C - Part 375 Commercial Criteria
I - Part 375 Industrial Criteria
U - Constituent not detected above the associated detection limit
J - Estimated value
R - Rejected Result
Blue Box - Exceeds Part 375 Unrestricted Use Criteria
Green Box - Exceeds Part 375 Residential Criteria
Yellow Box- Exceeds Part 375 Restricted Residential Criteria
Orange Box- Exceeds Part 375 Commercial Criteria
Red Box - Exceeds Part 375 Industrial Criteria

TABLE 4-2
SOIL RESULTS: DELINEATION SAMPLES
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

						Sample ID	02-B-004-7-8	29-B-004-6-7	37-B-002-5-6	70-B-002-7-8	A-B-127-5-6	A-B-127-7-8
						Location ID	02-B-004	29-B-004	37-B-002	70-B-002	A-B-127	A-B-127
						Sample Date	7/24/2014	7/24/2014	7/24/2014	7/23/2014	7/24/2014	7/24/2014
	New York Part 375 Criteria					Sample Interval	7-8	6-7	5-6	7-8	5-6	7-8
Constituent	UU	Res	Rres	C	I	Units						
Metals												
Mercury	0.18	0.81	0.81	2.8	5.7	MG/KG	0.0423 UJ	0.158	0.0512 UJ	30.1	0.24	0.456

Notes:
UU - Part 375 Unrestricted Use Criteria
Res - Part 375 Residential Criteria
RRes - Part 375 Restricted Residential Criteria
C - Part 375 Commercial Criteria
I - Part 375 Industrial Criteria
U - Constituent not detected above the associated detection limit
J - Estimated value
R - Rejected Result
Blue Box - Exceeds Part 375 Unrestricted Use Criteria
Green Box - Exceeds Part 375 Residential Criteria
Yellow Box- Exceeds Part 375 Restricted Residential Criteria
Orange Box- Exceeds Part 375 Commercial Criteria
Red Box - Exceeds Part 375 Industrial Criteria

TABLE 4-2
SOIL RESULTS: DELINEATION SAMPLES
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

						Sample ID	A-B-128-2-3	A-B-128-7-8	A-B-129-2-3	A-B-129-7-8	A-B-130-6-7	A-B-130-7-8
						Location ID	A-B-128	A-B-128	A-B-129	A-B-129	A-B-130	A-B-130
						Sample Date	7/24/2014	7/24/2014	7/24/2014	7/24/2014	7/23/2014	7/23/2014
	New York Part 375 Criteria					Sample Interval	2-3	7-8	2-3	7-8	6-7	7-8
Constituent	UU	Res	Rres	C	I	Units						
Metals												
Mercury	0.18	0.81	0.81	2.8	5.7	MG/KG	13.2	0.105	7920	5.18	0.927	0.235

Notes:
UU - Part 375 Unrestricted Use Criteria
Res - Part 375 Residential Criteria
RRes - Part 375 Restricted Residential Criteria
C - Part 375 Commercial Criteria
I - Part 375 Industrial Criteria
U - Constituent not detected above the associated detection limit
J - Estimated value
R - Rejected Result
Blue Box - Exceeds Part 375 Unrestricted Use Criteria
Green Box - Exceeds Part 375 Residential Criteria
Yellow Box- Exceeds Part 375 Restricted Residential Criteria
Orange Box- Exceeds Part 375 Commercial Criteria
Red Box - Exceeds Part 375 Industrial Criteria

TABLE 4-2
SOIL RESULTS: DELINEATION SAMPLES
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

						Sample ID	A-B-131-6-7	A-B-131-7-8	E-B-006-4-5	E-B-006-7-8	E-B-007-4-5	E-B-007-6-7
						Location ID	A-B-131	A-B-131	E-B-006	E-B-006	E-B-007	E-B-007
						Sample Date	7/23/2014	7/23/2014	7/23/2014	7/23/2014	7/23/2014	7/23/2014
	New York Part 375 Criteria					Sample Interval	6-7	7-8	4-5	7-8	4-5	6-7
Constituent	UU	Res	Rres	C	I	Units						
Metals												
Mercury	0.18	0.81	0.81	2.8	5.7	MG/KG	0.395	0.0548 UJ	727	0.0933 J	42.2	1.82

Notes:
UU - Part 375 Unrestricted Use Criteria
Res - Part 375 Residential Criteria
RRes - Part 375 Restricted Residential Criteria
C - Part 375 Commercial Criteria
I - Part 375 Industrial Criteria
U - Constituent not detected above the associated detection limit
J - Estimated value
R - Rejected Result
Blue Box - Exceeds Part 375 Unrestricted Use Criteria
Green Box - Exceeds Part 375 Residential Criteria
Yellow Box- Exceeds Part 375 Restricted Residential Criteria
Orange Box- Exceeds Part 375 Commercial Criteria
Red Box - Exceeds Part 375 Industrial Criteria

TABLE 4-3
SOIL VAPOR RESULTS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	Sample ID / Sample Location / Sample Date / Units	01-SV-001_20140723 / 01-SV-001 / 7/23/2014	67-SV-001_20140723 / 67-SV-001 / 7/23/2014	SV-DUP072314 / 67-SV-001 / 7/23/2014	70-SV-001_20140723 / 70-SV-001 / 7/23/2014
VOCs					
1,1,1-Trichloroethane	UG/M3	8.46 J	1.09 U	1.09 U	1.09 U
1,1,2,2-Tetrachloroethane	UG/M3	1.37 U	1.37 U	1.37 U	1.37 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	UG/M3	1.53 U	1.53 U	1.53 U	1.53 U
1,1,2-Trichloroethane	UG/M3	1.09 U	1.09 U	1.09 U	1.09 U
1,1-Dichloroethane	UG/M3	5.34	0.81 U	0.81 U	0.81 U
1,1-Dichloroethene	UG/M3	1.74	0.79 U	0.79 U	0.79 U
1,2,4-Trichlorobenzene	UG/M3	1.48 U	1.48 U	1.48 U	1.48 U
1,2,4-Trimethylbenzene	UG/M3	8.6	43.6	43	22.7
1,2-Dibromoethane (EDB)	UG/M3	1.54 U	1.54 U	1.54 U	1.54 U
1,2-Dichlorobenzene	UG/M3	1.2 U	1.2 U	1.2 U	1.2 U
1,2-Dichloroethane	UG/M3	0.81 U	0.81 U	0.81 U	0.81 U
1,2-Dichloropropane	UG/M3	0.92 U	0.92 U	0.92 U	0.92 U
1,2-Dichlorotetrafluoroethane (Freon 114)	UG/M3	1.4 U	1.4 U	1.4 U	1.4 U
1,2-Dimethylbenzene (o-Xylene)	UG/M3	13.6	84.9	19.7	9.43
1,3,5-Trimethylbenzene (mesitylene)	UG/M3	3.39	11.7	9.83	5.06
1,3-Dichlorobenzene	UG/M3	1.2 U	1.2 U	1.2 U	1.2
1,4-Dichlorobenzene	UG/M3	1.2 U	1.2 U	1.2 U	1.2 U
2-Butanone (MEK)	UG/M3	7.43	4.1	3.75	33.4
2-Hexanone	UG/M3	0.82 U	0.82 U	0.82 U	0.82 U
4-Methyl-2-pentanone (MIBK)	UG/M3	5.98	3.36	3.65	11
Acetone	UG/M3	26.4	23.6	19.3	173
Benzene	UG/M3	7	3	2.62	19.6
Bromodichloromethane	UG/M3	1.34 U	1.34 U	1.34 U	1.34 U
Bromoform	UG/M3	2.07 U	2.07 U	2.07 U	2.07 U
Bromomethane	UG/M3	0.78 U	0.78 U	0.78 U	0.78 U
Carbon disulfide	UG/M3	15.4	4.14	4.08	56.1
Carbon tetrachloride	UG/M3	24.1 J	1.26 U	1.26 U	1.26 U
Chlorobenzene	UG/M3	0.92 U	0.92 U	0.92 U	0.92 U
Chloroethane	UG/M3	0.53 U	0.53 U	0.53 U	0.53 U
Chloroform	UG/M3	259	0.98 U	0.98 U	2.49
Chloromethane	UG/M3	0.41 U	0.41 U	0.41 U	0.85
cis-1,2-Dichloroethene	UG/M3	10.7	0.79 U	0.79 U	0.79 U
cis-1,3-Dichloropropene	UG/M3	0.91 U	0.91 U	0.91 U	0.91 U
Dibromochloromethane	UG/M3	1.87	1.7 U	1.7 U	1.7 U
Dichlorodifluoromethane (Freon 12)	UG/M3	360	2.42	2.13	3.26
Ethylbenzene	UG/M3	12.4	11.3	11.2	5.08
Hexachlorobutadiene	UG/M3	2.13 U	2.13 U	2.13 U	2.13 U
Methylene chloride	UG/M3	1.83	1.2	0.89	21
Styrene	UG/M3	0.85 U	0.94	0.85 U	0.85 U
tert-Butyl methyl ether (MTBE)	UG/M3	0.72 U	0.72 U	0.72 U	0.72 U
Tetrachloroethene (PCE)	UG/M3	15.9	6.04	8	2.17
Toluene	UG/M3	43.7	37.1	32.7	23.5
trans-1,2-Dichloroethene	UG/M3	1.19	0.79 U	0.79 U	0.79 U
trans-1,3-Dichloropropene	UG/M3	0.91 U	0.91 U	0.91 U	0.91 U
Trichloroethene (TCE)	UG/M3	93	1.07	1.07 U	1.07 U
Trichlorofluoromethane (Freon 11)	UG/M3	29.4	13.1	12	2.25
Vinyl acetate	UG/M3	0.7 U	0.7 U	0.7 U	0.7 U
Vinyl chloride	UG/M3	0.51 U	0.51 U	0.51 U	0.51 U
Xylenes, m & p	UG/M3	36.1	57.2	44.7	19.7
Total Xylenes	UG/M3	49.7	142.1	64.4	29.13

Notes:
U - Constituent not detected above the associated detection limit
J - Estimated value
R - Rejected Result

TABLE 4-4
DRAIN SEDIMENT RESULTS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	Sample ID / Location ID / Sample Date / Sample Interval	Units	DRAIN-SD-001 / DRAIN-SD-001 / 7/7/2014 / 0-1	DUP-20140707 / DRAIN-SD-001 / 7/7/2014 / 0-1	DRAIN-SD-002 / DRAIN-SD-002 / 7/7/2014 / 0-1	DRAIN-SD-008 / DRAIN-SD-008 / 7/8/2014 / 0-1	DRAIN-SD-009 / DRAIN-SD-009 / 7/7/2014 / 0-1	DRAIN-SD-010 / DRAIN-SD-010 / 7/7/2014 / 0-1	DRAIN-SD-011 / DRAIN-SD-011 / 7/7/2014 / 0-1	DRAIN-SD-012 / DRAIN-SD-012 / 7/7/2014 / 0-1
Metals										
Aluminum		MG/KG	8680	8340	10400 J	8170	8900	12600	2690	12400
Antimony		MG/KG	2.08 J	0.601 UJ	0.548 UJ	2.42	0.555 U	2.93 U	8.17	5.66
Arsenic		MG/KG	15 J	6.26 J	5.66	5.64	5.35	10.6	8.36	9.39
Barium		MG/KG	38.6	47.7	41.3 J	38.8	73.7	125	81	76.4
Beryllium		MG/KG	1.01 U	0.481 U	0.438 U	0.53 U	0.65	2.35 U	1.28 U	1.23 U
Cadmium		MG/KG	4.22 J	2.45 J	0.438 U	3.53	0.621	2.35 U	3.2	5.37
Calcium		MG/KG	22300	25800	25800 J	26100	32600	56400	11700	18100
Chromium		MG/KG	94.1 J	17.6 J	16.5 J	45.3	19.4	86.8	71	115
Cobalt		MG/KG	12.3	7.53	7.96 J	8.25	10.7	43.4	6.1	14.2
Copper		MG/KG	246 J	104 J	28.5	76	73.1	843	120	273
Iron		MG/KG	109000 J	52400 J	21200 J	37700	28400	95800	121000	52200
Lead		MG/KG	86	58.2	18.6 J	120	145	78.4	179	317
Magnesium		MG/KG	14400	16600	11800 J	16600	20500	62600	2880	11900
Manganese		MG/KG	754	462	494	389	344	3770	640	500
Mercury		MG/KG	18.7	25.3	0.438 J	7.41	54.9	4.84	13.9	149
Nickel		MG/KG	74.2 J	28.4 J	18.5 J	40.6	37.4	250	51.5	131
Potassium		MG/KG	932	955	835 J	856	973	1470	288	1380
Selenium		MG/KG	2.53 U	1.2 U	1.1 U	1.33 U	1.11 U	5.87 U	3.21 U	3.08 U
Silver		MG/KG	1.77 U	0.842 U	0.767 U	0.928 U	0.776 U	4.11 U	2.24 U	2.16 U
Sodium		MG/KG	126 U	96.1	125	228	154	786	276	505
Thallium		MG/KG	2.53 U	1.2 U	1.1 UJ	1.33 U	1.11 U	5.87 U	3.21 U	3.08 U
Vanadium		MG/KG	91.7	71	24.6	58.5	42	243	154	213
Zinc		MG/KG	6080 J	3250 J	99.4 UJ	1570	376	552	496	1310
PCBs										
Aroclor 1016		MG/KG	0.0599 U	0.0577 U	0.0581 U	0.381 U	0.233 U	0.283 U	0.816 U	0.159 U
Aroclor 1221		MG/KG	0.0599 U	0.0577 U	0.0581 U	0.381 U	0.233 U	0.283 U	0.816 U	0.159 U
Aroclor 1232		MG/KG	0.0599 U	0.0577 U	0.0581 U	0.381 U	0.233 U	0.283 U	0.816 U	0.159 U
Aroclor 1242		MG/KG	0.0599 U	0.0577 U	0.0581 U	0.381 U	0.233 U	0.283 U	0.816 U	0.159 U
Aroclor 1248		MG/KG	0.0599 U	0.0577 U	0.0581 U	0.381 U	0.233 U	0.283 U	0.816 U	0.159 U
Aroclor 1254		MG/KG	0.213 J	0.063 J	0.0581 U	11.3 J	10.7 J	0.283 U	26.3 J	5.32 J
Aroclor 1260		MG/KG	0.0599 U	0.0577 U	0.0581 U	0.381 U	0.233 U	0.283 U	5.9 J	0.159 U
Total PCBs		MG/KG	0.213 J	0.063 J	0.0581 U	11.3 J	10.7 J	0.283 U	32.2 J	5.32 J

TABLE 4-4
DRAIN SEDIMENT RESULTS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	Sample ID / Location ID / Sample Date / Sample Interval	Units	DRAIN-SD-001 / DRAIN-SD-001 / 7/7/2014 / 0-1	DUP-20140707 / DRAIN-SD-001 / 7/7/2014 / 0-1	DRAIN-SD-002 / DRAIN-SD-002 / 7/7/2014 / 0-1	DRAIN-SD-008 / DRAIN-SD-008 / 7/8/2014 / 0-1	DRAIN-SD-009 / DRAIN-SD-009 / 7/7/2014 / 0-1	DRAIN-SD-010 / DRAIN-SD-010 / 7/7/2014 / 0-1	DRAIN-SD-011 / DRAIN-SD-011 / 7/7/2014 / 0-1	DRAIN-SD-012 / DRAIN-SD-012 / 7/7/2014 / 0-1
VOCs										
1,1,1,2-Tetrachloroethane		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
1,1,1-Trichloroethane		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
1,1,2,2-Tetrachloroethane		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
1,1,2-Trichloro-1,2,2-trifluoroethane		MG/KG				0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
1,1,2-Trichloroethane		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
1,1-Dichloroethane		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
1,1-Dichloroethene		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
1,1-Dichloropropene		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
1,2,3-Trichlorobenzene		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
1,2,3-Trichloropropane		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
1,2,4,5-Tetramethylbenzene		MG/KG				0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
1,2,4-Trichlorobenzene		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
1,2,4-Trimethylbenzene		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
1,2-Dibromo-3-chloropropane (DBCP)		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
1,2-Dibromoethane (EDB)		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
1,2-Dichlorobenzene		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
1,2-Dichloroethane		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
1,2-Dichloropropane		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
1,2-Dimethylbenzene (o-Xylene)		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
1,3,5-Trimethylbenzene (mesitylene)		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
1,3-Dichlorobenzene		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
1,3-Dichloropropane		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
1,4-Dichlorobenzene		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
2,2-Dichloropropane		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
2-Butanone (MEK)		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
2-Chlorotoluene		MG/KG	0.00186 U	0.0016 U	0.0019 UJ					
2/4-Chlorotoluene Coelution		MG/KG				0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
2-Hexanone		MG/KG	0.00186 U	0.0016 U	0.0019 UJ					
4-Chlorotoluene		MG/KG	0.00186 U	0.0016 U	0.0019 UJ					
4-Isopropyltoluene (p-Cymene)		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
4-Methyl-2-pentanone (MIBK)		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
Acetone		MG/KG	0.00931 UJ	0.008 UJ	0.00952 UJ	0.01 U	0.0097 U	0.16	0.022 U	0.023 U

TABLE 4-4
DRAIN SEDIMENT RESULTS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	Sample ID	DRAIN-SD-001	DUP-20140707	DRAIN-SD-002	DRAIN-SD-008	DRAIN-SD-009	DRAIN-SD-010	DRAIN-SD-011	DRAIN-SD-012
	Location ID	DRAIN-SD-001	DRAIN-SD-001	DRAIN-SD-002	DRAIN-SD-008	DRAIN-SD-009	DRAIN-SD-010	DRAIN-SD-011	DRAIN-SD-012
	Sample Date	7/7/2014	7/7/2014	7/7/2014	7/8/2014	7/7/2014	7/7/2014	7/7/2014	7/7/2014
	Sample Interval	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
	Units								
Benzene	MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
Bromobenzene	MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
Bromochloromethane	MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
Bromodichloromethane	MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
Bromoform	MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
Bromomethane	MG/KG	0.00186 R	0.0016 R	0.0019 R	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
Carbon disulfide	MG/KG	0.00186 U	0.0016 U	0.00267 J					
Carbon tetrachloride	MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
Chlorobenzene	MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.086	0.023 U
Chlorodifluoromethane (Freon 22)	MG/KG				0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
Chloroethane	MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
Chloroform	MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
Chloromethane	MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
cis-1,2-Dichloroethene	MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
cis-1,3-Dichloropropene	MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
Dibromochloromethane	MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
Dibromomethane	MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
Dichlorodifluoromethane (Freon 12)	MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
Ethylbenzene	MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
Hexachlorobutadiene	MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
Isopropylbenzene (Cumene)	MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
Methylene chloride	MG/KG	0.00931 U	0.008 U	0.00952 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
Naphthalene	MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
n-Butylbenzene	MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
n-Propylbenzene	MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
p-Diethylbenzene	MG/KG				0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
sec-Butylbenzene	MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
Styrene	MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
tert-Butyl methyl ether (MTBE)	MG/KG	0.00186 U	0.0016 U	0.0019 UJ					
tert-Butylbenzene	MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
Tetrachloroethene (PCE)	MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
Toluene	MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U

TABLE 4-4
DRAIN SEDIMENT RESULTS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	Sample ID / Location ID / Sample Date / Sample Interval	Units	DRAIN-SD-001 / DRAIN-SD-001 / 7/7/2014 / 0-1	DUP-20140707 / DRAIN-SD-001 / 7/7/2014 / 0-1	DRAIN-SD-002 / DRAIN-SD-002 / 7/7/2014 / 0-1	DRAIN-SD-008 / DRAIN-SD-008 / 7/8/2014 / 0-1	DRAIN-SD-009 / DRAIN-SD-009 / 7/7/2014 / 0-1	DRAIN-SD-010 / DRAIN-SD-010 / 7/7/2014 / 0-1	DRAIN-SD-011 / DRAIN-SD-011 / 7/7/2014 / 0-1	DRAIN-SD-012 / DRAIN-SD-012 / 7/7/2014 / 0-1
trans-1,2-Dichloroethene		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
trans-1,3-Dichloropropene		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
Trichloroethene (TCE)		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
Trichlorofluoromethane (Freon 11)		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
Vinyl acetate		MG/KG	0.00186 U	0.0016 U	0.0019 UJ					
Vinyl chloride		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
Xylenes, m & p		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
Xylenes, total		MG/KG	0.00186 U	0.0016 U	0.0019 UJ	0.01 U	0.0097 U	0.028 U	0.022 U	0.023 U
SVOCs										
1,2,4-Trichlorobenzene		MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
1,2-Dichlorobenzene		MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
1,3-Dichlorobenzene		MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
1,4-Dichlorobenzene		MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
2,4,5-Trichlorophenol		MG/KG	3.9 U	3.8 U	3.7 U	5.4 U	0.95 U	3 U	6 U	8.2 U
2,4,6-Trichlorophenol		MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
2,4-Dichlorophenol		MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
2,4-Dimethylphenol		MG/KG	0.4 U	0.39 U	0.37 R	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
2,4-Dinitrophenol		MG/KG	3.9 U	3.8 U	3.7 R	5.4 U	0.95 U	3 R	6 U	8.2 U
2,4-Dinitrotoluene		MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
2,6-Dinitrotoluene		MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
2-Chloronaphthalene		MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
2-Chlorophenol		MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
2-Methylnaphthalene		MG/KG	0.87	1.3	0.37 U	2.1 U	0.38 U	1.2 U	7.9	0.84 U
2-Methylphenol (o-cresol)		MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
2-Nitroaniline		MG/KG	3.9 U	3.8 U	3.7 U	5.4 U	0.95 U	3 U	6 U	8.2 U
2-Nitrophenol		MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
3,3'-Dichlorobenzidine		MG/KG	0.4 U	0.39 U	0.37 R	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
3-Nitroanlline		MG/KG	3.9 U	3.8 U	3.7 U	5.4 U	0.95 U	3 U	6 U	8.2 U
4,6-Dinitro-2-methylphenol		MG/KG	3.9 U	3.8 U	3.7 U	5.4 U	0.95 U	3 R	6 U	8.2 U
4-Bromophenyl phenyl ether		MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
4-Chloro-3-methylphenol		MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
4-Chloroaniline		MG/KG	0.4 U	0.39 U	0.37 R	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
4-Chlorophenyl phenyl ether		MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U

TABLE 4-4
DRAIN SEDIMENT RESULTS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	Sample ID / Location ID / Sample Date / Sample Interval	Units	DRAIN-SD-001 / DRAIN-SD-001 / 7/7/2014 / 0-1	DUP-20140707 / DRAIN-SD-001 / 7/7/2014 / 0-1	DRAIN-SD-002 / DRAIN-SD-002 / 7/7/2014 / 0-1	DRAIN-SD-008 / DRAIN-SD-008 / 7/8/2014 / 0-1	DRAIN-SD-009 / DRAIN-SD-009 / 7/7/2014 / 0-1	DRAIN-SD-010 / DRAIN-SD-010 / 7/7/2014 / 0-1	DRAIN-SD-011 / DRAIN-SD-011 / 7/7/2014 / 0-1	DRAIN-SD-012 / DRAIN-SD-012 / 7/7/2014 / 0-1
4-Methylphenol		MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
4-Nitroaniline		MG/KG	3.9 U	3.8 U	3.7 U	5.4 U	0.95 U	3 U	6 U	8.2 U
4-Nitrophenol		MG/KG	3.9 U	3.8 U	3.7 U	5.4 U	0.95 U	3 U	6 U	8.2 U
Acenaphthene		MG/KG	4.5	6.1	0.37 U	2.1 U	0.38 U	1.2 U	23	0.84 U
Acenaphthylene		MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
Anthracene		MG/KG	14	21	0.37 U	2.1 U	0.38 U	1.2 U	60 U	0.84 U
Benzo(a)anthracene		MG/KG	47	62	0.37 U	2.1 U	0.38 U	1.2 U	89	1.4
Benzo(a)pyrene		MG/KG	35	48	0.37 U	2.1 U	0.38 U	1.2 U	60 U	1.2
Benzo(b)fluoranthene		MG/KG	54	72	0.37 U	2.2	0.41	1.2 U	72	1.9
Benzo(g,h,i)perylene		MG/KG	14	17	0.37 U	2.1 U	0.38 U	1.2 U	29	0.89
Benzo(k)fluoranthene		MG/KG	23	14	0.37 U	2.1 U	0.38 U	1.2 U	19	0.84 U
Benzyl butyl phthalate		MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
bis(2-Chloroethoxy)methane		MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
bis(2-Chloroethyl)ether		MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
bis(2-Chloroisopropyl)ether		MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
bis(2-Ethylhexyl)phthalate		MG/KG	0.48	0.39 U	0.37 U	2.1 U	0.38 U	5.9 J	0.96	2.6
Carbazole		MG/KG	12	16	0.37 U	2.1 U	0.38 U	1.2 U	19	0.84 U
Chrysene		MG/KG	47	73	0.37 U	2.3	0.39	1.2 U	83	1.5
Dibenz(a,h)anthracene		MG/KG	5.4 J	10 J	0.37 U	2.1 U	0.38 U	1.2 U	11	0.84 U
Dibenzofuran		MG/KG	2.4	3.7	0.37 U	2.1 U	0.38 U	1.2 U	15	0.84 U
Diethyl phthalate		MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
Dimethyl phthalate		MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
di-n-Butyl phthalate		MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.54	1.8	1.2	1.5
di-n-Octyl phthalate		MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
Fluoranthene		MG/KG	120	180	0.37 U	3.3	0.42	1.2 U	170	2
Fluorene		MG/KG	5.1	7.1	0.37 U	2.1 U	0.38 U	1.2 U	26	0.84 U
Hexachlorobenzene		MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
Hexachlorobutadiene		MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
Hexachlorocyclopentadiene		MG/KG	0.4 U	0.39 U	0.37 R	2.1 U	0.38 U	1.2 R	0.61 U	0.84 U
Hexachloroethane		MG/KG	0.4 U	0.39 U	0.37 UJ	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
Indeno(1,2,3-c,d)pyrene		MG/KG	14	18	0.37 U	2.1 U	0.38 U	1.2 U	26	0.9
Isophorone		MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
Naphthalene		MG/KG	1	1.4	0.37 U	2.1 U	0.38 U	1.2 U	18	0.84 U

TABLE 4-4
DRAIN SEDIMENT RESULTS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	Sample ID / Location ID / Sample Date / Sample Interval / Units	DRAIN-SD-001 / DRAIN-SD-001 / 7/7/2014 / 0-1	DUP-20140707 / DRAIN-SD-001 / 7/7/2014 / 0-1	DRAIN-SD-002 / DRAIN-SD-002 / 7/7/2014 / 0-1	DRAIN-SD-008 / DRAIN-SD-008 / 7/8/2014 / 0-1	DRAIN-SD-009 / DRAIN-SD-009 / 7/7/2014 / 0-1	DRAIN-SD-010 / DRAIN-SD-010 / 7/7/2014 / 0-1	DRAIN-SD-011 / DRAIN-SD-011 / 7/7/2014 / 0-1	DRAIN-SD-012 / DRAIN-SD-012 / 7/7/2014 / 0-1
Nitrobenzene	MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
N-Nitroso-di-n-propylamine	MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
N-Nitrosodiphenylamine	MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
Pentachlorophenol	MG/KG	3.9 U	3.8 U	3.7 U	5.4 U	0.95 U	3 U	6 U	8.2 U
Phenanthrene	MG/KG	81	120	0.37 U	2.1 U	0.38 U	1.2 U	240	0.97
Phenol	MG/KG	0.4 U	0.39 U	0.37 U	2.1 U	0.38 U	1.2 U	0.61 U	0.84 U
Pyrene	MG/KG	98	140	0.37 U	4.8	0.56	1.2 U	240	3
Ammonia (as N)	MG/KG	0.581 U	0.586 U	0.577 U	0.676 U	0.585 U	3.23 U	4.9	6.6

Notes:
U - Constituent not detected above the associated detection limit
J - Estimated value
R - Rejected Result

TABLE 4-5
LAGOON SEDIMENT RESULTS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	Sample ID / Location ID / Sample Date / Sample Interval	Units	C-SD-006-01 / C-SD-006 / 7/8/2014 / 0-1	C-SD-007-01 / C-SD-007 / 7/8/2014 / 0-1	C-SD-008-01 / C-SD-008 / 7/8/2014 / 0-1	DUP-20140708 / C-SD-008 / 7/8/2014 / 0-1	C-SD-009-01 / C-SD-009 / 7/7/2014 / 0-1
Metals							
Aluminum		MG/KG	20000	11800	21400 J	36500 J	14200
Antimony		MG/KG	3.75 U	4.53 U	3.8 U	3.7 U	2.64 U
Arsenic		MG/KG	8.5	10.2	4.15	6.22	6.6
Barium		MG/KG	122	161	77.7	87.4	111
Beryllium		MG/KG	3 U	3.62 U	3.04 U	2.96 U	2.11 U
Cadmium		MG/KG	3 U	3.62 U	3.04 U	2.96 U	2.11 U
Calcium		MG/KG	17900	37000	57500	46700	8690
Chromium		MG/KG	35.5	33	17.9	22	32.7
Cobalt		MG/KG	16.5	11.8	10.7	13.7	13.2
Copper		MG/KG	142	145	82.3	98.8	147
Iron		MG/KG	30000	25300	22600	23400	25400
Lead		MG/KG	55.7	49.1	27.7	36.7	51.3
Magnesium		MG/KG	26400	4450	11300	18300	6550
Manganese		MG/KG	810	311	1010	1560	580
Mercury		MG/KG	8.43	6.76	4.12	5.75	8.67
Nickel		MG/KG	55	38.3	35.4	43.6	42.1
Potassium		MG/KG	2250	1630	1390	1310	1530
Selenium		MG/KG	7.51 U	9.06 U	7.6 U	7.4 U	5.28 U
Silver		MG/KG	5.25 U	6.34 U	5.32 U	5.18 U	3.7 U
Sodium		MG/KG	2120	882	1100	1010	602
Thallium		MG/KG	7.51 U	9.06 U	7.6 U	7.4 U	5.28 U
Vanadium		MG/KG	132	95	76.5	104	107
Zinc		MG/KG	427	308	255	327	329
PCBs							
Aroclor 1016		MG/KG	0.367 U	0.472 U	0.389 U	0.358 U	0.262 U
Aroclor 1221		MG/KG	0.367 U	0.472 U	0.389 U	0.358 U	0.262 U
Aroclor 1232		MG/KG	0.367 U	0.472 U	0.389 U	0.358 U	0.262 U
Aroclor 1242		MG/KG	0.367 U	0.472 U	0.389 U	0.358 U	0.262 U
Aroclor 1248		MG/KG	0.367 U	0.472 U	0.389 U	0.358 U	0.262 U
Aroclor 1254		MG/KG	0.457 J	0.472 U	0.565 J	0.701 J	0.426 J
Aroclor 1260		MG/KG	0.367 U	0.472 U	0.389 U	0.358 U	0.262 U
Total PCBs		MG/KG	0.457 J	0.472 U	0.565 J	0.701 J	0.426 J
VOCs							
1,1,1,2-Tetrachloroethane		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
1,1,1-Trichloroethane		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
1,1,2,2-Tetrachloroethane		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
1,1,2-Trichloro-1,2,2-trifluoroethane		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	
1,1,2-Trichloroethane		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
1,1-Dichloroethane		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
1,1-Dichloroethene		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
1,1-Dichloropropene		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
1,2,3-Trichlorobenzene		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
1,2,3-Trichloropropane		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
1,2,4,5-Tetramethylbenzene		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	
1,2,4-Trichlorobenzene		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
1,2,4-Trimethylbenzene		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U

TABLE 4-5
LAGOON SEOIMENT RESULTS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	Sample ID / Location ID / Sample Date / Sample Interval	Units	C-SD-006-01 / C-SD-006 / 7/8/2014 / 0-1	C-SD-007-01 / C-SD-007 / 7/8/2014 / 0-1	C-SD-008-01 / C-SD-008 / 7/8/2014 / 0-1	DUP-20140708 / C-SD-008 / 7/8/2014 / 0-1	C-SD-009-01 / C-SD-009 / 7/7/2014 / 0-1
1,2-Oibromo-3-chloropropane (OBCP)		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
1,2-Dibromoethane (EOB)		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
1,2-Oichlorobenzene		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
1,2-Dichloroethane		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
1,2-Oichloropropane		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
1,2-Oimethylbenzene (o-Xylene)		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
1,3,5-Trimethylbenzene (mesitylene)		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
1,3-Oichlorobenzene		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
1,3-Oichloropropane		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
1,4-Oichlorobenzene		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
2,2-Olchloropropane		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
2-Butanone (MEK)		MG/KG	0.19	0.083	0.11	0.11	0.00801 U
2-Chlorotoluene		MG/KG					0.00801 U
2/4-Chlorotoluene Coelution		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	
2-Hexanone		MG/KG					0.00801 U
4-Chlorotoluene		MG/KG					0.00801 U
4-Isopropyltoluene (p-Cymene)		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
4-Methyl-2-pentanone (MIBK)		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
Acetone		MG/KG	1.2	0.53	0.83	0.81	0.04 UJ
Benzene		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
Bromobenzene		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
Bromochloromethane		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
Bromodichloromethane		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
Bromoform		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
Bromomethane		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 R
Carbon disulfide		MG/KG					0.00801 U
Carbon tetrachloride		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
Chlorobenzene		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
Chlorodlfluoromethane		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	
Chioroethane		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
Chloroform		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
Chloromethane		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
cis-1,2-Oichloroethene		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
cis-1,3-Dichloropropene		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
Oibromochloromethane		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
Oibromomethane		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
Oichlorodifluoromethane (Freon 12)		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
Ethylbenzene		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
Hexachlorobutadiene		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
Isopropylbenzene (Cumene)		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
Methylene chloride		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.04 U
Naphthalene		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
n-Butylbenzene		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
n-Propylbenzene		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
p-Diethylbenzene		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	
sec-Butylbenzene		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
Styrene		MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U

TABLE 4-5
LAGOON SEDIMENT RESULTS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	Sample ID / Location ID / Sample Date / Sample Interval / Units	C-SD-006-01 / C-SD-006 / 7/8/2014 / 0-1	C-SD-007-01 / C-SD-007 / 7/8/2014 / 0-1	C-SD-008-01 / C-SD-008 / 7/8/2014 / 0-1	DUP-20140708 / C-SD-008 / 7/8/2014 / 0-1	C-SD-009-01 / C-SD-009 / 7/7/2014 / 0-1
tert-Butyl methyl ether (MTBE)	MG/KG					0.00801 U
tert-Butylbenzene	MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
Tetrachloroethene (PCE)	MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
Toluene	MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
trans-1,2-Dichloroethene	MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
trans-1,3-Dichloropropene	MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
Trichloroethene (TCE)	MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
Trichlorofluoromethane (Freon 11)	MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
Vinyl acetate	MG/KG					0.00801 U
Vinyl chloride	MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
Xylenes, m & p	MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
Xylenes, total	MG/KG	0.062 U	0.068 U	0.1 U	0.069 U	0.00801 U
SVOCs						
1,2,4-Trichlorobenzene	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
1,2-Dichlorobenzene	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
1,3-Dichlorobenzene	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
1,4-Dichlorobenzene	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
2,4,5-Trichlorophenol	MG/KG	5.1 U	6.8 U	6.1 U	4.4 U	2.3 U
2,4,6-Trichlorophenol	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
2,4-Dichlorophenol	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
2,4-Dimethylphenol	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
2,4-Dinitrophenol	MG/KG	5.1 U	6.8 U	6.1 U	4.4 U	2.3 U
2,4-Dinitrotoluene	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
2,6-Dinitrotoluene	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
2-Chloronaphthalene	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
2-Chlorophenol	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
2-Methylnaphthalene	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
2-Methylphenol (o-cresol)	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
2-Nitroaniline	MG/KG	5.1 U	6.8 U	6.1 U	4.4 U	2.3 U
2-Nitrophenol	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
3,3'-Dichlorobenzidine	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
3-Nitroaniline	MG/KG	5.1 U	6.8 U	6.1 U	4.4 U	2.3 U
4,6-Dinitro-2-methylphenol	MG/KG	5.1 U	6.8 U	6.1 U	4.4 U	2.3 U
4-Bromophenyl phenyl ether	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
4-Chloro-3-methylphenol	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
4-Chloroaniline	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
4-Chlorophenyl phenyl ether	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
4-Methylphenol	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
4-Nitroaniline	MG/KG	5.1 U	6.8 U	6.1 U	4.4 U	2.3 U
4-Nitrophenol	MG/KG	5.1 U	6.8 U	6.1 U	4.4 U	2.3 U
Acenaphthene	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
Acenaphthylene	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
Anthracene	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
Benzo(a)anthracene	MG/KG	2 U	2.7 U	2.4 UJ	2 J	0.9 U
Benzo(a)pyrene	MG/KG	2 U	2.7 U	2.4 UJ	2.2 J	0.9 U
Benzo(b)fluoranthene	MG/KG	2 U	2.7 U	2.4 UJ	3.7 J	0.9 U
Benzo(g,h,i)perylene	MG/KG	2 U	2.7 U	2.4 U	1.8	0.9 U

TABLE 4-5
LAGOON SEDIMENT RESULTS
FORMER NEPERA PLANT SITE
HARRIMAN, NEW YORK

Constituent	Sample ID	C-SD-006-01	C-SD-007-01	C-SD-008-01	DUP-20140708	C-SD-009-01
	Location ID	C-SD-006	C-SD-007	C-SD-008	C-SD-008	C-SD-009
	Sample Date	7/8/2014	7/8/2014	7/8/2014	7/8/2014	7/7/2014
	Sample Interval	0-1	0-1	0-1	0-1	0-1
	Units					
Benzo(k)fluoranthene	MG/KG	2 U	2.7 U	2.4 U	1.3	0.9 U
Benzyl butyl phthalate	MG/KG	2 U	2.7 U	2.4 UJ	0.64 J	0.9 U
bis(2-Chloroethoxy)methane	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
bis(2-Chloroethyl)ether	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
bis(2-Chloroisopropyl)ether	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
bis(2-Ethylhexyl)phthalate	MG/KG	2.3	45	2.4 UJ	22 J	1.3
Carbazole	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
Chrysene	MG/KG	2 U	2.7 U	2.4 UJ	2.9 J	0.9 U
Dibenz(a,h)anthracene	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
Dibenzofuran	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
Diethyl phthalate	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
Dimethyl phthalate	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
dl-n-Butyl phthalate	MG/KG	4.6	3.4	3 J	28 J	0.9 U
dl-n-Octyl phthalate	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
Fluoranthene	MG/KG	2 U	2.7 U	2.4 UJ	3.4 J	0.9 U
Fluorene	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
Hexachlorobenzene	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
Hexachiorobutadiene	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
Hexachlorocyclopentadiene	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
Hexachloroethane	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
Indeno(1,2,3-c,d)pyrene	MG/KG	2 U	2.7 U	2.4 UJ	1.4 J	0.9 U
Isophorone	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
Naphthalene	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
Nitrobenzene	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
N-Nitroso-di-n-propylamine	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
N-Nitrosodiphenylamine	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
Pentachlorophenol	MG/KG	5.1 U	6.8 U	6.1 U	4.4 U	2.3 U
Phenanthrene	MG/KG	2 U	2.7 U	2.4 UJ	1.3 J	0.9 U
Phenol	MG/KG	2 U	2.7 U	2.4 U	0.45 U	0.9 U
Pyrene	MG/KG	2 U	2.9	2.4 UJ	5.1 J	0.9 U
Ammonia (as N)	MG/KG	98.9	30.5	16.8 J	45.9 J	109

Notes:
U - Constituent not detected above the associated detection limit
J - Estimated value
R - Rejected Result

Figures

9/22/2014

Author: pthorn Path: P:\GIS\Nepera\Supp_RI\Site_Location.mxd

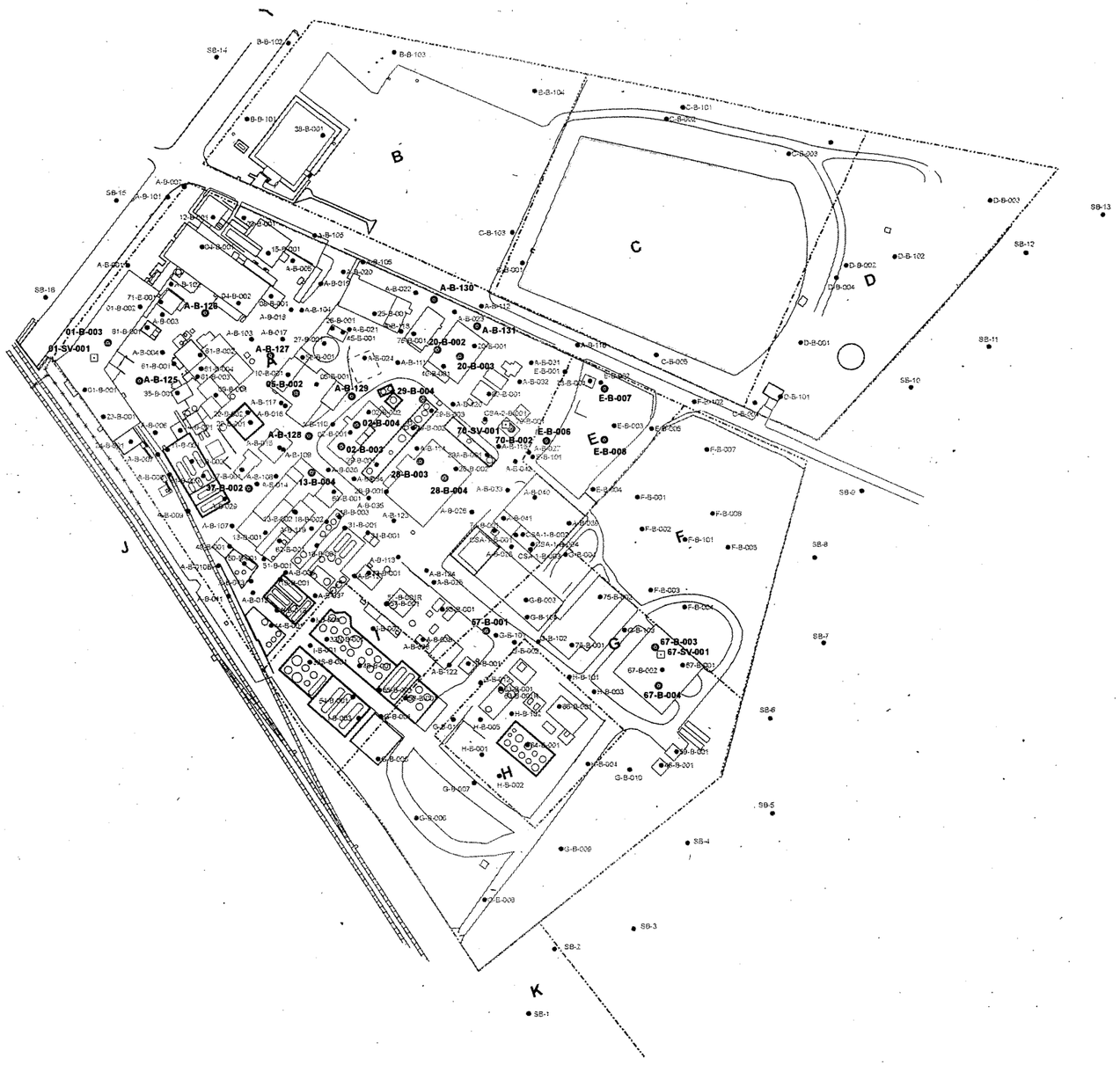
Brown AND Caldwell

FIGURE 1-1
SITE LOCATION
FORMER NEPERA PLANT SITE, HARRIMAN, NEW YORK

0 1,000 2,000
Feet

10/16/2014

N



Legend

- SWMU Soil Boring Location
- Non-SWMU Soil Boring Location
- Soil Vapor Sample Location
- Prior Soil Boring Location
- Site Area Boundary
- Building
- Lagoon

Author: PThorn Path: P:\GIS\Nepera\Supp_RI\Supp_RFI_Sample_Locations.mxd

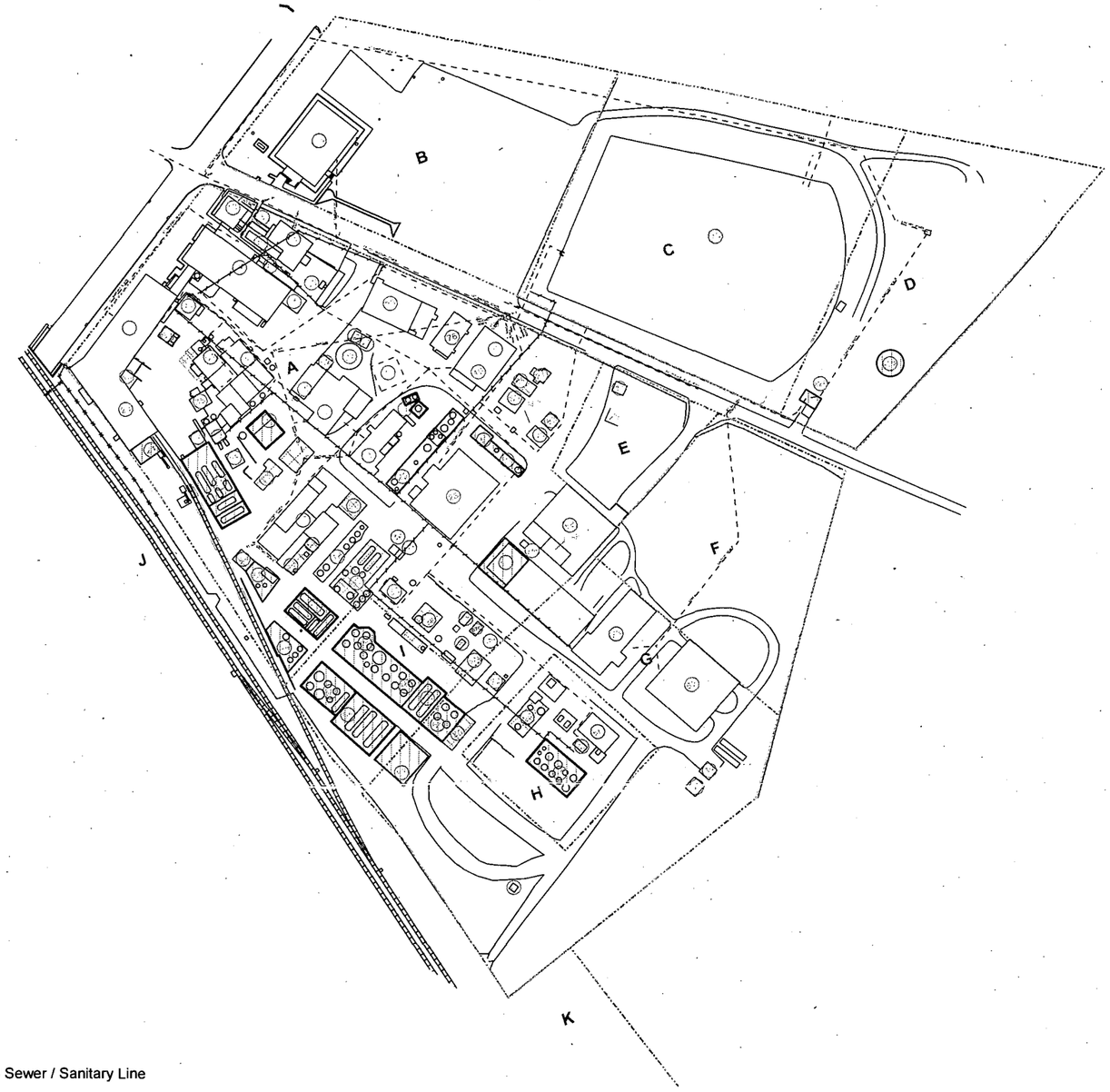
Brown AND Caldwell

FIGURE 2-1
SOIL AND SOIL VAPOR SAMPLE LOCATIONS
FORMER NEPERA PLANT SITE, HARRIMAN, NEW YORK

0 100 200
Feet

9/22/2014

N



Legend

- Site Area Boundary
- Building
- Containment Pad
- Tank Farm
- Lagoon
- Abandoned Industrial Sewer / Sanitary Line
- Industrial Sewer / Sanitary Line

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55 TANK FARM
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83 ERT GARAGE
84 LAB CYLINDER STORAGE
85 IRM BLDG
86 TRUCK LOADING STATION
87 ACS PYRIDINE TANK FARM

Author: pthorn Path: P:\GIS\Nepera\Supp_RI\Site_Plan.mxd

Brown AND Caldwell

FIGURE 1-2
SITE PLAN
FORMER NEPERA PLANT SITE, HARRIMAN, NEW YORK

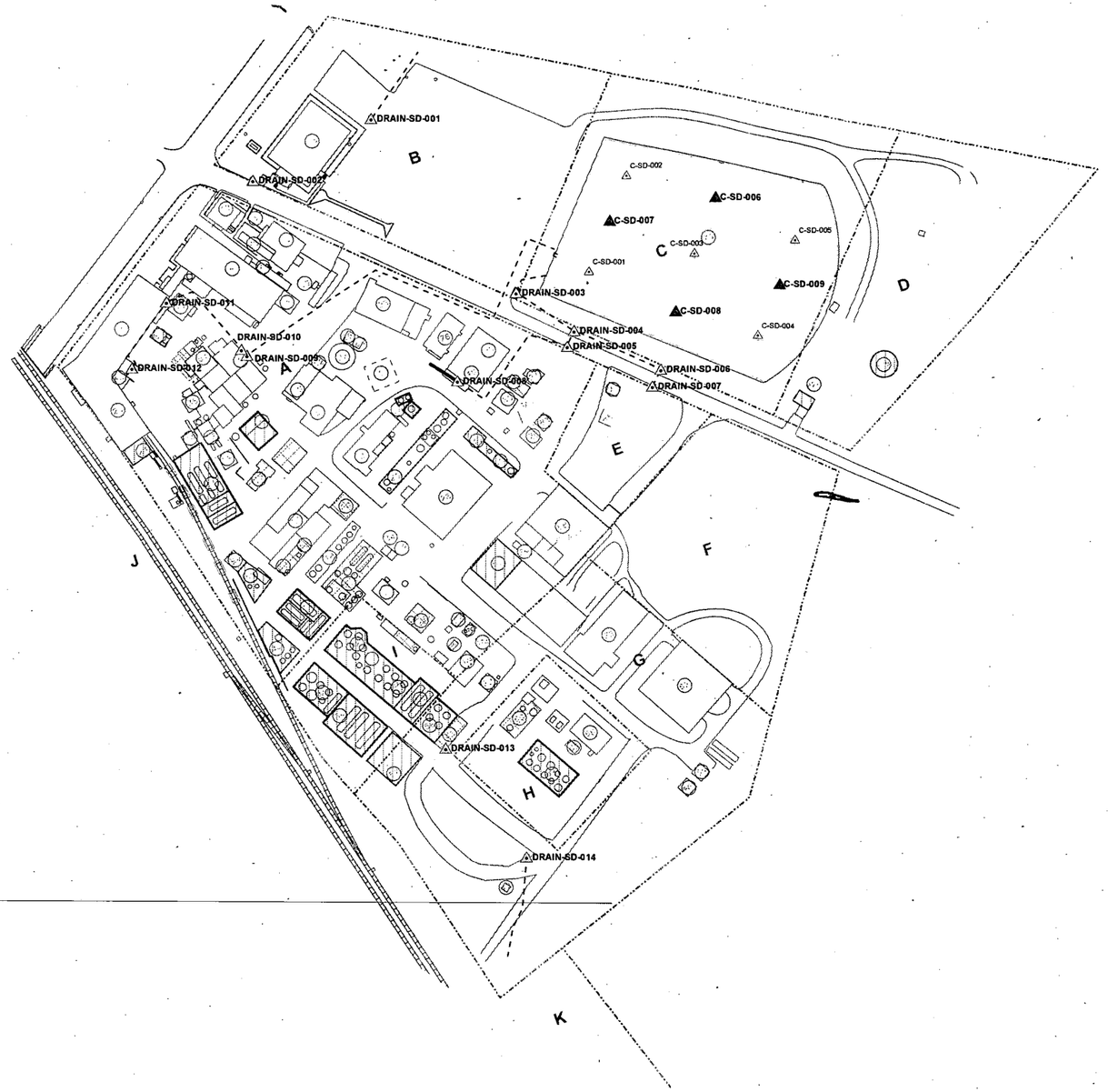
Source Citation

0 100 200

Feet

10/16/2014

N



Legend

- Stormwater Sediment Sample Location
- Lagoon Sediment Sample Location
- Prior RFI Sediment Sample Location
- Stormwater Drain Line
- Site Area Boundary
- Building
- Lagoon

Note:
Samples could not be collected from locations DRAIN-SD-003 through DRAIN-SD-007, DRAIN-SD-0013, DRAIN-SD-14.

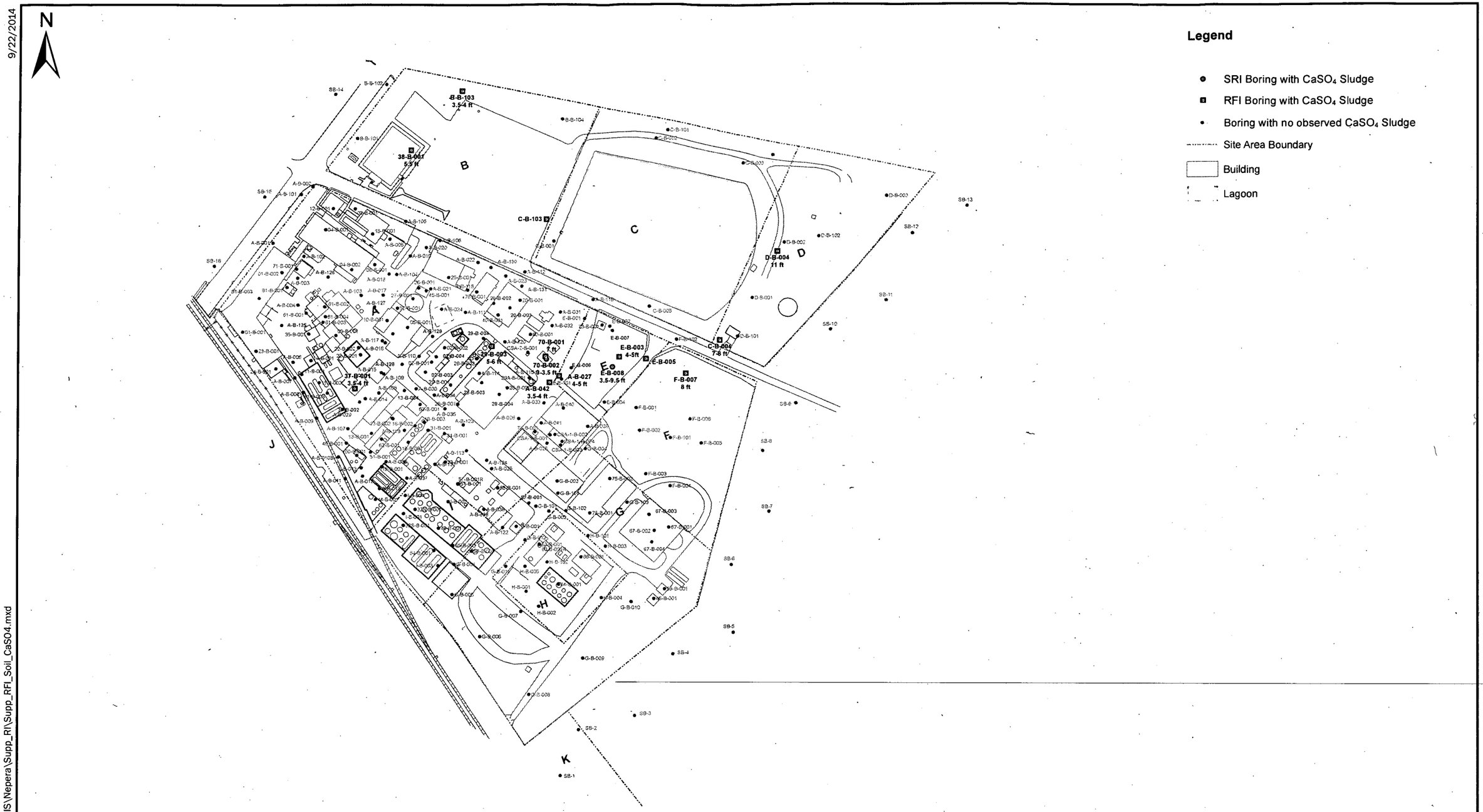
Author: PThorn Path: P:\GIS\Nepera\Supp_RI\Supp_RFI_Sediment_Locations.mxd

Brown AND Caldwell

FIGURE 2-2
SEDIMENT SAMPLE LOCATIONS
FORMER NEPERA PLANT SITE, HARRIMAN, NEW YORK

0 100 200
Feet

9/22/2014



Author: pthorn Path: P:\GIS\Nepera\Supp_RI\Supp_RFI_Soil_CaSO4.mxd

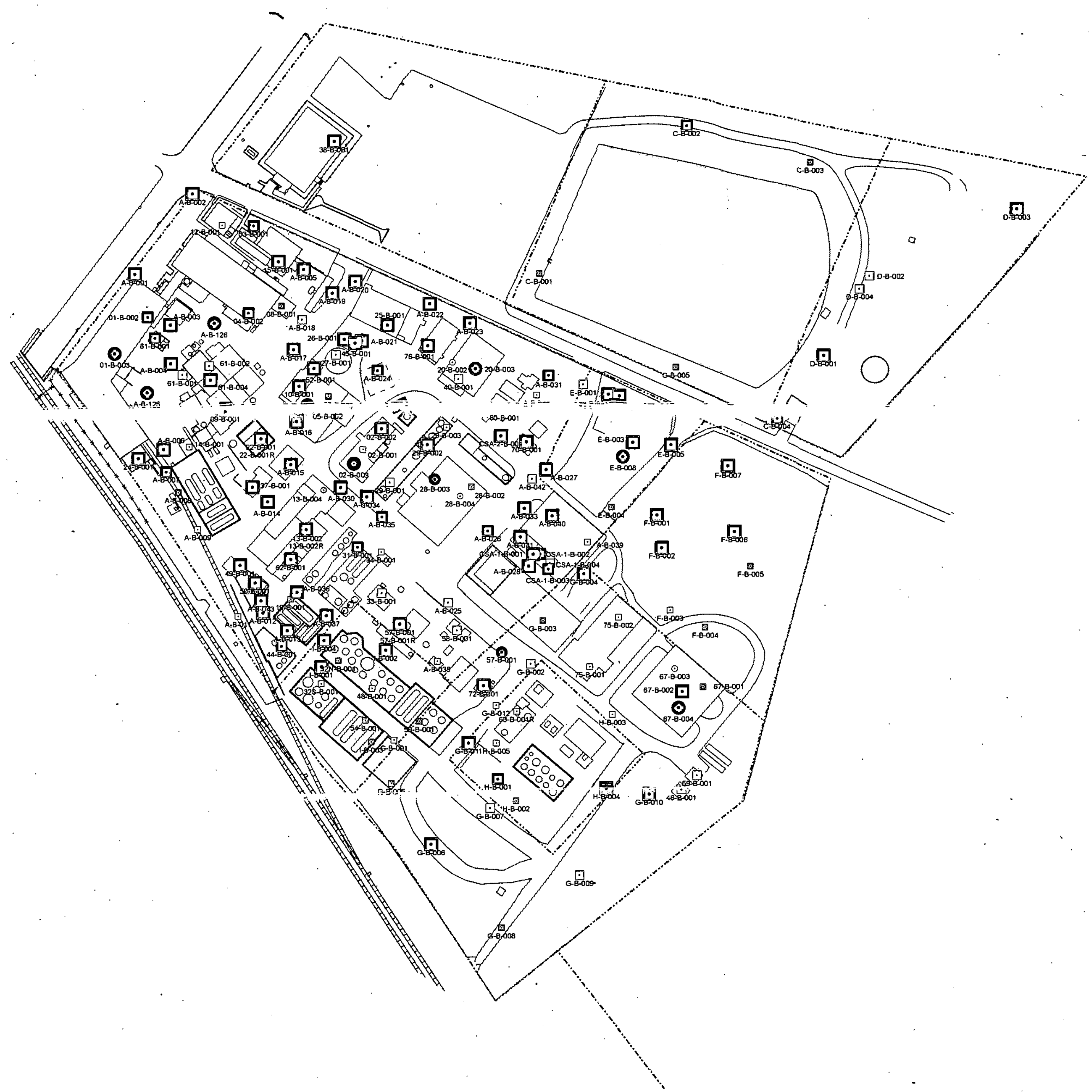
Brown AND Caldwell

FIGURE 4-1
SOIL BORINGS WITH APPARENT CALCIUM SULFATE SLUDGE
FORMER NEPERA PLANT SITE, HARRIMAN, NEW YORK

0 100 200
Feet

10/13/2014

N



Legend

Mercury in Soil (mg/kg)

RFI	Supp. RI	
		< 0.18 (Below Unrestricted Use SCO)
		>0.18 - 0.81 (Above Unrestricted Use SCO)
		>0.81 - 2.8 (Above Residential Restricted Use SCO)
		>2.8 - 5.7 (Above Commercial Restricted Use SCO)
		>5.7 (Above Industrial Restricted Use SCO)

Site Area Boundary

Building

Lagoon

Note:
The sample with the highest concentration per boring is represented on the figure.

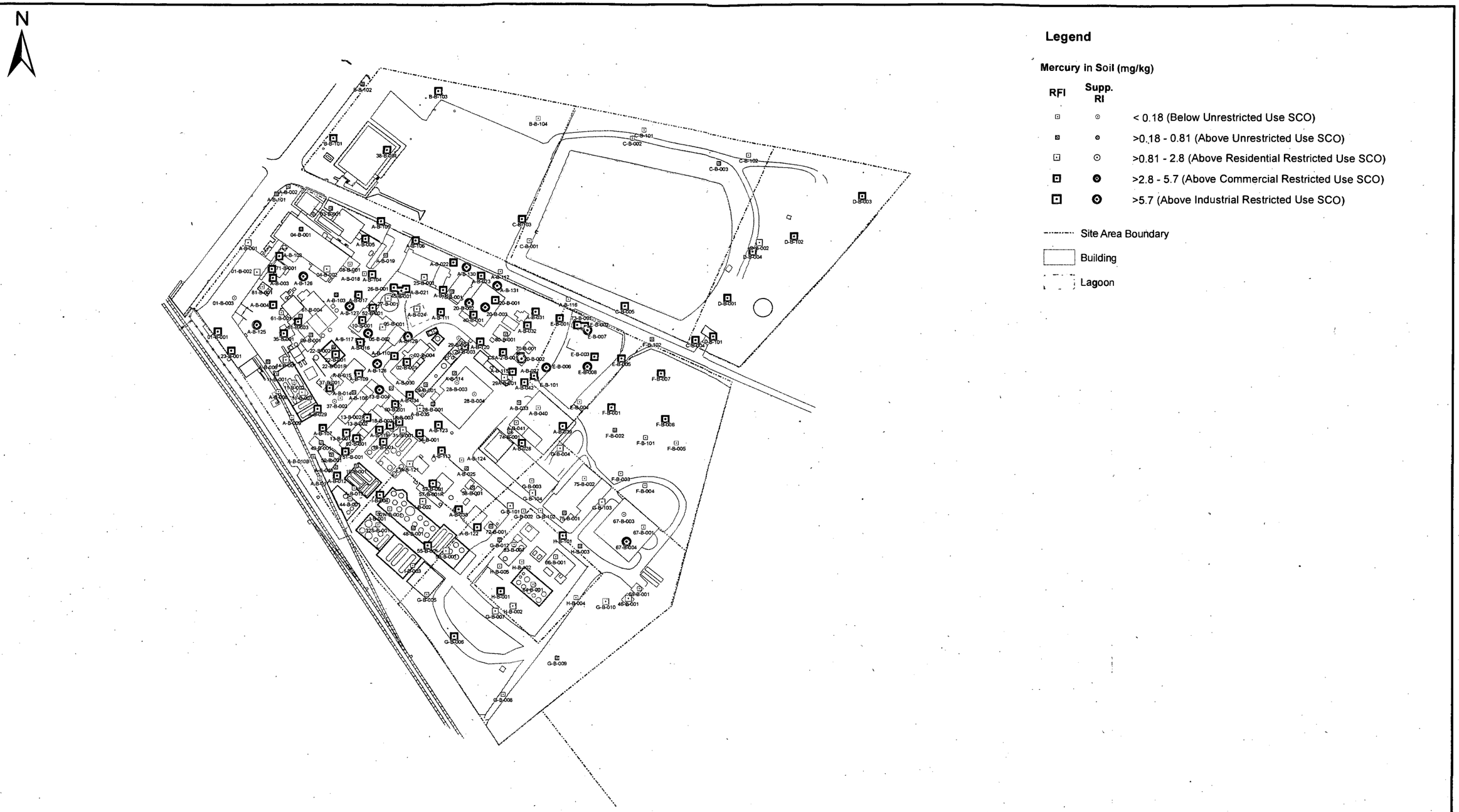
Author: PThorn Path: P:\GIS\Nepera\Supp_RI\Supp_RFI_Soil_Mercury_0_2.mxd

Brown AND Caldwell

FIGURE 4-2
MERCURY IN SOIL: 0-2 FT. DEPTH
FORMER NEPERA PLANT SITE, HARRIMAN, NEW YORK

0 100 200
Feet

10/13/2014



Note:
The sample with the highest concentration per boring is represented on the figure.

Author: PThorn Path: P:\GIS\Nepera\Supp_RI\Supp_RFI_Soil_Mercury_Below_2ft.mxd

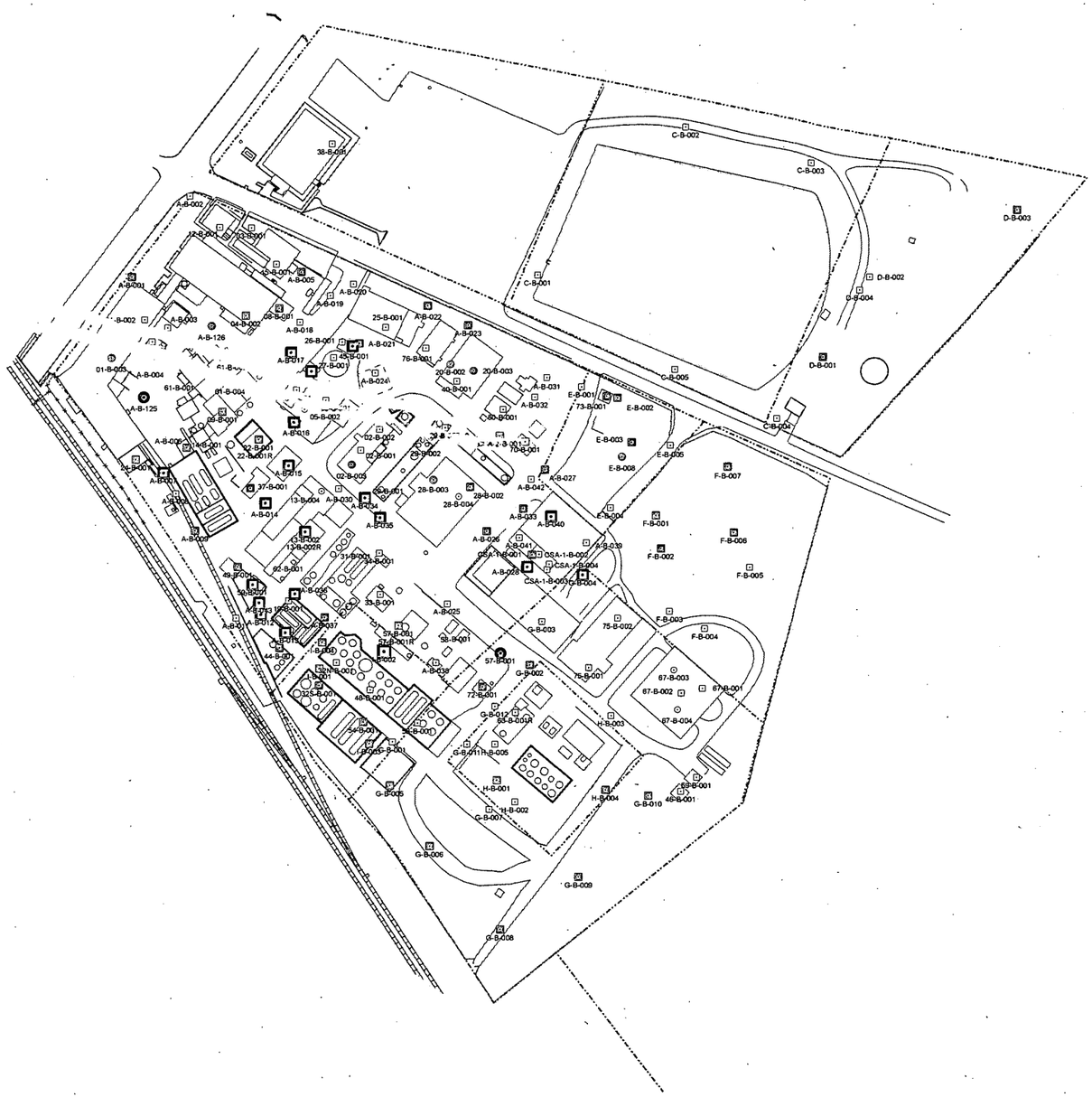
Brown AND Caldwell

FIGURE 4-3
MERCURY IN SOIL: BELOW 2 FT. DEPTH
FORMER NEPERA PLANT SITE, HARRIMAN, NEW YORK

0 100 200
Feet

10/13/2014

N



Legend

Total PCBs in Soil (mg/kg)

RFI	Supp. RI	
▫	⊙	< 0.1 (Below Unrestricted Use SCO)
▪	●	>0.1 - 1 (Above Unrestricted Use SCO)
⊡	◉	>1 - 25 (Above Commercial Restricted Use SCO)
⊡	◉	>25 (Above Industrial Restricted Use SCO)

Site Area Boundary

Building

Lagoon

Note:
The sample with the highest concentration per boring is represented on the figure.

Author: PThorn Path: P:\GIS\Nepera\Supp_RI\Supp_RFI_Soil_PCBs_0-2.mxd

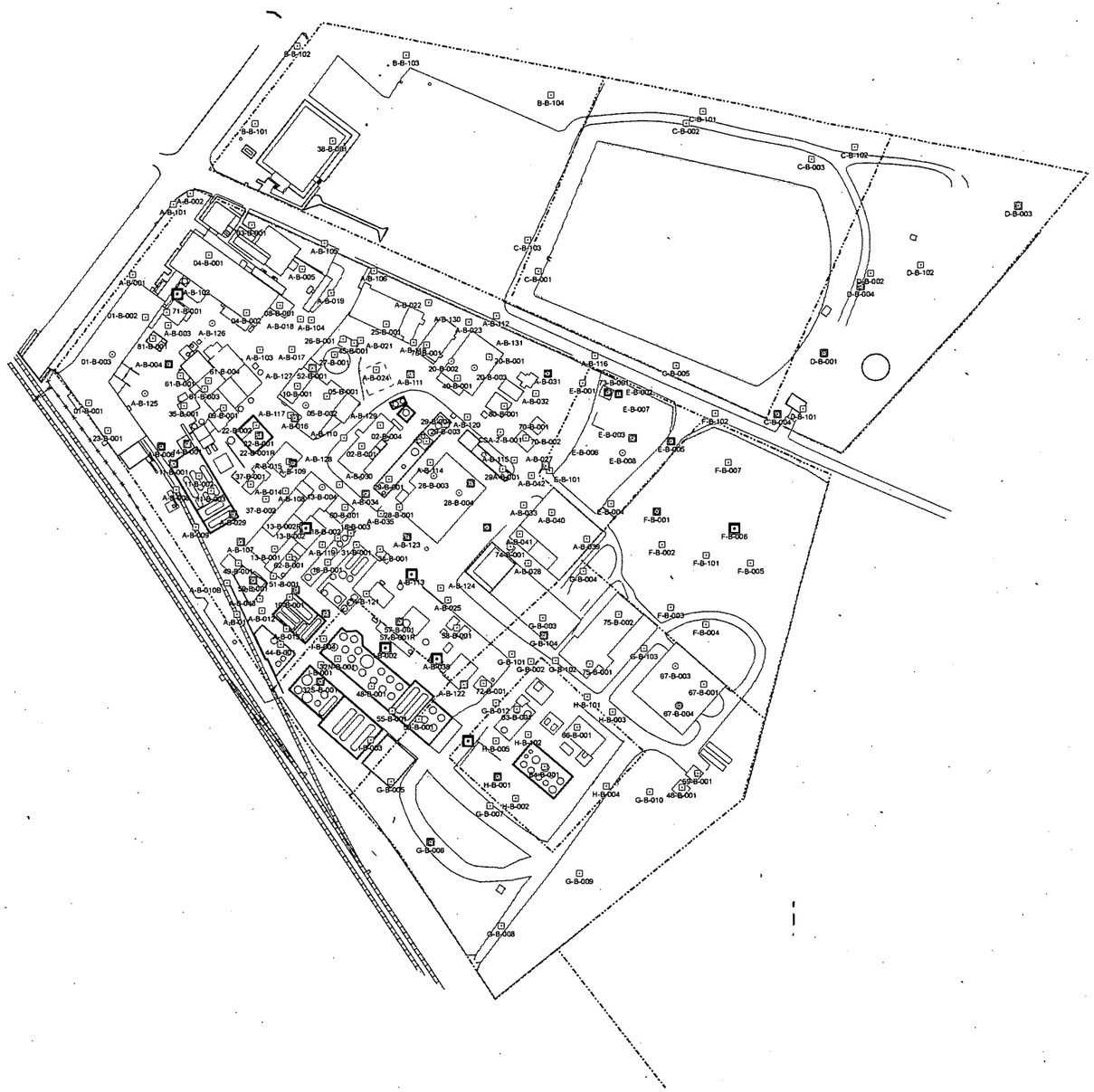
Brown AND Caldwell

FIGURE 4-4
TOTAL PCBs IN SOIL: 0-2 FT. DEPTH
FORMER NEPERA PLANT SITE, HARRIMAN, NEW YORK

0 100 200
Feet

10/13/2014

N



Legend

Total PCBs in Soil (mg/kg)

RFI	Supp. RI	
▫	⊙	< 0.1 (Below Unrestricted Use SCO)
◪	⊙	>0.1 - 1 (Above Unrestricted Use SCO)
⊡	⊙	>1 - 25 (Above Commercial Restricted Use SCO)
⊡	⊙	>25 (Above Industrial Restricted Use SCO)

Site Area Boundary

Building

Lagoon

Note:
The sample with the highest concentration per boring is represented on the figure.

Author: PThorn Path: P:\GIS\Nepera\Supp_RI\Supp_RFI_Soil_PCBs_Below_2ft.mxd

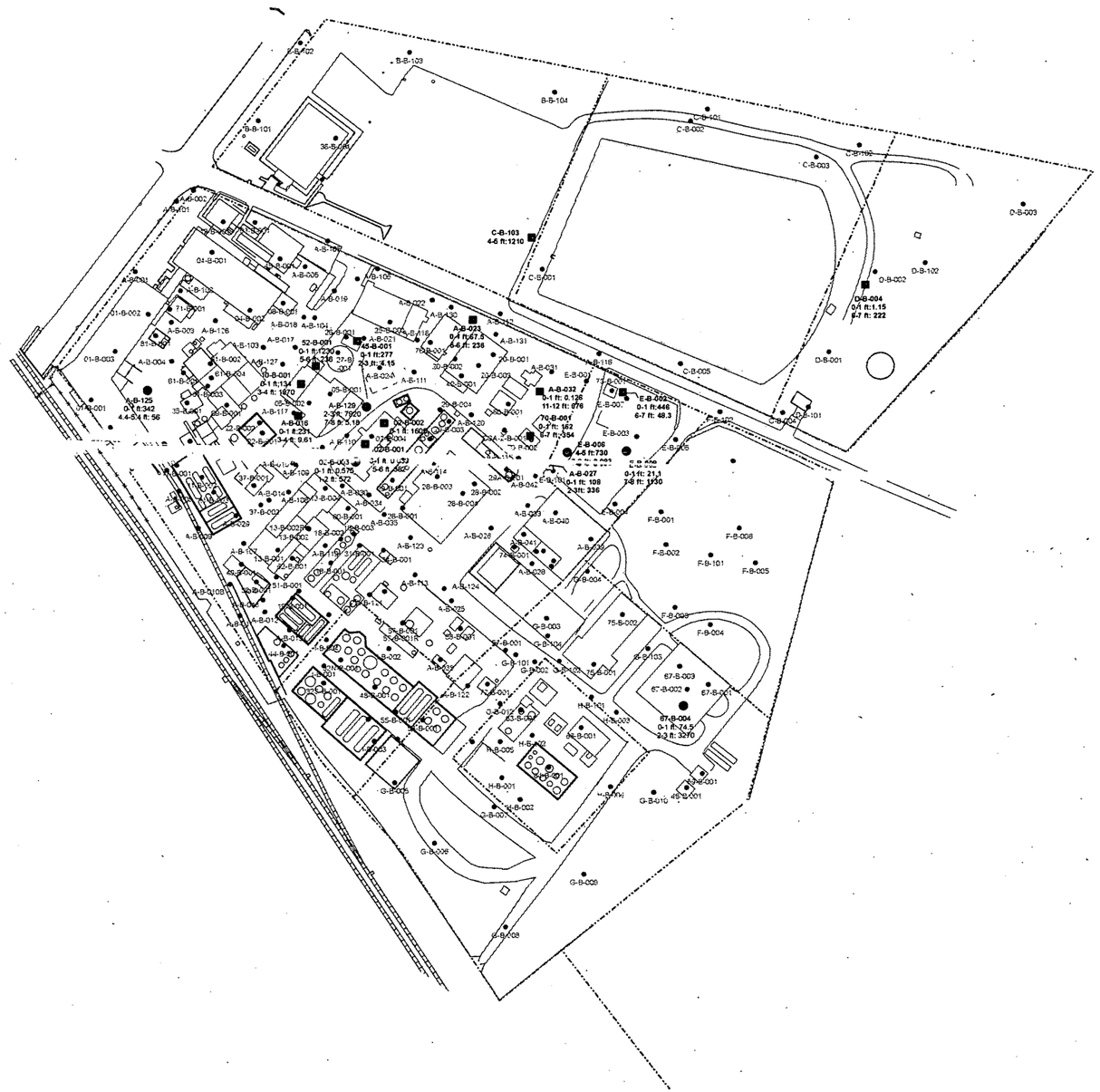
Brown AND Caldwell

FIGURE 4-5
TOTAL PCBs IN SOIL: BELOW 2 FT. DEPTH
FORMER NEPERA PLANT SITE, HARRIMAN, NEW YORK

0 100 200
Feet

5/21/2015

N



Legend

Mercury Source Material In Soil

RFI	Supp. RI	
■	●	Boring with mercury exceeding 220 mg/kg (concentrations and depth intervals shown)

Site Area Boundary

Building

Lagoon

Author: pthorn Path: P:\GIS\Nepera\Supp_RI\Supp_RFI_Soil_Mercury_Source_Material.mxd

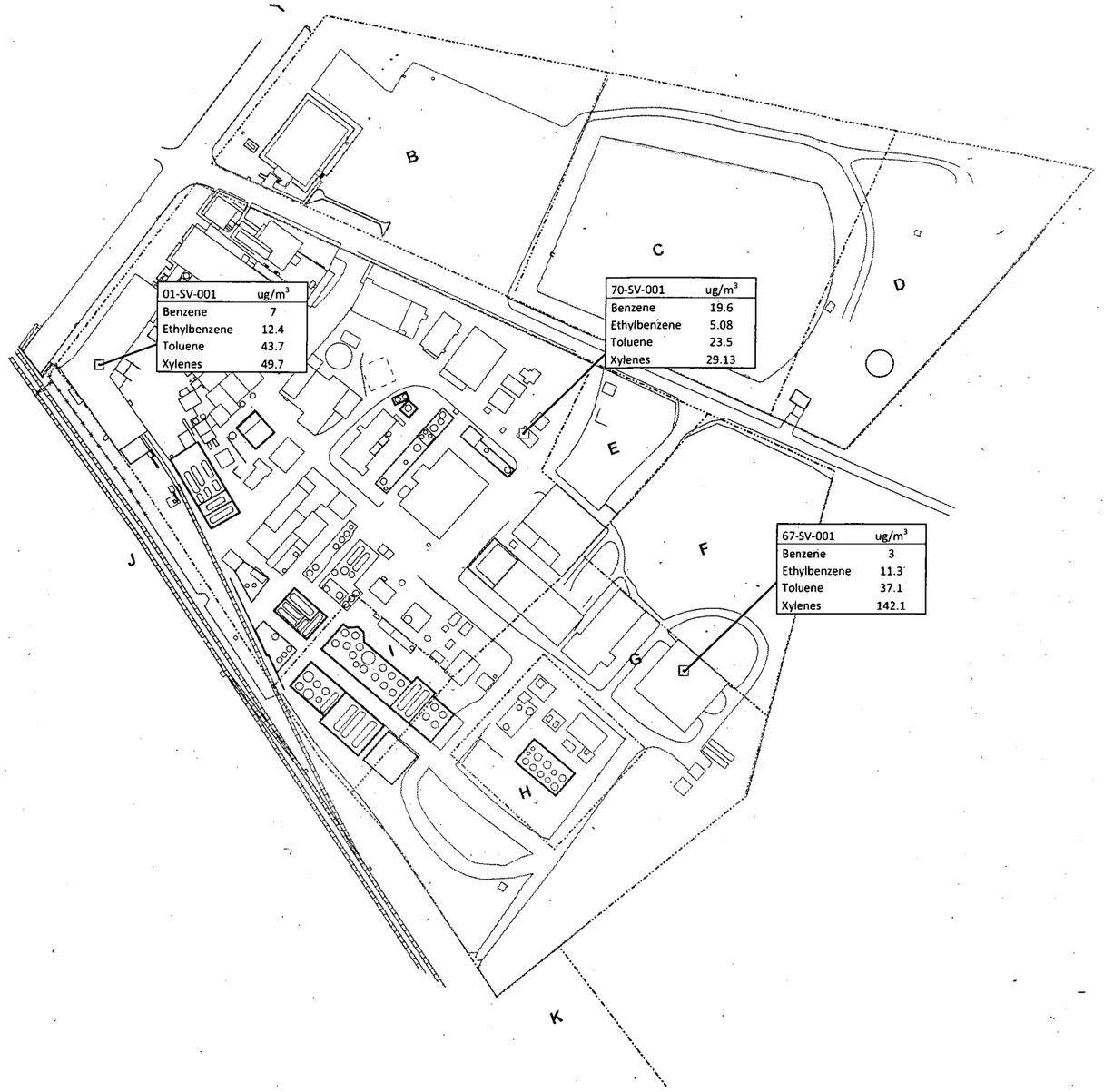
Brown AND Caldwell

FIGURE 4-6
MERCURY CONCENTRATIONS >220 MG/KG IN SOIL
FORMER NEPERA PLANT SITE, HARRIMAN, NEW YORK

0 100 200
Feet

10/23/2014

N



Legend

- Soil Vapor Sample Location
- Site Area Boundary
- Building
- Lagoon

Author: PThorn Path: P:\GIS\Nepera\Supp_RI\Supp_RFI_Soil_Vapor_Results.mxd

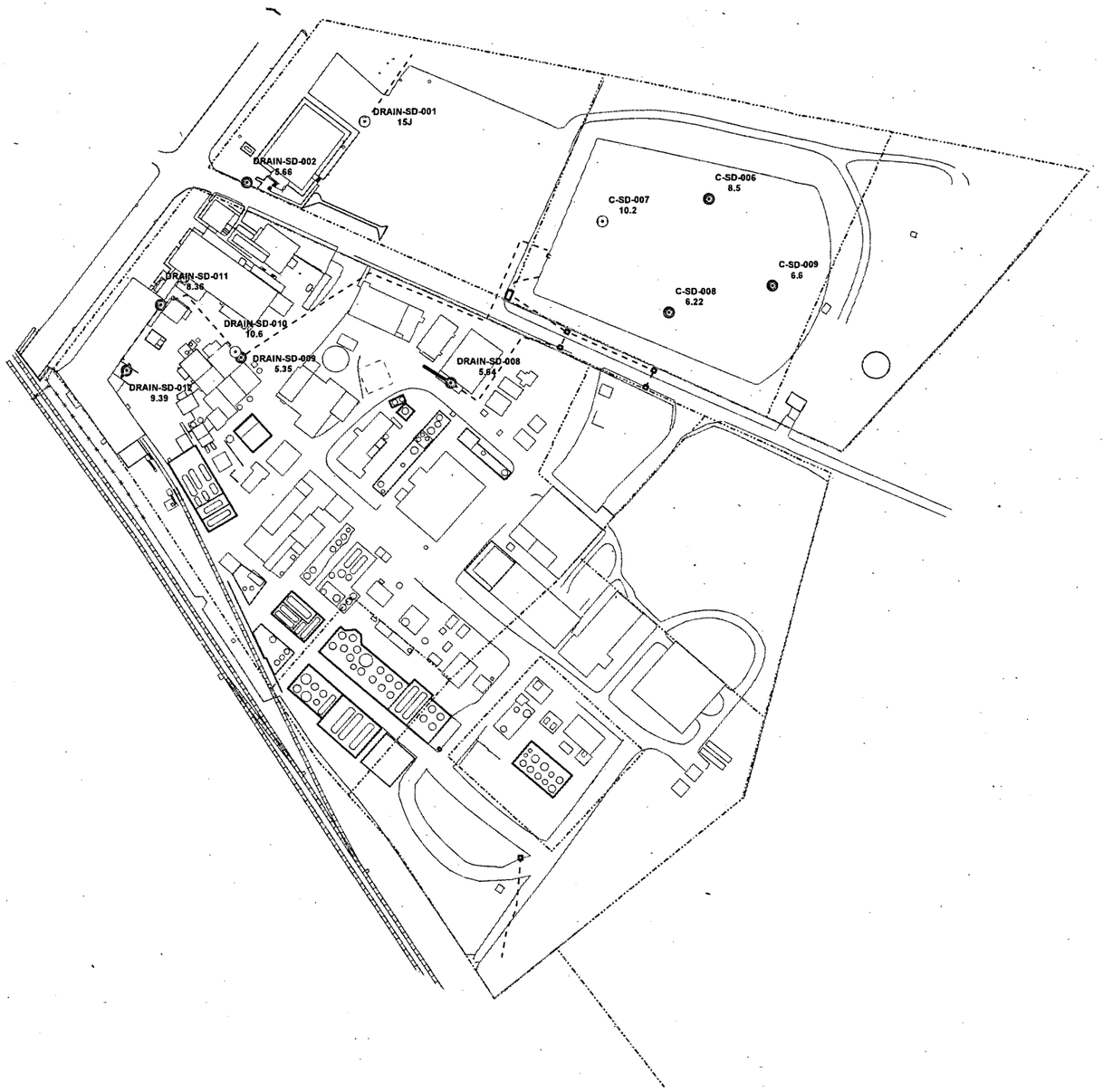
Brown AND Caldwell

FIGURE 4-7
BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES IN SOIL VAPOR
FORMER NEPERA PLANT SITE, HARRIMAN, NEW YORK

0 100 200
Feet

10/23/2014

N



Legend

Arsenic in Sediment (mg/kg)

Supp. RI

- >ND - 0.1 mg/kg
- >0.1 - 1 mg/kg
- >1 - 10 mg/kg
- >10 - 100 mg/kg
- >100 mg/kg
- Stormwater Drain Line
- Site Area Boundary
- Building
- Lagoon

Author: PThorn Path: P:\GIS\Nepera\Supp_RI\Supp_RFI_Sediment_Arsenic.mxd

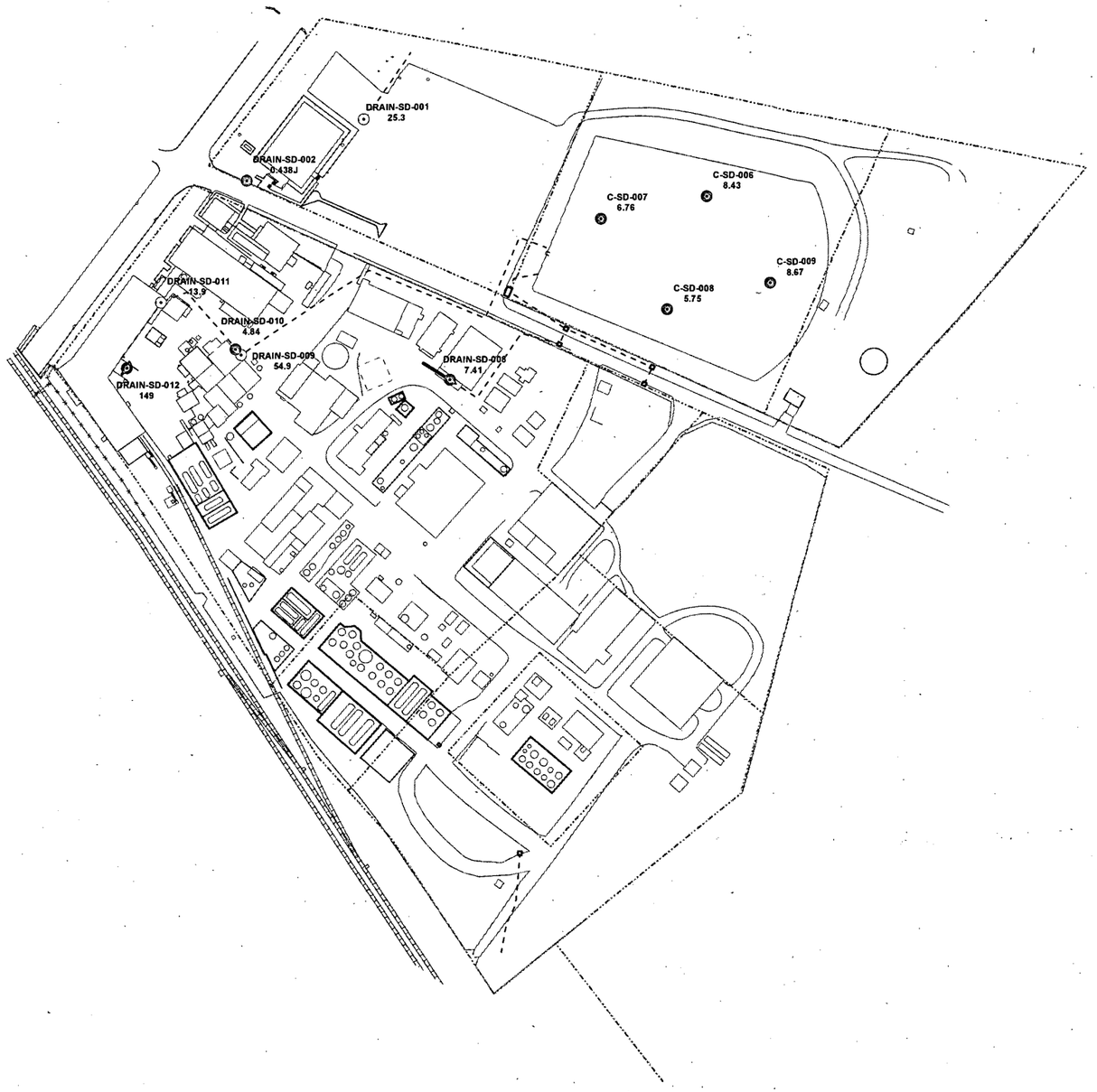
Brown AND Caldwell

FIGURE 4-9
ARSENIC IN SEDIMENT
FORMER NEPERA PLANT SITE, HARRIMAN, NEW YORK

0 100 200
Feet

10/13/2014

N



Legend

Mercury in Sediment (mg/kg)

Supp. RI

- >ND - 0.1 mg/kg
- >0.1 - 1 mg/kg
- >1 - 10 mg/kg
- >10 - 100 mg/kg
- >100 mg/kg
- Stormwater Drain Line
- Site Area Boundary
- Building
- Lagoon

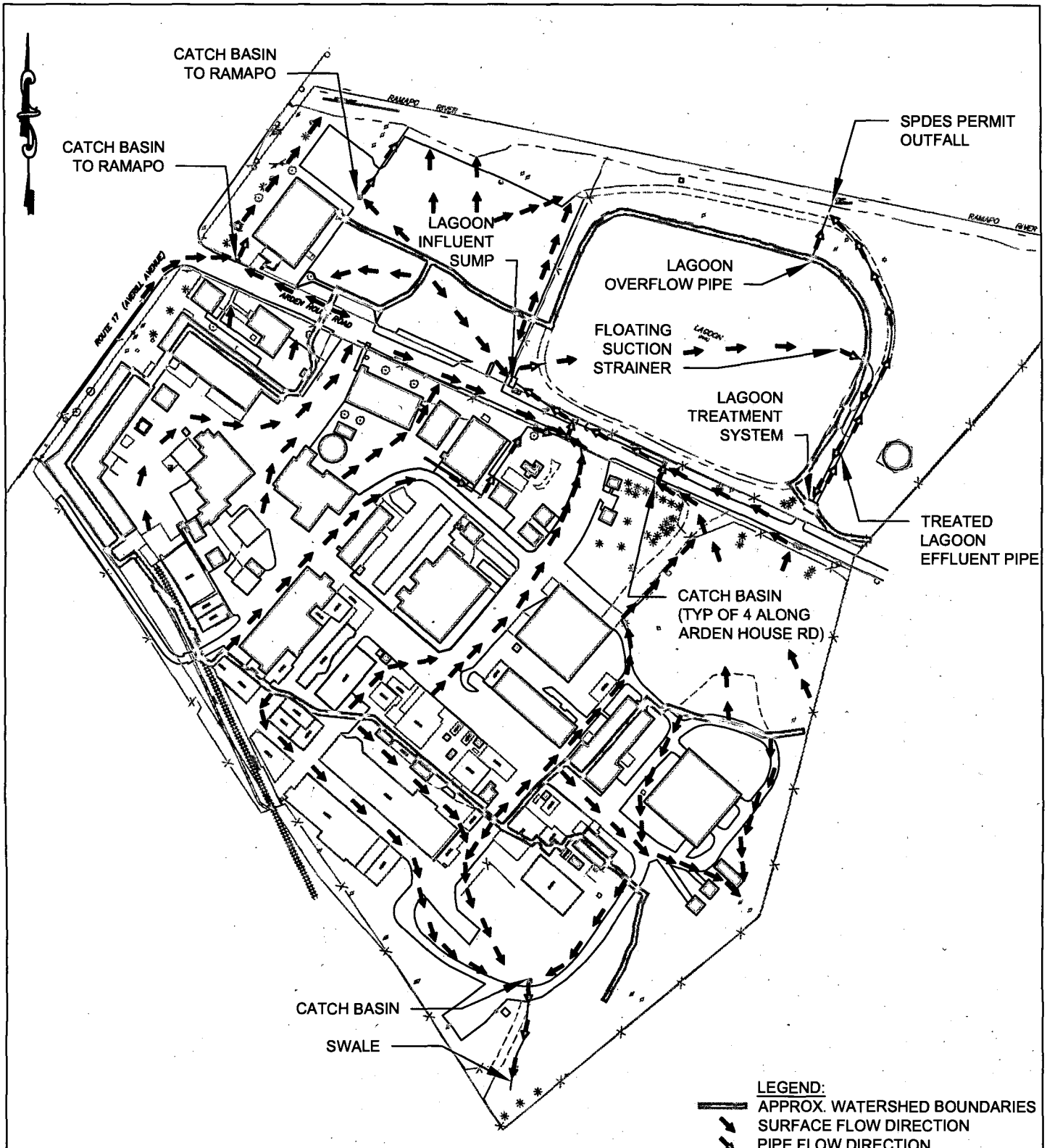
Author: PThorn Path: P:\GIS\Nepera\Supp_RI\Supp_RFI_Sediment_Mercury.mxd

Brown AND Caldwell

FIGURE 4-8
MERCURY IN SEDIMENT
FORMER NEPERA PLANT SITE, HARRIMAN, NEW YORK

0 100 200
Feet

Appendix A: Stormwater Flow Direction Map



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Phone No. (518) 828-2300 Fax No. (518) 828-3963

REV. No.	DESCRIPTION	DATE	BY

NEPERA-HARRIMAN SUPPLEMENTAL RI/FS REPORT

TOWN & VILLAGE OF HARRIMAN ORANGE COUNTY, NY

STORMWATER FLOW DIRECTION MAP

DATE	SCALE	DESIGNED BY: AL	FILE No.
4/16/2015	1"=200'	DRAWN BY: KS	211029.00
		CHECKED BY: AL	

FIGURE NO. 1

Appendix B: Boring Logs

BORING LOG

Brown AND Caldwell	**Project Name:** Nepera **Project Number:** 146327.102.101 **Project Location:** Harriman, NY	**Permit Number:** NA	**Boring No.** 01-B-003 Page 1 of 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
AJT/Upper Saddle River	THC	2"	NA	NA"	7.6 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
7/22/14 - 7/22/14	Zebra Env. Corp.	Hammer Type: Automatic	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD 83	Easting: 589944.2 ft.
Lucas Reiss	Direct Push	Bobcat MT-52 mini-track	Vert Datum: NAVD 88	Northing: 901867.6 ft.
			Ground Surface Elev: 529.5 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Backfdl	Readings (ppm)	Remarks
			Wood.		1		0.0	
		SP	Brown-grey mf-SAND, little Silt, trace (+) f-Gravel. Moist.					0.4' concrete floor slab above soil surface. Sample: 01-B-003-0-1
		SW	Grey-Brown cmf-SAND, little Silt, little (+) f-Gravel. Moist.					
		SP	Black stained mf-SAND, some (+) Silt.					
		SP	Same as above. Strong organic odor. Wet at 4.3'. Saturated at 5.2'.		2		0.0	Sample: 01-B-003-3.6-4.6
	525							
5								
10								Note: Top of soil was logged as ground surface.

BORING LOG

Brown AND Caldwell	**Project Name:** Nepera **Project Number:** 146327.102.101 **Project Location:** Harriman, NY	**Permit Number:** NA	**Boring No.** 01-B-004 Page 1 of 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
AJT/Upper Saddle River	THC	2"	NA	NA"	1.5 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
7/22/14 - 7/22/14	Zebra Env. Corp.	Hammer Type: Automatic	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD 83	Easting: 589912.2 ft.
Lucas Reiss	Direct Push	Bobcat MT-52 mini-track	Vert Datum: NAVD 88	Northing: 901816.9 ft.
			Ground Surface Elev: 531.2 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	Readings (ppm)	Remarks
	530		Concrete floor slab greater than 1.5' thick. Geoprobe refusal.		1						Concrete floor over 1.5' thick. Geoprobe refusal. Stepped over from initial boring twice with no success. No sample.
5			Two step-out borings were attempted but were unsuccessful in penetrating the floor slab. No soil cores were inspected or samples collected.								
10											

BORING LOG

Brown AND Caldwell	**Project Name:** Nepera **Project Number:** 146327.102.101 **Project Location:** Harriman, NY	**Permit Number:** NA	**Boring No.** 02-B-003 Page 1 of 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
AJT/Upper Saddle River	THC	2"	NA	NA"	7.4 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
7/24/14 - 7/24/14	Zebra Env. Corp.	Hammer Type: Automatic	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD 83	Easting: 590307.3 ft.
Will McAllister	Direct Push	Bobcat MT-52 mini-track	Vert Datum: NAVD 88	Northing: 901705.7 ft.
			Ground Surface Elev: 534.0 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Backfill	Readings (ppm)	Remarks
		SW	Brown-grey cmf-SAND, some mf-Gravel, trace Silt. Dry. Moist at 0.5'.		1		0.1	
		ML CL	Light Brown Silty CLAY, little (-) f-Sand, trace f-Gravel. Dense.					0.6' concrete floor slab above soil surface.
		CL ML	Black Clayey SILT, organic odor.				0.2	Sample: 02-B-003-0-1
		ML	Tan Silty CLAY, little f-Sand. Dense.					
		CL SP SC	Brown-tan mf-SAND and Silty CLAY, trace (+) f-Gravel.				9.2	Sample: 02-B-003-1-2
		SW GW	Brown cmf-SAND and mf-GRAVEL, little (+) Silt. Saturated.		2		0.0	
	530							
5								
10								Note: Top of soil was logged as ground surface.

BORING LOG

Brown AND Caldwell	Project Name: Nepera Project Number: 146327.102.101 Project Location: Harriman, NY	Permit Number: NA	Boring No. 02-B-004 Page 1 of 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
AJT/Upper Saddle River	THC	2"	NA	NA"	7.2 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
7/24/14 - 7/24/14	Zebra Env. Corp.	Hammer Type: Automatic	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD 83	Easting: 590330.4 ft.
Will McAllister	Direct Push	Bobcat MT-52 mini-track	Vert Datum: NAVD 88	Northing: 901739.6 ft.
			Ground Surface Elev: 534.0 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfdl	Readings (ppm)	Remarks
		SW	Brown cmf-SAND, some (+) mf-Gravel, little (-) Silt.		1					0.3	
		GP	1" c-GRAVEL.								0.8' concrete floor slab above soil surface.
		SW	Brown cmf-SAND, some (+) mf-Gravel, little (-) Silt. Wet at 1.0'.							0.3	
		SW	Brown cmf-SAND, some (+) mf-Gravel, little (-) Silt. Entire core saturated.		2					0.2	
		ML									
	530	CL	Dark brown Silty CLAY, little (-) f-Sand. Dense.							0.2	
		GP	1" C-Gravel, rounded.								
		ML	Dark brown Silty CLAY, little (-) f-Sand.								
5		CL	Dense.							0.4	
		ML	Dense light grey with black modeling SILT, trace (+) f-Sand.								
		SP	Grey f-SAND, little (+) Clay. Dense.							0.4	
											Sample: 02-B-004-7-8
10											Note: Top of soil was logged as ground surface.

BORING LOG

Brown AND Caldwell	**Project Name:** Nepera **Project Number:** 146327.102.101 **Project Location:** Harriman, NY	**Permit Number:** NA	**Boring No.** 05-B-002 Page 1 of 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
AJT/Upper Saddle River	THC	2"	NA	NA"	11.4 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
7/24/14 - 7/24/14	Zebra Env. Corp.	Hammer Type: Automatic	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD 83	Easting: 590236.2 ft.
Will McAllister	Direct Push	Bobcat MT-52 mini-track	Vert Datum: NAVD 88	Northing: 901790.3 ft.
			Ground Surface Elev: 531.6 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Backfill	Readings (ppm)	Remarks
		SW GW	Light-brown cmf-SAND and mf-GRAVEL, trace Silt.		1		5.2	
		SW SP	Dark-brown cmf-SAND, little Silt, little f-Gravel. Brown mf-SAND, little (-) f-Gravel. Wet at 1.0'.				6.7	0.4' concrete floor slab and 0.2' void space above soil surface. Sample: 05-B-002-0-1
	530						2.5	
		SW	Brown-grey cmf-SAND, some (-) Silt.		2		0.4	
		GP	1" subrounded c-GRAVEL.				0.7	
		SW	Brown-grey cmf-SAND, some (-) Silt.					
5		SW	Cmf-SAND, some (+) mf-Gravel, little Silt. Saturated.				0.2	Sample: 05-B-002-5-6
	525							
		SW	Brown cmf-SAND, some (+) mf-Gravel, little Silt. Dense. Entire core saturated.		3		0.0	Sample: 05-B-002-7-8
		SW	Grey cmf-SAND, some (-) f-Gravel, little (+) Silt.					
10								Note: Top of soil was logged as ground surface.

BORING LOG

Brown AND Caldwell	**Project Name:** Nepera **Project Number:** 146327.102.101 **Project Location:** Harriman, NY	**Permit Number:** NA	**Boring No.** 13-B-003 Page 1 of 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
AJT/Upper Saddle River	THC	2"	NA	NA"	3.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
7/24/14 - 7/24/14	Zebra Env. Corp.	Hammer Type: Automatic	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD 83	Easting: 590199.6 ft.
Will McAllister	Direct Push	Bobcat MT-52 mini-track	Vert Datum: NAVD 88	Northing: 901623.5 ft.
			Ground Surface Elev: 538.3 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	Readings (ppm)	Remarks
			1.6' thick concrete floor slab.		1						Could not complete boring due to two concrete floors with a 1' void between them.
			Void.								
			Second concrete floor slab encountered at 2.6' BGS. Could not advance geoprobe through floor. No samples collected.								
5											
10											

BORING LOG

Brown AND Caldwell	Project Name: Nepera Project Number: 146327.102.101 Project Location: Harriman, NY	Permit Number: NA	Boring No. 13-B-004 Page 1 of 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
AJT/Upper Saddle River	THC	2"	NA	NA"	6.8 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
7/24/14 - 7/24/14	Zebra Env. Corp.	Hammer Type: Automatic	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD 83	Easting: 590261.7 ft.
Will McAllister	Direct Push	Bobcat MT-52 mini-track	Vert Datum: NAVD 88	Northing: 901665.9 ft.
			Ground Surface Elev: 538.0 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Backfill	Readings (ppm)	Remarks
		SW	Wood.		1		0.5	
			Light brown cmf-SAND, little mf-Gravel, little (-) Silt. Moist.					1.2' concrete floor slab above soil surface.
		SP	Dark brown mf-SAND, some Silt, little (+) mf-Gravel. Wet.				0.2	Sample: 13-B-004-0-1
	535	SP	Same as above. Strong tar like odor. Core saturated with water.		2		0.4	
							1.2	
		ML	Grey SILT, trace f-Sand, trace f-Gravel.					
		ML	Dense.					
5		SP	Black SILT, some (-) f-Sand, little (-) f-Gravel.				5.3	
		ML	Grey mf-SAND, little (+) Silt, little f-Gravel.					Sample: 13-B-004-5-6
		CL	Black Silty CLAY, trace f-Gravel, trace f-Sand.				11.3	
10								Note: Top of soil was logged as ground surface.

BORING LOG

Brown AND Caldwell	Project Name: Nepera Project Number: 146327.102.101 Project Location: Harriman, NY	Permit Number: NA	Boring No. 20-B-002 Page 1 of 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
AJT/TJP/Upper Saddle River	THC	2"	NA	NA"	7.4 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
7/23/14 - 7/23/14	Zebra Env. Corp.	Hammer Type: Automatic	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD 83	Easting: 590455.0 ft.
Lucas Reiss	Direct Push	Bobcat MT-52 mini-track	Vert Datum: NAVD 88	Northing: 901857.2 ft.
			Ground Surface Elev: 527.3 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	Readings (ppm)	Remarks
		SW	Brown cmf-SAND, some (-) mf-Gravel, little Silt. Moist. Saturated at 0.5'.		1					0.0	
		SP	Grey mf-SAND, some Silt.								0.6' concrete floor slab above soil surface.
		CL ML	Dense grey Clayey SILT.								Sample: 20-B-002-0-1
	525										
		SP SM SP	Grey f-SAND and Clayey SILT. Grey f-SAND. Dense.		2					0.0	
											Sample: 20-B-002-4-5
5		SP SM	Grey/tan f-SAND and SILT.								
	520										
10											Note: Top of soil was logged as ground surface.

BORING LOG

Brown AND Caldwell	Project Name: Nepera Project Number: 146327.102.101 Project Location: Harriman, NY	Permit Number: NA	Boring No. 20-B-003 Page 1 of 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
AJT/TJP/Upper Saddle River	THC	2"	NA	NA"	7.5 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
7/23/14 - 7/23/14	Zebra Env. Corp.	Hammer Type: Automatic	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD 83	Easting: 590490.0 ft.
Lucas Reiss	Direct Push	Bobcat MT-52 mini-track	Vert Datum: NAVD 88	Northing: 901847.5 ft.
			Ground Surface Elev: 527.2 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Backfill	Readings (ppm)	Remarks
		SW	Grey/tan cmf-SAND, some f-Gravel, little (+) Silt.		1		0.0	
		SP	Black mf-SAND, some Silt, trace f-Gravel. Organic odor. Saturated at 0.9'.					O.5' concrete floor slab over soil surface. Sample: 20-B-003-0-1
	525							
		SW	Black cmf-SAND, some (+) Silt, little mf-Gravel.		2		0.0	Sample: 20-B-003-4-5
5		SP	Grey f-SAND, little (+) Silt. Dense.					
		GP	1" c-GRAVEL					
		ML	Grey/tan SILT.					
	520							
10								Note: Top of soil was logged as ground surface.

BORING LOG

Brown AND Caldwell	**Project Name:** Nepera **Project Number:** 146327.102.101 **Project Location:** Harriman, NY	**Permit Number:** NA	**Boring No.** 28-B-003 Page 1 of 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
AJT/Upper Saddle River	THC	2"	NA	NA"	7.2 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
7/22/14 - 7/22/14	Zebra Env. Corp.	Hammer Type: Automatic	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD 83	Easting: 590429.6 ft.
Lucas Reiss	Direct Push	Bobcat MT-52 mini-track	Vert Datum: NAVD 88	Northing: 901682.8 ft.
			Ground Surface Elev: 531.0 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Backfill	Readings (ppm)	Remarks
		SW GW	Black Stained cmf-SAND and mf-GRAVEL, little (+) Silt. Organic/tar like odor. Entire core saturated.		1		5.2	0.8' concrete floor slab above soil surface.
	530	SP	Tan-grey f-SAND, little (-) Silt.				25.7	Sample: 28-B-003-0-1
							30.2	
		SP	Same as above.		2		11.3	
		SW GW	Black stained cmf-SAND and mf-GRAVEL.				6.2	
5							17	
	525	SP	Grey f-SAND, little Silt. Dense. Entire core saturated.				38	
								Sample 28-B-003-5.9-6.9
10								Note: Top of soil was logged as ground surface.

BORING LOG

Brown AND Caldwell	**Project Name:** Nepera **Project Number:** 146327.102.101 **Project Location:** Harriman, NY	**Permit Number:** NA	**Boring No.** 28-B-004 Page 1 of 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
AJT/Upper Saddle River	THC	2"	NA	NA"	7.2 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
7/22/14 - 7/22/14	Zebra Env. Corp.	Hammer Type: Automatic	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD 83	Easting: 590467.8 ft.
Lucas Reiss	Direct Push	Bobcat MT-52 mini-track	Vert Datum: NAVD 88	Northing: 901657.0 ft.
			Ground Surface Elev: 530.8 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	Readings (ppm)	Remarks
		SW	Grey-brown cmf-SAND and f-GRAVEL. Entire core saturated.		1					16.3	
	530	SP	Mf-SAND, some (+) f-Gravel.							15.2	0.8' concrete floor slab above soil surface. Sample: 28-B-004-0-1
		SP	Same as above.		2					40.8	
		SP	Grey cmf-GRAVEL, some (-) cmf-Sand, little (-) Silt.								Sample: 28-B-004-3.2-4.2
		SP	Grey f-SAND, little Silt.							14.3	
5										13.6	
	525										
10											Note: Top of soil was logged as ground surface.

BORING LOG

Brown AND Caldwell	Project Name: Nepera Project Number: 146327.102.101 Project Location: Harriman, NY	Permit Number: NA	Boring No. 29-B-004 Page 1 of 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
AJT/Upper Saddle River	THC	2"	NA	NA"	8.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
7/24/14 - 7/24/14	Zebra Env. Corp.	Hammer Type: Automatic	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD 83	Easting: 590432.4 ft.
Will McAllister	Direct Push	Bobcat MT-52 mini-track	Vert Datum: NAVD 88	Northing: 901780.2 ft.
			Ground Surface Elev: 528.6 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Backfill	Readings (ppm)	Remarks
		OH	ORGANICS (grass, roots).		1		0.5	
		GP	M-GRAVEL, trace mf-Sand, trace Silt.					
		SW	Brown cmf-SAND, some f-Gravel, little Silt.					
		SP						
		SM	Black f-SAND and SILT, little (+) f-Gravel. Saturated at 2.5'. Strong fuel like odor 0.6 to bottom of core.				1.6	
							1.5	
							1.5	
	525							
		ML CL	Grey Silty CLAY, trace f-Sand, trace (-) f-Gravel.					
		ML CL	Same as above.		2		0.3	
5							2.8	
		ML CL	Grey-black marbled Silty CLAY, trace f-Gravel.					
		ML CL	Grey Silty CLAY, some f-Sand, trace (+) f-Gravel. Dense.				2.5	
								Sample: 29-B-004-6-7
							3.8	
10								

BORING LOG

Brown AND Caldwell	Project Name: Nepera Project Number: 146327.102.101 Project Location: Harriman, NY	Permit Number: NA	Boring No. 37-B-002 Page 1 of 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
AJT/Upper Saddle River	THC	2"	NA	NA"	7.7 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
7/24/14 - 7/24/14	Zebra Env. Corp.	Hammer Type: Automatic	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD 83	Easting: 590164.6 ft.
Will McAllister	Direct Push	Bobcat MT-52 mini-track	Vert Datum: NAVD 88	Northing: 901640.9 ft.
			Ground Surface Elev: 538.2 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Backfill	Readings (ppm)	Remarks
		SP	Brown-grey mf-SAND, little Silt, trace f-Gravel.		1		0.0	
		SP	Brown f-SAND, some (+) Silt, trace (+) mf-Gravel.					0.3' asphalt above soil surface.
		SW	Cmf-GRAVEL, little cmf-Sand.					
		SW	Grey cmf-SAND and cmf-GRAVEL, little Silt.					
		GW	Tan-grey SILT, little f-Sand.					
		ML	Black mf-SAND, some (-) Silt.					
		SP	Brown cmf-SAND, little (+) Silt, little mf-Gravel. Dense.					
		SW	Grey Silty CLAY, little (-) f-Sand. Wet.					
		ML						
	535	CL						
		ML	Same as above.		2		1.2	
		CL						
5							1.4	
							1.5	Sample: 37-B-002-5-6
		CL	Grey with black marbling Clayey SILT, trace f-Sand.					
		ML					2.7	
10								Note: Top of soil was logged as ground surface.

BORING LOG

Brown AND Caldwell	Project Name: Nepera Project Number: 146327.102.101 Project Location: Harriman, NY	Permit Number: NA	Boring No. 57-B-001 Page 1 of 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
AJT/TJP/Upper Saddle River	THC	2"	NA	NA"	7.5 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
7/23/14 - 7/23/14	Zebra Env. Corp.	Hammer Type: Automatic	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD 83	Easting: 590532.5 ft.
Lucas Reiss	Direct Push	Bobcat MT-52 mini-track	Vert Datum: NAVD 88	Northing: 901418.6 ft.
			Ground Surface Elev: 533.3 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	Readings (ppm)	Remarks
		SP	Brown mf-SAND, little (+) Silt, trace mf-Gravel.		1					320	0.5' asphalt above soil surface.
		SW	Brown cmf-SAND, some mf-Gravel, little (+) Silt, moist. Wet at 1.9'.								Sample: 57-B-001-0-1
										80.3	
										75.7	Sample: 57-B-001-1-2
	530										
		SW	Brown cmf-SAND, some (+) f-Gravel, little (-) Silt.		2					17.5	
										12.2	
5										16.5	
10											Note: Top of soil was logged as ground surface.

BORING LOG

Brown AND Caldwell	**Project Name:** Nepera **Project Number:** 146327.102.101 **Project Location:** Harriman, NY	**Permit Number:** NA	**Boring No.** 67-B-003 Page 1 of 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
AJT/Upper Saddle River	THC	2"	NA	NA"	7.5 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
7/22/14 - 7/22/14	Zebra Env. Corp.	Hammer Type: Automatic	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD 83	Easting: 590794.3 ft.
Lucas Reiss	Direct Push	Bobcat MT-52 mini-track	Vert Datum: NAVD 88	Northing: 901393.4 ft.
			Ground Surface Elev: 531.2 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	Readings (ppm)	Remarks
			Crushed/pulverized concrete.		1					0.0	0.5' concrete floor slab above soil surface.
	530	SW	Tan cmf-SAND, some mf-Gravel, little Silt. Moist. Saturated at 1.6'.								Sample: 67-B-003-0-1
										0.5	
		GP SP	Grey mf-GRAVEL and cmf-SAND.		2					0.0	
		SP	Tan mf-SAND, little f-Gravel, little Silt.								Sample: 67-B-003-4-5
5											
	525	SP	Grey/tan f-SAND, some (-) Silt. Dense.								
10											Note: Top of soil was logged as ground surface.

BORING LOG

Brown AND Caldwell	**Project Name:** Nepera **Project Number:** 146327.102.101 **Project Location:** Harriman, NY	**Permit Number:** NA	**Boring No.** 67-B-004 Page 1 of 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
AJT/Upper Saddle River	THC	2"	NA	NA"	7.5 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
7/22/14 - 7/22/14	Zebra Env. Corp.	Hammer Type: Automatic	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD 83	Easting: 590799.8 ft.
Lucas Reiss	Direct Push	Bobcat MT-52 mini-track	Vert Datum: NAVD 88	Northing: 901333.4 ft.
			Ground Surface Elev: 531.1 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	Readings (ppm)	Remarks
		SW GW	Tan cmf-SAND and cmf-GRAVEL.		1					0.0	
	530	SW	Dark brown/black cmf-SAND, some (+) Silt, some (-) mf-Gravel.								0.5' concrete floor slab above soil surface. Sample: 67-B-004-0-1
										1.6	
		SP	Black stained f-SAND and SILT, trace f-Gravel, wet. Saturated at 2.8'.								Sample: 67-B-004-2-3
										65	
		SP	Same as above.		2					13.8	
										2.5	
5		SP	Tan f-SAND, some Silt.							1.2	
	525										
10											Note: Top of soil was logged as ground surface.

BORING LOG

Brown AND Caldwell	Project Name: Nepera Project Number: 146327.102.101 Project Location: Harriman, NY	Permit Number: NA	Boring No. 70-B-002 Page 1 of 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
AJT/TJP/Upper Saddle River	THC	2"	NA	NA"	11.2 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
7/23/14 - 7/23/14	Zebra Env. Corp.	Hammer Type: Automatic	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD 83	Easting: 590570.2 ft.
Lucas Reiss	Direct Push	Bobcat MT-52 mini-track	Vert Datum: NAVD 88	Northing: 901734.8 ft.
			Ground Surface Elev: 528.0 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Backfill	Readings (ppm)	Remarks
		SW	Brown cmf-SAND, some (-) mf-Gravel, little Silt.		1		0.0	0.8' concrete floor slab above soil surface.
		SP	Dark-Brown mf-SAND, little Silt, trace f-Gravel.					
		OH	Black Organic SILT, little (+) f-Gravel.					
		ML	White with orange modeling SILT.					
		SW	Brown cmf-SAND, litde (+) Silt, trace (+) f-Gravel.					
	525							
		SW	Same as above. Black staining at 4.2'.		2		0.0	
		ML	White/grey Clayey SILT, trace (+) f-Gravel (Calcium Sulfate Sludge). Saturated.					
		CL ML	Dark-Grey Clayey SILT. Dense.					
		SW	Grey cmf-SAND, some (+) Silt, little (-) f-Gravel, trace Clay. Entire core saturated.					
5								
		SW	Grey cmf-SAND, little (+) Silt, trace (+) Clay, trace f-Gravel.		3		0.0	Sample: 70-B-002-7-8
	520							
		CL	Grey Clayey SILT, trace (+) f-Gravel.					
		ML CL	Grey CLAY.					
10								Note: Top of soil was logged as ground surface.

BORING LOG

Brown AND Caldwell	**Project Name:** Nepera **Project Number:** 146327.102.101 **Project Location:** Harriman, NY	**Permit Number:** NA	**Boring No.** A-B-125 Page 1 of 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
AJT/Upper Saddle River	THC	2"	NA	NA"	8.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
7/22/14 - 7/22/14	Zebra Env. Corp.	Hammer Type: Automatic	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD 83	Easting: 589993.7 ft.
Lucas Reiss	Direct Push	Bobcat MT-52 mini-track	Vert Datum: NAVD 88	Northing: 901808.0 ft.
			Ground Surface Elev: 530.5 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	Readings (ppm)	Remarks
			Crushed/pulverized asphalt.		1					101	
	530	SW GW	Dark brown grey- cmf SAND and mf-GRAVEL, little Silt.								Sample: A-B-125-0-1
		SP	Black stained f-SAND and SILT, trace f-Gravel. Moist.							55.8	
										56.6	
		SP	Same as above. Includes concrete. Strong organic and tar like odor. Saturated at 5.4'.		2					30.2	
5	525									33.0	Sample: A-B-125-4.4-5.4
10											

BORING LOG

Brown AND Caldwell	**Project Name:** Nepera **Project Number:** 146327.102.101 **Project Location:** Harriman, NY	**Permit Number:** NA	**Boring No.** A-B-126 Page 1 of 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
AJT/Upper Saddle River	THC	2"	NA	NA"	8.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
7/22/14 - 7/22/14	Zebra Env. Corp.	Hammer Type: Automatic	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD 83	Easting: 590094.4 ft.
Lucas Reiss	Direct Push	Bobcat MT-52 mini-track	Vert Datum: NAVD 88	Northing: 901914.6 ft.
			Ground Surface Elev: 529.4 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	Readings (ppm)	Remarks
			Crushed asphalt.		1					35.6	
			Crushed concrete.								
		SW GW	Black-brown cmf-SAND and mf-GRAVEL, some Silt.								Sample: A-B-126-0-1 taken from 1.4-2.4' BGS.
		SW	Black stained cmf-SAND, some (+) Silt, little mf-Gravel. Moist.							15.3	
										30.2	
	525	SW	Same as above. Saturated at 4.5'.		2					128	
5										40.5	Sample: A-B-126-4-5 taken from 5.4-6.4' BGS.
		ML	Black SILT.							5.5	
		SP	Tan f-SAND.								
10											

BORING LOG

Brown AND Caldwell	Project Name: Nepera Project Number: 146327.102.101 Project Location: Harriman, NY	Permit Number: NA	Boring No. A-B-127 Page 1 of 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
AJT/Upper Saddle River	THC	2"	NA	NA"	7.6 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
7/24/14 - 7/24/14	Zebra Env. Corp.	Hammer Type: Automatic	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD 83	Easting: 590195.8 ft.
Will McAllister	Direct Push	Bobcat MT-52 mini-track	Vert Datum: NAVD 88	Northing: 901849.0 ft.
			Ground Surface Elev: 530.1 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Backfill	Readings (ppm)	Remarks
		SW	Brown cmf-SAND, some mf-Gravel, little Silt. Moist.		1		0.0	
		SP	Dark-brown mf-SAND, little (+) Silt, trace f-Gravel. Wet at 1.3'.					0.4' asphalt above soil surface.
							0.1	
		SW	Tan cmf-SAND, some (+) m-Gravel.					
		GW	Brown cmf-GRAVEL, some (+) cmf-Sand. Saturated at 2.0'.				0.2	
		SW	Brown cmf-SAND, some cmf-Gravel, little Silt. Entire core saturated.		2		0.0	
		ML CL	Black Silty CLAY.					
5	525	ML CL	Black-grey Silty CLAY, some (+) cmf-Sand. Dense.					
		ML CL	Tan Silty CLAY, some (+) cmf-Sand, some (-) cmf-Gravel. Dense.					
		SW	Grey cmf-SAND and mf-Gravel, some Silt.					Sample: A-B-127-5-6
		GW SW	Grey cmf-SAND and mf-Gravel, some Silt, little Clay.					
		GW SW	Tan-grey cmf-SAND, and mf-GRAVEL, little Silt.					
		GW SP	Grey mf-SAND, litde Silt.					Sample: A-B-127-7-8
10								Note: Top of soil was logged as ground surface.

BORING LOG

Brown AND Caldwell	**Project Name:** Nepera **Project Number:** 146327.102.101 **Project Location:** Harriman, NY	**Permit Number:** NA	**Boring No.** A-B-128 Page 1 of 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
AJT/Upper Saddle River	THC	2"	NA	NA"	7.5 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
7/24/14 - 7/24/14	Zebra Env. Corp.	Hammer Type: Automatic	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD 83	Easting: 590256.7 ft.
Will McAllister	Direct Push	Bobcat MT-52 mini-track	Vert Datum: NAVD 88	Northing: 901723.1 ft.
			Ground Surface Elev: 532.9 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	Readings (ppm)	Remarks
		SW GW	Grey cmf-SAND and cmf-GRAVEL, some Silt. Fuel like odor.		1					0.6	
		SW GW	Cmf-SAND and mf-GRAVEL, some Silt. Dense. Moist.								0.5' asphalt above soil surface.
		ML SP	Black SILT and ORGANICS (wood), little mf-Gravel.							0.4	
		SP	Tan mf-SAND.								
		SP SC	Black f-SAND, some (-) Silt, little (-) f-Gravel, with pieces of glass.							0.6	
	530		Grey f-SAND and Silty CLAY, trace f-Gravel.								Sample: A-B-128-2-3
		SP SC	Same as above.		2					0.2	
		SP SC	Grey f-SAND and Silty CLAY, some mf-Gravel.								
		SP	Tan-grey f-SAND, some Silt, little (-) Clay.							0.2	
5		SP	Tan-grey f-SAND, some Silt.							0.2	
											Sample: A-B-128-7-8
10											Note: Top of soil was logged as ground surface.

BORING LOG

Brown AND Caldwell	**Project Name:** Nepera **Project Number:** 146327.102.101 **Project Location:** Harriman, NY	**Permit Number:** NA	**Boring No.** A-B-129 **Page** 1 of 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
AJT/Upper Saddle River	THC	2"	NA	NA"	7.6 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
7/24/14 - 7/24/14	Zebra Env. Corp.	Hammer Type: Automatic	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD 83	Easting: 590322.7 ft.
Will McAllister	Direct Push	Bobcat MT-52 mini-track	Vert Datum: NAVD 88	Northing: 901784.2 ft.
			Ground Surface Elev: 530.2 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Backfdl	Readings (ppm)	Remarks
	530	SP	Black mf-SAND, some Silt, some (-) mf-Gravel. Moist.		1		0.3	
		SW	Brown cmf-SAND, some (-) Silt, little mf-Gravel. 1" piece of wood at 0.7'. Moist.				0.6	0.4' asphalt above soil surface.
								Sample: A-B-129-2-3
		SP SM SP	Black f-SAND and SILT. Saturated. Brown mf-SAND, some Silt, little mf-Gravel.		2		0.4	
5	525	SP	Grey f-SAND, little Silt.				0.4	
		SP	Tan mf-SAND, litde (-) Silt.				0.2	
							0.2	
		SP	Tan mf-SAND, some mf-Gravel, little (-) Silt.					Sample: A-B-129-7-8
10								Note: Top of soil was logged as ground surface.

BORING LOG

Brown AND Caldwell	Project Name: Nepera Project Number: 146327.102.101 Project Location: Harriman, NY	Permit Number: NA	Boring No. A-B-130 Page 1 of 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
AJT/TJP/Upper Saddle River	THC	2"	NA	NA"	8.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
7/23/14 - 7/23/14	Zebra Env. Corp.	Hammer Type: Automatic	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD 83	Easting: 590448.6 ft.
Lucas Reiss	Direct Push	Bobcat MT-52 mini-track	Vert Datum: NAVD 88	Northing: 901935.4 ft.
			Ground Surface Elev: 525.6 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	Readings (ppm)	Remarks
	525	SP	Dark Brown f-SAND, some (+) Organics (roots), little (-) Silt.		1					0.0	
		SW	Dark Brown cmf-SAND, little (+) Silt, little (-) f-Gravel. Moist. Saturated at 1.5.								
		SW	Brown cmf-SAND, some Silt, little (+) mf-Gravel. Crushed red brick.								
		SW	Brown cmf-SAND, some (-) Silt, little f-Gravel.		2					0.0	
5		SW	Brown cmf-SAND, some (-) Silt, little f-Gravel, trace Clay.								
	520	OH	Dark Brown to black SILT, some Organics.								
		ML	Grey Silty CLAY, trace f-Gravel.								
		CL SP	Grey mf-SAND, little (+) mf-Gravel, trace Silt.								Sample: A-B-130-6-7
											Sample: A-B-130-7-8
10											

BORING LOG

Brown AND Caldwell	**Project Name:** Nepera **Project Number:** 146327.102.101 **Project Location:** Harriman, NY	**Permit Number:** NA	**Boring No.** A-B-131 Page 1 of 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
AJT/TJP/Upper Saddle River	THC	2"	NA	NA"	8.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
7/23/14 - 7/23/14	Zebra Env. Corp.	Hammer Type: Automatic	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD 83	Easting: 590515.8 ft.
Lucas Reiss	Direct Push	Bobcat MT-52 mini-track	Vert Datum: NAVD 88	Northing: 901894.7 ft.
			Ground Surface Elev: 525.6 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	Readings (ppm)	Remarks
	525	SP	Dark Brown f-SAND, some (+) Organics (roots), little (-) Silt, trace f-Gravel.		1					0.0	
		SP SW	Dark Brown f-SAND, little (-) Silt, trace f-Gravel, trace Organics (roots). Moist. Brown cmf-SAND, some (-) f-Gravel, little Silt. Wet.								
		SW	Dark Brown cmf-SAND, some (-) f-Gravel, little (+) Silt. Entire core saturated.		2					0.0	
5	520	OH	Black ORGANICS, some Silt. Traces of wood. At 5.3', black with grey marbling; dense.								
		SP	Grey mf-SAND, little Silt. Dense.								Sample: A-B-131-6-7
		SP	Tan f-SAND, little Silt. Dense.								Sample: A-B-131-7-8
10											

BORING LOG

Brown AND Caldwell	**Project Name:** Nepera **Project Number:** 146327.102.101 **Project Location:** Harriman, NY	**Permit Number:** NA	**Boring No.** E-B-006 Page 1 of 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
AJT/TJP/Upper Saddle River	THC	2"	NA	NA"	7.5 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
7/23/14 - 7/23/14	Zebra Env. Corp.	Hammer Type: Automatic	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD 83	Easting: 590624.6 ft.
Lucas Reiss	Direct Push	Bobcat MT-52 mini-track	Vert Datum: NAVD 88	Northing: 901715.6 ft.
			Ground Surface Elev: 528.2 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	Readings (ppm)	Remarks
		SW	Brown cmf-SAND, some (-) mf-Gravel, little Silt. Dry. Moist at 0.9'.		1					0.0	0.5' asphalt above soil surface.
		OH	Black Organic SILT.								
		CL ML	Grey Clayey SILT. Saturated at 1.5'. Dense.								
	525										
		CL ML	Same as above. Black staining at 4.4'.		2					0.0	
5		SW	Brown cmf-SAND, some Silt, some mf-Gravel.								Sample: E-B-006-4-5
		SP	Grey f-SAND.								Sample: E-B-006-7-8
10											Note: Top of soil was logged as ground surface.

BORING LOG

Brown AND Caldwell	**Project Name:** Nepera **Project Number:** 146327.102.101 **Project Location:** Harriman, NY	**Permit Number:** NA	**Boring No.** E-B-007 Page 1 of 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
AJT/TJP/Upper Saddle River	THC	2"	NA	NA"	8.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
7/23/14 - 7/23/14	Zebra Env. Corp.	Hammer Type: Automatic	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD 83	Easting: 590713.5 ft.
Lucas Reiss	Direct Push	Bobcat MT-52 mini-track	Vert Datum: NAVD 88	Northing: 901797.1 ft.
			Ground Surface Elev: 525.3 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Backfill	Readings (ppm)	Remarks
	525	SP	Organics (pine needles). Brown mf-SAND, some Organics (roots), little Silt, trace f-Gravel.		1		0.0	
		SW	Brown cmf-SAND, some (-) Silt, little (+) mf-Gravel. Moist at 2.0'.					
		SP	Black stained f-SAND, some Silt, little (-) f-Gravel. Wet.					
		SW GW	Brown cmf-SAND and mf-GRAVEL.		2		0.0	Sample: E-B-007-4-5
5	520	ML	Black-grey Clayey SILT.					
		OH	Black SILT, some Organics.					
		CL ML	Black Clayey SILT.					Sample: E-B-007-6-7
		SP	Black mf-SAND, some (-) Clayey SILT.					
		ML CL	Black Silty CLAY.					
10								

BORING LOG

Brown AND Caldwell	Project Name: Nepera Project Number: 146327.102.101 Project Location: Harriman, NY	Permit Number: NA	Boring No. E-B-008 Page 1 of 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
AJT/TJP/Upper Saddle River	THC	2"	NA	NA"	12.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
7/23/14 - 7/23/14	Zebra Env. Corp.	Hammer Type: Automatic	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD 83	Easting: 590714.1 ft.
Lucas Reiss	Direct Push	Bobcat MT-52 mini-track	Vert Datum: NAVD 88	Northing: 901717.3 ft.
			Ground Surface Elev: 527.0 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Backfill	Readings (ppm)	Remarks
		SW	Brown cmf-SAND, some (+) Organic (roots), little (+) mf-Gravel, little Silt.		1		0.0	
		SW	Brown cmf-SAND, little (+) mf-Gravel, little Silt. Moist at 2.4'.					Sample: E-B-008-0-1
	525							
		ML	Grey dense Clayey SILT. Saturated.					
		ML	Grey Clayey SILT like material. Dense. At 5.0' white-grey Silt like material. At 6.0' contains black tar-like swirls; sticky. Calcium Sulfate Sludge.		2		0.0	
5								
	520							
								Sample: E-B-008-7-8
		ML	Same as above.		3		0.0	
		OH CL	Black stained ORGANICS, some mf-SAND, some Silt.					
10			Dark Grey CLAY.					
		SP	F-SAND, some (-) Silt.					
	515	SP	Mf-SAND, little (+) Silt, little (+) f-Gravel.					

Appendix D: Data Usability Summary Reports

Brown AND Caldwell

QUALITATIVE
DATA USABILITY REPORT
Nepera Site
July 2014 Soil Samples

SDG No.: 14070208

Laboratory: Pace Analytical Services, Inc., Schenectady, New York

Site: Nepera Site, Harriman, New York

Date: September 25, 2014

Samples

Data from the following samples were reviewed:

Laboratory ID	Client ID	Matrix
AR21036	FB-20140707	Water
AR21037	C-SD-009-01	Soil
AR21038	DRAIN-SD-002	Soil
AR21039	DRAIN-SD-001	Soil
AR21040	DUP-20410707 (DRAIN-SD-001)	Soil
AR21041	TRIP BLANK 20140707	Water
		r

A Qualitative Data Usability Review was performed on all analytical data from SDG 14070208. The samples were collected at the Nepera Site, in Harriman, New York. The following table outlines the analytical methods used to analyze the samples;

Analysis	**Method**
Volatile Organic Compounds (VOC)	SW846 8260C
Semivolatile Organic Compounds (SVOC)	SW846 8270D
PCBs	SW846 8082A
ICP Metals	SW846 6010C
Mercury	SW846 7471
Ammonia (as N)	EPA 350.1
Percent Moisture	EPA Moisture

This review was performed in accordance with NYSDEC Guidance for the Development of Data Usability Summary Reports (revised May 2010).

Data Package Completeness

- The data packages were received complete as defined under the requirements for the NYSDEC ASP Category B and USEPA CLP deliverables.

Chains of Custody

The Chains-of Custody (COCs) were reviewed for completeness and accuracy. There were no discrepancies noted and all requested analyses were performed.

Validation

The following were reviewed for the analyses in this report:

- Case narrative
- Analysis data sheets (Form 1's)
- Holding time
- Surrogate recoveries

- Lab Control Sample/Lab Control Sample duplicate (LCS/LCSD) recoveries and RPDs
- Blank contamination
- Gas Chromatography/Mass Spectroscopy (GC/MS) tuning
- Initial and continuing calibration summaries
- Internal Standard area and retention time summary forms
- Field duplicate precision

The items listed above were technically and contractually in compliance with the method and Work Plan requirements, with the exceptions discussed in the following text.

Volatiles by Method SW8260C

The bromomethane result for sample DRAIN-SD-002 has been rejected due to extremely low (0 percent) recovery in the matrix spike sample.

Solid samples C-SD-009-01, DRAIN-SD-002, DRAIN-SD-001 and DUP-20410707 were reanalyzed after an internal standard failed in the initial analysis. The reanalysis results were provided.

The RPD for bromomethane between the MS and MSD samples exceeded the acceptance limits. Bromomethane was not detected in the field samples and no qualification was warranted.

The percent recovery for surrogate 1,2-dichloroethane-d4 exceeded control limits for DUP-20140707. The alternate surrogates were within limits. No qualification is warranted as one surrogate may be outside of limits.

Sample DUP-20140707 is a field duplicate of sample Drain-SD-001. Samples were nondetect for all analytes and duplicate precision could not be evaluated.

The percent recovery for surrogate dibromofluoromethane exceeded control limits for samples DRAIN-SD-002 and DRAIN-SD-001. The alternate surrogates were within limits. No qualification is warranted as one surrogate may be outside of limits.

The percent recoveries for several analytes were outside of quality control limits for the MS and MSD for sample DRAIN-SD-002. Low matrix spike recoveries accounted for the 1,1,1-tetrachloroethane, 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, 1,2,4-trimethylbenzene,

1,2-dichlorobenzene, 1,2-dimethylbenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 4-isopropyltoluene, chlorobenzene, chloroethane, ethylbenzene, hexachlorobutadiene, m,p-xylenes, n-butylbenzene, naphthalene, sec-butylbenzene, styrene, vinyl acetate, and total xylenes being qualified as estimated.

The percent recovery for bromomethane (7.4 percent) for the LCS associated with all four soil samples was less than 10 percent, resulting in the rejection of the bromomethane results for these samples.

The percent recovery for the internal standards fluorobenzene, chlorobenzene-d5, and 1,4-dichlorobenzene-d5 were below the acceptance criteria for sample DRAIN-SD-002. The sample was reanalyzed twice with similar results. All volatile results for sample DRAIN-SD-002 by Method SW8260C have been qualified as estimated (J/UJ).

The percent recovery for acetone for the independent calibration verification (ICV) associated with all four soil samples was below the quality control limits. Acetone has been qualified as estimated (UJ) in all four soil samples.

The percent recovery for chloroethane in the ICV associated with the soil samples was above control limits. Chloroethane was not detected in the samples and no data qualification was warranted.

Semivolatiles by Method SW8270D

The samples were subbed out to TestAmerica, Long Island for analysis. Insufficient sample was received at the laboratory to analyze the field blank (FB-20140707) for semivolatiles.

Sample Drain-SD-002 was used for MS/MSD analysis. All percent recoveries and RPDs were within control limits with the exception of the following:

- Hexachlorocyclopentadiene, 2,4-dimethylphenol, 4,chloroaniline, 2,4-dinitrophenol, and 3,3'-dichlorobenzidine had zero recovery in the MS, MSD, or both. These compounds have been rejected in sample Drain-SD-002.
- Hexachloroethane had MS/MSD recovers below control limits. Hexachloroethane has been qualified as not detected with an estimated detection limit (UJ).
- Fluoranthene, pyrene, benzo(k)fluoranthene and di-n-octyl phthalate had MS/MSD recoveries above the control limits. These compounds were not detected in the parent sample and data qualification was not warranted.

- 2-Chlorophenol, 2-methylphenol, 4-methylphenol, 2,4-dimethylphenol, 4-chloroaniline, and fluoranthene had MS/MSD RPDs above control limits. These compounds were not detected in the parent sample and no data qualification was warranted.

Sample DUP-20140707 is a field duplicate of sample Drain-SD-001. All RPDs are within the control limit of 50 with the exception of dibenzo(a,h)anthracene which had a field duplicate RPD of 59. Dibenzo(a,h)anthracene has been qualified as estimated (J) in samples Drain-SD-001 and DUP-20140707.

No other QA/QC issues were noted during the validation process.

PCB Aroclors by Method SW8082A

Insufficient sample was received at the laboratory to analyze the field blank (FB-20140707) for PCBs.

The detected results for Aroclor 1254 have been qualified as estimated (J flagged) due to a degraded Aroclor pattern.

Sample DUP-20140707 is a field duplicate of sample Drain-SD-001. Aroclor 1254 was detected in the samples with an RPD between results of 108. Aroclor 1254 has been qualified as estimated (J) in both samples.

Surrogates were diluted out and/or interfered with due to high levels of PCBs in the samples. No data qualification was warranted for the surrogate recovery issues.

Mercury by Method SW7471B

The matrix spike recovery was low and the MS/MSD RPD was high for the MS/MSD analysis of sample DRAIN-SD-002, resulting in the mercury result for this sample being qualified as estimated.

Sample DUP-20140707 is a field duplicate of sample Drain-SD-001. The RPD is within the control limit of 50 and no data qualification was warranted..

ICP Metals by Method SW6010C

Low matrix spike recoveries and high MS/MSD RPD resulted in antimony, calcium, magnesium, potassium, and zinc results for sample DRAIN-SD-002 being qualified as estimated (J/UJ).

Sample DUP-20140707 is a field duplicate of sample Drain-SD-001. Field duplicate imprecision (RPD > 50) accounted for the following results for samples Drain-SD-001 and DUP-20140707 being qualified as estimated.

Analyte	C-SD-008-01 conc.	DUP-20140708 conc.	RPD
Antimony	2.08 mg/kg	<0.601 mg/kg	114
Arsenic	15 mg/kg	6.26 mg/kg	83
Cadmium	4.22 mg/kg	2.45 mg/kg	53.1
Chromium	94.1 mg/kg	17.6 mg/kg	139
Copper	246 mg/kg	104 mg/kg	81
Iron	109000 mg/kg	52400 mg/kg	70.1
Nickel	74.2 mg/kg	28.4 mg/kg	74.6
Zinc	6080 mg/kg	3250 mg/kg	60.6

The percent recovery for thallium was outside the quality control limits for the post digestion spike sample for sample DRAIN-SD-002. Thallium has been qualified as estimated (UJ) in sample DRAIN-SD-002.

The percent difference for aluminum, barium, calcium, chromium, cobalt, iron, lead, magnesium, nickel, potassium, and zinc exceeded quality control limits for sample DRAIN-SD-002.

The RPD between sample DRAIN-SD-002 and the laboratory replicate of that sample for calcium and magnesium exceeds the quality control limits. These results have been qualified as estimated (J).

Ammonia by Method E350.1

Insufficient sample was received at the laboratory to analyze the field blank (FB-20140707) for ammonia.

No other issues were noted and no data qualification was warranted.

Validation Qualifiers

The following validation qualifiers may have been applied to the data, as appropriate.

- 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; and the reporting limit is approximate.
- U = The analyte was tested, 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.

Summary Evaluation of Data and Potential Usability Issues

The percent recovery for bromomethane (7.4 percent) for the LCS associated with all four soil samples was less than 10 percent, resulting in the rejection of the bromomethane results for these samples. Hexachlorocyclopentadiene, 2,4-dimethylphenol, 4,chloroaniline, 2,4-dinitrophenol, and 3,3'-dichlorobenzidine had zero recovery in the MS, MSD, or both. These compounds have been rejected in sample Drain-SD-002. Overall, the non-rejected data is acceptable for the intended purposes. Minor data quality issues were identified, only some required qualification of the data.

Signed: _____ Dated: 10/23/14

Gregory Cole
Senior Scientist

Brown AND Caldwell

QUALITATIVE
DATA USABILITY REPORT
Nepera Site
July 2014 Soil Samples

SDG No.: 14070264

Laboratory: Pace Analytical Services, Inc., Schenectady, New York

Site: Nepera Site, Harriman, New York

Date: October 1, 2014

Samples

Data from the following samples were reviewed:

Laboratory ID	Client ID	Matrix
AR21227	DRAIN-SD-010	Soil
AR21228	DRAIN-SD-009	Soil
AR21229	DRAIN-SD-012	Soil
AR21230	DRAIN-SD-011	Soil
AR21231	C-SD-006-01	Soil
AR21232	C-SD-007-01	Soil
AR21233	C-SD-008-01	Soli
AR21234	DUP-20140708 (C-SD-008-01)	Soil
AR21235	FB-20140708	Water
AR21236	DRAIN-SD-008	Soil
AR21299	TRIP BLANK 20140708	Water

A Qualitative Data Usability Review was performed on all analytical data from SDG 14070264. The samples were collected at the Nepera Site, in Harriman, New York. The following table outlines the analytical methods used to analyze the samples;

Analysis	Method
Volatile Organic Compounds (VOC)	SW846 8260C
Semivolatile Organic Compounds (SVOC)	SW846 8270D
PCBs	SW846 8082A
ICP Metals	SW846 6010C
Mercury	SW846 7471
Ammonia (as N)	EPA 350.1
Percent Moisture	EPA Moisture

This review was performed in accordance with NYSDEC Guidance for the Development of Data Usability Summary Reports (revised May 2010).

Data Package Completeness

- The data packages were received complete as defined under the requirements for the NYSDEC ASP Category B and USEPA CLP deliverables.

Chains of Custody

The Chains-of Custody (COCs) were reviewed for completeness and accuracy. There were no discrepancies noted and all requested analyses were performed with the exception of the following;

- TestAmerica, New York analyzed the field blank for VOCs, SVOCs, and ammonia and the trip blank for VOCs. They sent the Site samples to TestAmerica, Long Island for these analyses. This separation of the field QC samples from the Site samples confuses the relationship between these samples.

Validation

The following were reviewed for the analyses in this report:

- Case narrative
- Analysis data sheets (Form 1's)
- Holding time
- Surrogate recoveries
- Lab Control Sample/Lab Control Sample duplicate (LCS/LCSD) recoveries and RPDs
- Blank contamination
- Gas Chromatography/Mass Spectroscopy (GC/MS) tuning
- Initial and continuing calibration summaries
- Internal Standard area and retention time summary forms
- Field duplicate precision

The items listed above were technically and contractually in compliance with the method and Work Plan requirements, with the exceptions discussed in the following text.

Volatiles by Method SW8260C

The trip blank and field blank were analyzed by TestAmerica, New York. The solid Site samples were sent to TestAmerica, Long Island. This separation of field QC samples from associated Site samples confuses the relationship between these samples. The trip blank and field blank did not have any detection of target analytes above the reporting limit.

Solid sample DRAIN-SD-012 was reanalyzed after an internal standard failed in the initial analysis. The reanalysis provided similar results. Results from the initial analysis are provided. As only one of four internal standards was only slightly out, no data qualification was warranted.

No matrix spike samples were submitted for this data set.

Low levels of methylene chloride and acetone were detected in some blanks. Methylene chloride was not detected in the field samples. Acetone was detected in field samples at levels far exceeding the blank concentrations. No data qualification was warranted.

Naphthalene had a percent difference in the continuing calibration above 20%. Naphthalene was not detected in the field samples and data qualification was not warranted.

Semivolatiles by Method SW8270D

The field blank was analyzed by TestAmerica, New York. The solid Site samples were sent to TestAmerica, Long Island. This separation of field QC samples from associated Site samples confuses the relationship between these samples. The field blank did not have any detection of target analytes above the reporting limit.

Sample DRAIN-SD-010 was used for analysis of MS/MSD. The target analytes; 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, bis(2-ethylhexyl)phthalate, and hexachlorocyclopentadiene all had less than 10 percent recovery. 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, and hexachlorocyclopentadiene were not detected and these results have been rejected (R flagged). The compound bis(2-ethylhexyl)phthalate was detected and has been qualified as estimated (J flagged).

High and low surrogate recoveries were noted for most field samples. No more than one surrogate per fraction was out and no data qualification was warranted.

One of six internal standards had low area counts for samples DRAIN-SD-009, DRAIN-SD-012, DRAIN-SD-011, C-SD-006-01, C-SD-007-01, C-SD-008-01, DUP-20140708, and DRAIN-SD_008 had slightly low area counts. No data qualification was warranted.

Field duplicate imprecision (RPD > 50) accounted for the following results for samples C-SD-008-01 and DUP-20140708 being qualified as estimated.

Analyte	C-SD-008-01 conc.	DUP-20140708 conc.	RPD
di-n-Butyl phthalate	3000 ug/kg	28000 ug/kg	161
Benzo(a)anthracene	<110 U ug/kg	2000 ug/kg	179
Benzo(a)pyrene	<140 U ug/kg	2200 ug/kg	176
Benzo(b)fluoranthene	<170 U ug/kg	3700 ug/kg	182
Benzyl butyl phthalate	<58 U ug/kg	640 ug/kg	167
Bis(2-ethylhexyl)phthalate	<520 U ug/kg	22000 ug/kg	194
Chrysene	<130 U ug/kg	2900 ug/kg	182
Fluoranthene	<190 U ug/kg	3400 ug/kg	179
Indeno(1,2,3-c,d)pyrene	<140 U ug/kg	1400 ug/kg	164
Phenanthrene	<270 U ug/kg	1300 ug/kg	131
pyrene	<160 U ug/kg	5100 ug/kg	190

PCB Aroclors by Method SW8082A

The detected results for Aroclor 1254 and Aroclor 1260 have been qualified as estimated (J flagged) due to a degraded Aroclor pattern.
Surrogates were diluted out and/or interfered with due to high levels of PCBs in the samples. No data qualification was warranted for the surrogate recovery issues.

Mercury by Method SW7471B

The contract required detection limit (CRDL) check had slightly low recoveries showing that at the detection limits results may be biased low. All Site samples had detections well above the detection limits and no data qualification was warranted.

ICP Metals by Method SW6010C

The CRDL checks for iron gave high recoveries and one CRDL check was slightly low for selenium. Iron was detected well above the DL and was not affected. Although selenium was not detected in the samples, data qualification was not warranted.
Field duplicate imprecision (RPD > 50)accounted for the following results for samples C-SD-008-01 and DUP-20140708 being quallfied as estimated.

Analyte	C-SD-008-01 conc.	DUP-20140708 conc.	RPD
Aluminum	21400 mg/kg	36500 mg/kg	52

Ammonia by Method E350.1

Field dupllcate imprecision accounted for the ammonia results for samples C-SD-008-01 and DUP-20140708 being quallfied as estimated. The RPD between the duplicate results (94) exceeded the control limit of 50. These results have been qualified as estimated (J flagged).

Validation Qualifiers

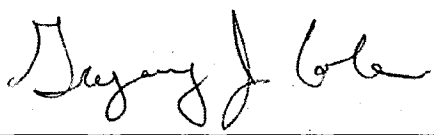
The following validation qualifiers may have been applied to the data, as appropriate.

- 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; and the reporting limit is approximate.
- U = The analyte was tested, 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.

Summary Evaluation of Data and Potential Usability Issues

The results for 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, and hexachlorocyclopentadiene by Method SW8270 for sample DRAIN-SD-010 have been rejected due to extremely low matrix spike recoveries. These results are not usable for any purpose.

Overall, the non rejected data are acceptable for the intended purposes. Most data meet the criteria for the parameters reviewed. Minor data quality issues were identified, only some required qualification of the data.

Signed:  Dated: 10/23/14

Gregory Cole
Senior Scientist

Brown AND Caldwell

QUALITATIVE
DATA USABILITY REPORT
Nepera Site
July 2014 Soil Samples

SDG No.: 14070746

Labotatory: Pace Analytical Services, Inc., Schenectady, New York

Site: Nepera Site, Harriman, New York

Date: October 1, 2014

Samples

Data from the following samples were reviewed:

Laboratory ID	Client ID	Matrix
AR23502	01-B-003-0-1	Soil
AR23503	01-B-003-3.6-4.6	Soil
AR23504	A-B-125-0-1	Soil
AR23505	A-B-125-4.4-5.4	Soil
AR23506	A-B-126-0-1	Soil
AR223507	A-B-126-4-5	Soil
AR23508	67-B-004-0-1	Soli
AR23509	67-B-004-2-3	Soil
AR23510	FB-20140722	Water
AR23511	TRIP BLANK	Water
AR23512	67-B-003-0-1	Soil
AR23513	67-B-003-4-5	Soil

A Qualitative Data Usability Review was performed on all analytical data from SDG 14070746. The samples were collected at the Nepera Site, in Harriman, New York. The following table outlines the analytical methods used to analyze the samples;

Analysis	Method
Volatile Organic Compounds (VOC)	SW846 8260C
Semivolatile Organic Compounds (SVOC)	SW846 8270D
PCBs	SW846 8082A
ICP Metals	SW846 6010C
Mercury	SW846 7471
Ammonia (as N)	EPA 350.1
Percent Moisture	EPA Moisture

This review was performed in accordance with NYSDEC Guidance for the Development of Data Usability Summary Reports (revised May 2010).

Data Package Completeness

- The data packages were received complete as defined under the requirements for the NYSDEC ASP Category B and USEPA CLP deliverables.

Chains of Custody

The Chains-of Custody (COCs) were reviewed for completeness and accuracy. There were no discrepancies noted and all requested analyses were performed with the exception of the following;

- TestAmerica, New York analyzed the field blank for ammonia. They sent the Site samples to TestAmerica, Long Island for this analysis. This separation of the field QC samples from the Site samples confuses the relationship between these samples.

Validation

The following were reviewed for the analyses in this report:

- Case narrative
- Analysis data sheets (Form 1's)
- Holding time
- Surrogate recoveries
- Lab Control Sample/Lab Control Sample duplicate (LCS/LCSD) recoveries and RPDs
- Blank contamination
- Gas Chromatography/Mass Spectroscopy (GC/MS) tuning
- Initial and continuing calibration summaries
- Internal Standard area and retention time summary forms
- Field duplicate precision

The items listed above were technically and contractually in compliance with the method and Work Plan requirements, with the exceptions discussed in the following text.

Volatiles by Method SW8260C

The samples were subbed out to TestAmerica, Long Island for analysis.
No matrix spike samples were submitted for this data set.
Low levels of methylene chloride, acetone, naphthalene, 1,2,3-trichlorobenzene, and 1,2,4-trichlorobenzene were detected in some blanks. Methylene chloride, naphthalene, 1,2,3-trichlorobenzene and 1,2,4-trichlorobenzene were not detected in the field samples. Acetone was detected in some field samples. Acetone was qualified as not detected (UJ) due to blank contamination in samples 01-B-003-0-1, 01-B-003-3.6-4.6, A-B-126-0-1, and A-B-126-4-5.

Semivolatiles by Method SW8270D

The samples were subbed out to TestAmerica, Long Island for analysis.

No matrix spike samples were submitted for this data set.

One of six internal standards had a low area count for samples A-B-126-4-5. No data qualification was warranted.

PCB Aroclors by Method SW8082A

The detected results for Aroclor 1254 have been qualified as estimated (J flagged) due to a degraded Aroclor pattern.

Mercury by Method SW7471B

The contract required detection limit (CRDL) check had slightly low recoveries showing that at the detection limits results may be biased low. Most Site samples had detections well above the detection limits and no data qualification was warranted. However, the non-detected mercury results for samples 01-B-003-3.6-4.6, 67-B-003-0-1, and 67-B-003-4-5 have been qualified as estimated (UJ).

ICP Metals by Method SW6010C

The RPD between sample 67-B-003-4-5 and a lab replicate exceeded control limits for arsenic, calcium, and magnesium. These results for sample 67-B-003-4-5 have been qualified as estimated (J).

Calcium and zinc were detected in the blank samples. Site sample concentrations were well above the blank levels and no qualification was warranted.

The CRDL checks for calcium, copper, aluminum, and antimony were outside quality control limits. Calcium, copper, and aluminum were detected well above the DL and were not affected. Antimony was detected near the reporting limit in sample A-B-125-0-1. Antimony in sample A-B-125-0-1 has been qualified as estimated (J).

The matrix spike recovery for antimony in sample 67-B-003-4-5 was below control limits and the antimony result for sample 67-B-003-4-5 has been qualified as estimated (J).

The matrix spike recovery for potassium in sample 67-B-003-4-5 was above control limits and the potassium result for sample 67-B-003-4-5 has been qualified as estimated (J).

The percent recoveries for thallium and zinc for the post digestion spike sample for 67-B-003-4-5 were below control limits. Thallium and zinc results for sample 67-B-003-4-5 have been qualified as estimated.

The percent differences for arsenic, calcium, chromium, cobalt, iron, lead, magnesium, manganese, nickel, and zinc for the serial dilution for sample 67-B-003-4-5 exceeded the quality control limits. These compounds have been qualified as estimated (J) in sample 67-B-003-4-5.

Ammonia by Method E350.1

TestAmerica, New York analyzed the field blank for ammonia. They sent the Site samples to TestAmerica, Long Island for this analysis. This separation of the field QC samples from the Site samples confuses the relationship between these samples. No other discrepancies were noted.

Validation Qualifiers

The following validation qualifiers may have been applied to the data, as appropriate.

- 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; and the reporting limit is approximate.
- U = The analyte was tested, 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.

Summary Evaluation of Data and Potential Usability Issues

Overall, the data are acceptable for the intended purposes. None of the data has been rejected. Most data meet the criteria for the parameters reviewed. Minor data quality issues were identified, only some required qualification of the data.

Signed: _____ Dated: 10/23/14

Gregory Cole
Senior Scientist

Brown AND Caldwell

QUALITATIVE
DATA USABILITY REPORT
Nepera Site
July 2014 Soil Samples

SDG No.: 14070802

Laboratory: Pace Analytical Services, Inc., Schenectady, New York

Site: Nepera Site, Harriman, New York

Date: October 7, 2014

Samples

Data from the following samples were reviewed:

Laboratory ID	Client ID	Matrix
AR23767	28-B-004-0-1	Soil
AR23768	28-B-004-3.2-4.2	Soil
AR23769	28-B-003-0-1	Soil
AR23770	28-B-003-5.9-6.9	Soil
AR23771	FB-20140723	Water
AR23772	TRIP BLANK 20140723	Water
AR23773	57-B-001-0-1	Soil
AR23774	57-B-001-1-2	Soil
AR23775	E-B-008-0-1	Soil
AR23776	E-B-008-7-8	Soil
AR23777	E-B-007-4-5	Soil
AR23778	DUP-20140723 (57-B-001-0-1)	Soil
AR23779	E-B-007-6-7	Soil (mercury only)
AR23780	70-B-002-7-8	Soil (mercury only)

Laboratory ID	Client ID	Matrix
AR23781	E-B-006-4-5	Soil (mercury only)
AR23782	E-B-006-7-8	Soil (mercury only)
AR23783	A-B-130-6-7	Soil (mercury only)
AR23784	A-B-130-7-8	Soil (mercury only)
AR23785	A-B-131-6-7	Soil (mercury only)
AR23786	A-B-131-7-8	Soil (mercury only)

A Qualitative Data Usability Review was performed on all analytical data from SDG 14070802. The samples were collected at the Nepera Site, in Harriman, New York. The following table outlines the analytical methods used to analyze the samples;

Analysis	**Method**
Volatile Organic Compounds (VOC)	SW846 8260C
Semivolatile Organic Compounds (SVOC)	SW846 8270D
PCBs	SW846 8082A
ICP Metals	SW846 6010C
Mercury	SW846 7471
Ammonia (as N)	EPA 350.1
Percent Moisture	EPA Moisture

This review was performed in accordance with NYSDEC Guidance for the Development of Data Usability Summary Reports (revised May 2010).

Data Package Completeness

- The data packages were received complete as defined under the requirements for the NYSDEC ASP Category B and USEPA CLP deliverables.

Chains of Custody

The Chains-of Custody (COCs) were reviewed for completeness and accuracy. There were no discrepancies noted and all requested analyses were performed with the exception of the following;

- TestAmerica, New York analyzed the field blank for ammonia. They sent the Site samples to TestAmerica, Long Island for this analysis. This separation of the field QC samples from the Site samples confuses the relationship between these samples.

Validation

The following were reviewed for the analyses in this report:

- Case narrative
- Analysis data sheets (Form 1's)
- Holding time
- Surrogate recoveries
- Lab Control Sample/Lab Control Sample duplicate (LCS/LCSD) recoveries and RPDs
- Blank contamination
- Gas Chromatography/Mass Spectroscopy (GC/MS) tuning
- Initial and continuing calibration summaries
- Internal Standard area and retention time summary forms
- Field duplicate precision

The items listed above were technically and contractually in compliance with the method and Work Plan requirements, with the exceptions discussed in the following text.

Volatiles by Method SW8260C

The samples were subbed out to TestAmerica, Long Island for analysis.
Sample E-B-008-0-1 was analyzed as the matrix spike/matrix spike duplicate. All percent recoveries were within QC limits. All RPD's were met.
Low levels of methylene chloride, acetone, naphthalene and 1,2,3-trichlorobenzene were detected in some blanks. Methylene chloride, naphthalene and 1,2,3-trichlorobenzene were not detected in the field samples. Acetone was detected in some field samples at levels exceeding ten times the blank level and no data qualification was warranted.

Semivolatiles by Method SW8270D

The samples were subbed out to TestAmerica, Long Island for analysis.
No matrix spike samples were submitted for this data set.
No QA/QC issues were noted during the validation process.

PCB Aroclors by Method SW8082A

The detected results for Aroclor 1254 have been qualified as estimated (J flagged) due to a degraded Aroclor pattern. Field duplicate imprecision (RPD > 50) accounted for the following results for samples 57-B-001-0-1 and DUP-20140723 being qualified as estimated.

Analyte	57-B-001-0-1 conc.	DUP-20140723 conc.	RPD
Aroclor 1254	2.11 mg/kg	0.782 mg/kg	91.8

Mercury by Method SW7471B

The contract required detection limit (CRDL) check had slightly low recoveries showing that at the detection limits results may be biased low. Most Site samples had detections well above the detection limits and no data qualification was warranted. However, the non-detected mercury results for samples 28-B-004-0-1, 28-B-004-3.2-4.2, 28-B-003-5.9-6.9, FB-20140723, 57-B-001-1-2 and A-B-131-7-8 and the low level detection for sample E-B-006-7-8 have been qualified as estimated (J/UJ). Field duplicate imprecision (RPD > 50) accounted for the following results for samples 57-B-001-0-1 and DUP-20140723 being qualified as estimated.

Analyte	57-B-001-0-1 conc.	DUP-20140723 conc.	RPD
Mercury	4.92 mg/kg	2.95 mg/kg	50.1

ICP Metals by Method SW6010C

Zinc was detected in the blank samples. Site sample concentrations were well above the blank levels and no qualification was warranted.

The matrix spike recoveries for antimony, barium, chromium, copper, lead, and nickel in sample E-B-008-0-1 were below control limits and these results for sample E-B-008-0-1 have been qualified as estimated (J).

The percent recovery for zinc for the post digestion spike sample for E-B-008-0-1 was below the control limit. The zinc result for sample E-B-008-0-1 has been qualified as estimated.

The percent differences for arsenic, chromium, cobalt, iron, lead, manganese, nickel, and zinc for the serial dilution for sample E-B-008-0-1 exceeded the quality control limits. These compounds have been qualified as estimated (J) in sample E-B-008-0-1.

Ammonia by Method E350.1

TestAmerica, New York analyzed the field blank for ammonia. They sent the Site samples to TestAmerica, Long Island for this analysis. This separation of the field QC samples from the Site samples confuses the relationship between these samples. No other discrepancies were noted.

Validation Qualifiers

The foliowing validation qualifiers may have been applied to the data, as appropriate.

- 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; and the reporting limit is approximate.
- U = The analyte was tested, 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.

Summary Evaluation of Data and Potential Usability Issues

Overall, the data are acceptable for the intended purposes. None of the data has been rejected. Most data meet the criteria for the parameters reviewed. Minor data quality issues were identified, only some required qualification of the data.

Signed: _____ Dated: 10/23/14

Gregory Cole
Senior Scientist

Brown AND Caldwell

QUALITATIVE
DATA USABILITY REPORT
Nepera Site
July 2014 Soil Samples

SDG No.: 14070837

Laboratory: Pace Analytical Services, Inc., Schenectady, New York

Site: Nepera Site, Harriman, New York

Date: October 7, 2014

Samples

Data from the following samples were reviewed:

Laboratory ID	Client ID	Matrix
AR23994	20-B-002-0-1	Soil
AR23995	20-B-002-4-5	Soil
AR23996	20-B-003-0-1	Soil
AR23997	20-B-003-4-5	Soil
AR23998	DUP-2-20140723 (20-B-003-4-5)	Soil
AR23999	FB-20140724	Water
AR24000	TRIP BLANK 20140724	Water
AR24001	A-B-127-5-6	Soil (mercury only)
AR24002	A-B-127-7-8	Soil (mercury only)
AR24003	A-B-128-2-3	Soil (mercury only)
AR24004	A-B-128-7-8	Soil (mercury only)
AR24005	37-B-002-5-6 (on hold)	Soil (mercury only)
AR24006	A-B-129-2-3	Soil (mercury only)

Laboratory ID	Client ID	Matrix
AR24007	A-B-129-7-8	Soil (mercury only)
AR24008	29-B-004-6-7	Soil (mercury only)
AR24009	13-B-004-0-1	Soil
AR24010	13-B-004-5-6	Soil

A Qualitative Data Usability Review was performed on all analytical data from SDG 14070837. The samples were collected at the Nepera Site, in Harriman, New York. The following table outlines the analytical methods used to analyze the samples;

Analysis	**Method**
Volatile Organic Compounds (VOC)	SW846 8260C
Semivolatile Organic Compounds (SVOC)	SW846 8270D
PCBs	SW846 8082A
ICP Metals	SW846 6010C
Mercury	SW846 7471
Ammonia (as N)	EPA 350.1
Percent Moisture	EPA Moisture

This review was performed in accordance with NYSDEC Guidance for the Development of Data Usability Summary Reports (revised May 2010).

Data Package Completeness

- The data packages were received complete as defined under the requirements for the NYSDEC ASP Category B and USEPA CLP deliverables.

Chains of Custody

The Chains-of Custody (COCs) were reviewed for completeness and accuracy. There were no discrepancies noted and all requested analyses were performed with the exception of the following;

- TestAmerica, New York analyzed the field blank for ammonia. They sent the Site samples to TestAmerica, Long Island for this analysis. This separation of the field QC samples from the Site samples confuses the relationship between these samples.

Validation

The following were reviewed for the analyses in this report:

- Case narrative
- Analysis data sheets (Form 1's)
- Holding time
- Surrogate recoveries
- Lab Control Sample/Lab Control Sample duplicate (LCS/LCSD) recoveries and RPDs
- Blank contamination
- Gas Chromatography/Mass Spectroscopy (GC/MS) tuning
- Initial and continuing calibration summaries
- Internal Standard area and retention time summary forms
- Field duplicate precision

The items listed above were technically and contractually in compliance with the method and Work Plan requirements, with the exceptions discussed in the following text.

Volatiles by Method SW8260C

The samples were subbed out to TestAmerica, Long Island for analysis.
Sample 20-B-002-0-1 was analyzed as the matrix spike/matrix spike duplicate. All percent recoveries were within QC limits with the exception of high recoveries for chloroform, benzene, and 1,2-dichloropropane. These compounds were not detected in the parent sample and no qualification was warranted. All RPD's were met.

Low levels of methylene chloride, acetone, naphthalene; 1,2,3-trichlorobenzene and 1,2,4-trichlorobenzene were detected in some blanks. Methylene chloride, 1,2,3-trichlorobenzene and 1,2,4-trichlorobenzene were not detected in the field samples. Acetone and naphthalene were detected in some field samples. Acetone has been qualified as not detected with an estimated detection limit (UJ) due to blank contamination in samples 20-B-002-4-5, 20-B-003-0-1 and DUP-2-20140723.

Field duplicate imprecision (RPD > 50) accounted for the following results for samples 20-B-003-4-5 and DUP-2-20140723 being qualified as estimated.

Analyte	20-B-003-4-5 conc.	DUP-2-20140723 conc.	RPD
2-Butanone (MEK)	39 ug/kg	<11 ug/kg	112
Acetone	140 ug/kg	21 ug/kg	147

Semivolatiles by Method SW8270D

The samples were subbed out to TestAmerica, Long Island for analysis.

Sample 20-B-002-0-1 was used for MS/MSD analysis. All percent recoveries and RPDs were within control limits.

A few samples had slightly low internal standard area counts for one of six internal standards. The impact on data usability is considered minimal. No other QA/QC issues were noted during the validation process.

PCB Aroclors by Method SW8082A

The detected results for Aroclor 1254 have been qualified as estimated (J flagged) due to a degraded Aroclor pattern.

Mercury by Method SW7471B

The contract required detection limit (CRDL) check had slightly low recoveries showing that at the detection limits results may be biased low. Most Site samples had detections well above the detection limits and no data qualification was warranted. However, the non-detected mercury result for sample FB-20140724 has been qualified as estimated (UJ).

High matrix spike recovery accounted for the mercury result for sample 20-B-002-0-1 being qualified as estimated with a possible high bias.

Field duplicate imprecision (RPD > 50) accounted for the following results for samples 20-B-003-4-5 and DUP-2-20140723 being qualified as estimated.

Analyte	20-B-003-4-5 conc.	DUP-2-20140723 conc.	RPD
Mercury	139 mg/kg	0.194 mg/kg	199

ICP Metals by Method SW6010C

Zinc was detected in the blank samples. Site sample concentrations were well above the blank levels and no qualification was warranted.

The matrix spike recoveries for antimony and zinc in sample 20-B-002-0-1 were below control limits and these results for sample 20-B-002-0-1 have been qualified as estimated (J/UJ). The matrix spike recoveries for barium, calcium, lead and potassium were above control limits and these results for sample 20-B-002-0-1 have been qualified as estimated (J).

The percent recoveries for thallium and zinc for the post digestion spike sample for 20-B-002-0-1 were outside of control limits. The thallium and zinc results for sample 20-B-002-0-1 have been qualified as estimated.

The percent differences for arsenic, calcium, chromium, cobalt, iron, lead, manganese, nickel, and zinc for the serial dilution for sample 20-B-002-0-1 exceeded the quality control limits. These compounds have been qualified as estimated (J) in sample 20-B-002-0-1.

Field duplicate imprecision (RPD > 50) accounted for the following results for samples 20-B-003-4-5 and DUP-2-20140723 being qualified as estimated.

Analyte	20-B-003-4-5 conc.	DUP-2-20140723 conc.	RPD
Arsenic	7.68 mg/kg	3.18 mg/kg	82.9
Barium	94.4 mg/kg	25.3 mg/kg	115
Calcium	21200 mg/kg	1770 mg/kg	169
Copper	84.3 mg/kg	18.3 mg/kg	129
Lead	80.5 mg/kg	6.58 mg/kg	172
Manganese	500 mg/kg	234 mg/kg	72
Zinc	99.1 mg/kg	46.9 mg/kg	72

Ammonia by Method E350.1

TestAmerica, New York analyzed the field blank for ammonia. They sent the Site samples to TestAmerica, Long Island for this analysis. This separation of the field QC samples from the Site samples confuses the relationship between these samples. No other discrepancies were noted.

Validation Qualifiers

The following validation qualifiers may have been applied to the data, as appropriate.

- 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; and the reporting limit is approximate.
- U = The analyte was tested, 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.

Summary Evaluation of Data and Potential Usability Issues

Overall, the data are acceptable for the intended purposes. None of the data has been rejected. Most data meet the criteria for the parameters reviewed. Minor data quality issues were identified, only some required qualification of the data.

Signed: _____ Dated: 10/23/14

Gregory Cole
Senior Scientist

Brown AND Caldwell

QUALITATIVE
DATA USABILITY REPORT
Nepera Site
July 2014 Air Samples

SDG No.: 14070839

Laboratory: Pace Analytical Services, Inc., Schenectady, New York

Site: Nepera Site, Harriman, New York

Date: October 8, 2014

Samples

Data from the following samples were reviewed:

Laboratory ID	Client ID	Matrix
AR24012	67-SV-001	Air
AR24013	SV-DUP072314 (67-SV-001)	Air
AR24014	70-SV-001	Air
AR24015	18-SV-001 (not analyzed)	Air
AR24016	01-SV-001	Air

A Qualitative Data Usability Review was performed on all analytical data from SDG 14070839. The samples were collected at the Nepera Site, in Harriman, New York. The following table outlines the analytical methods used to analyze the samples;

Analysis	**Method**
Volatile Organic Compounds (VOC)	TO-15

This review was performed in accordance with NYSDEC Guidance for the Development of Data Usability Summary Reports (revised May 2010).

Data Package Completeness

- The data packages were received complete as defined under the requirements for the NYSDEC ASP Category B and USEPA CLP deliverables.

Chains of Custody

The Chain-of Custody (COC) was reviewed for completeness and accuracy. Sample 18-SV-001 is listed on the COC. However, this sample was not analyzed and no data was reported. The canister for sample 18-SV-001 was received at the lab with nearly the same vacuum level as when it was sent out. This would indicate that no sample was collected which may have been due to a plugged flow controller.

Validation

The following were reviewed for the analyses in this report:

- Case narrative
- Analysis data sheets (Form 1's)
- Holding time
- Surrogate recoveries

- Lab Control Sample/Lab Control Sample duplicate (LCS/LCSD) recoveries and RPDs
- Blank contamination
- Gas Chromatography/Mass Spectroscopy (GC/MS) tuning
- Initial and continuing calibration summaries
- Internal Standard area and retention time summary forms
- Field duplicate precision

The items listed above were technically and contractually in compliance with the method and Work Plan requirements, with the exceptions discussed in the following text.

Volatiles by Method TO-15

The LCS had recoveries of 1,1,1-trichloroethane and carbon tetrachloride above the control limits. These compounds were detected in samples 01-SV-001 and have been qualified as estimated (J). Sample SV-DUP072314 is a field duplicate of sample 67-SV-001. All RPDs were within 30.

Validation Qualifiers

The following validation qualifiers may have been applied to the data, as appropriate.

- 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; and the reporting limit is approximate.
- U = The analyte was tested, 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.

Summary Evaluation of Data and Potential Usability Issues

Overall, the data is acceptable for the intended purposes. No Data were rejected as a result of this review; most data meet the criteria for the parameters reviewed. Minor data quality issues were identified, only some required qualification of the data.

Signed: _____ Dated: 10/23/14

Gregory Cole
Senior Scientist

Brown AND Caldwell

QUALITATIVE
DATA USABILITY REPORT
Nepera Site
July 2014 Soil Samples

SDG No.: 14070874

Laboratory: Pace Analytical Services, Inc., Schenectady, New York

Site: Nepera Site, Harriman, New York

Date: October 7, 2014

Samples

Data from the following samples were reviewed:

Laboratory ID	Client ID	Matrix
AR24153	02-B-003-0-1	Soil
AR24154	DUP-20140724 (02-B-003-0-1)	Soil
AR24155	02-B-003-1-2	Soil
AR24156	02-B-004-7-8	Soil (mercury only)
AR24157	05-B-002-0-1	Soil
AR24158	05-B-002-5-6	Soil
AR24159	05-B-002-7-8	Soil
AR24160	37-B-002-5-6	Soil (mercury only)
AR24161	TRIP BLANK-2-20140724	Water

A Qualitative Data Usability Review was performed on all analytical data from SDG 14070874. The samples were collected at the Nepera Site, in Harriman, New York. The following table outlines the analytical methods used to analyze the samples;

Analysis	Method
Volatile Organic Compounds (VOC)	SW846 8260C
Semivolatile Organic Compounds (SVOC)	SW846 8270D
PCBs	SW846 8082A
ICP Metals	SW846 6010C
Mercury	SW846 7471
Ammonia (as N)	EPA 350.1
Percent Moisture	EPA Moisture

This review was performed in accordance with NYSDEC Guidance for the Development of Data Usability Summary Reports (revised May 2010).

Data Package Completeness

- The data packages were received complete as defined under the requirements for the NYSDEC ASP Category B and USEPA CLP deliverables.

Chains of Custody

The Chains-of Custody (COCs) were reviewed for completeness and accuracy. There were no discrepancies noted and all requested analyses were performed.

Validation

The following were reviewed for the analyses in this report:

- Case narrative
- Analysis data sheets (Form 1's)
- Holding time
- Surrogate recoveries

- Lab Control Sample/Lab Control Sample duplicate (LCS/LCSD) recoveries and RPDs
- Blank contamination
- Gas Chromatography/Mass Spectroscopy (GC/MS) tuning
- Initial and continuing calibration summaries
- Internal Standard area and retention time summary forms
- Field duplicate precision

The items listed above were technically and contractually in compliance with the method and Work Plan requirements, with the exceptions discussed in the following text.

Volatiles by Method SW8260C

The samples were subbed out to TestAmerica, Long Island for analysis.

Sample 05-B-002-0-1 was analyzed as the matrix spike/matrix spike duplicate. All percent recoveries were within QC limits with the exception of low recoveries for 1,2,4-trichlorobenzene and naphthalene, and a high recovery of n-propylbenzene. These compounds were not detected in the parent sample. 1,2,4-trichlorobenzene and naphthalene have been qualified as estimated (UJ) due to low matrix spike recovery. All RPD's were met with the exception of tert-butylbenzene, sec-butylbenzene, isopropylbenzene, n-propylbenzene, 2-chlorotoluene, 1,2,4-trimethylbenzene, 4-isopropyltoluene, 1,3,5-trimethylbenzene, p-Diethylbenzene, n-butylbenzene, 1,2,4,5-tetramethylbenzene and hexachlorobutadiene. These compounds were not detected in the parent sample and no data qualification was warranted.

Low levels of methylene chloride, acetone, naphthalene; 1,2,3-trichlorobenzene and 1,2,4-trichlorobenzene were detected in some blanks. Methylene chloride, naphthalene, 1,2,3-trichlorobenzene and 1,2,4-trichlorobenzene were not detected in the field samples. Acetone was detected in one field samples. Acetone has been qualified as not detected with an estimated detection limit (UJ) due to blank contamination in sample 05-B-002-7-8.

Sample DUP-20140724 is a field duplicate of sample 02-B-003-0-1. Volatiles were not detected in these samples.

Semivolatiles by Method SW8270D

The samples were subbed out to TestAmerica, Long Island for analysis.
Sample 05-B-002-0-1 was used for MS/MSD analysis. All percent recoveries and RPDs were within control limits with the exception of hexachlorocyclopentadiene which had zero recovery. Hexachlorocyclopentadiene has been rejected in sample 05-B-002-0-1.
No other QA/QC issues were noted during the validation process.

PCB Aroclors by Method SW8082A

The detected results for Aroclor 1254 have been qualified as estimated (J flagged) due to a degraded Aroclor pattern.
Field duplicate imprecision (RPD > 50) accounted for the following results for samples 02-B-003-0-1 and DUP-20140724 being qualified as estimated.

Analyte	02-B-003-0-1 conc.	DUP-20140724 conc.	RPD
Aroclor 1254	0.884 mg/kg	<0.0513 mg/kg	179
Total PCBs	0.884 mg/kg	<0.0513 mg/kg	179

Mercury by Method SW7471B

The contract required detection limit (CRDL) check had slightly low recoveries showing that at the detection limits results may be biased low. Site samples had detections well above the detection limits and no data qualification was warranted. However, the non-detected mercury results for samples 02-B-004-7-8 and 37-B-002-5-6 have been qualified as estimated (UJ).
Field duplicate imprecision (RPD > 50) accounted for the following results for samples 02-B-003-0-1 and DUP-20140724 being qualified as estimated.

Analyte	02-B-003-0-1 conc.	DUP-20140724 conc.	RPD
Mercury	0.575 mg/kg	0.141 mg/kg	122

ICP Metals by Method SW6010C

The CRDL checks had low recoveries for calcium and antimony showing that near the detection limits results may be biased low. The CRDL checks had high recoveries for calcium, potassium, thallium and lead showing that near the detection limits results may be biased high. Most Site samples had detections well above the detection limits and data qualification was warranted. However, the non-detected antimony results for samples DUP-20140724, 02-B-003-1-2, 05-B-002-0-1, 05-B-002-5-6 and 05-B-002-7-8 and the low level detection of antimony in sample 02-B-003-0-1 have been qualified as estimated (J/UJ).

The matrix spike recoveries for antimony, calcium, lead and zinc in sample 05-B-002-0-1 were below control limits and these results for sample 05-B-002-0-1 have been qualified as estimated (J/UJ). The matrix spike recoveries for magnesium, manganese and potassium were above control limits and these results for sample 05-B-002-0-1 have been qualified as estimated (J).

The percent differences for lead and manganese for the serial dilution for sample 05-B-002-0-1 exceeded the quality control limits. These compounds have been qualified as estimated (J) in sample 05-B-002-0-1.

Field duplicate imprecision (RPD > 50) accounted for the following results for samples 02-B-003-0-1 and DUP_20140724 being qualified as estimated.

Analyte	02-B-003-0-1 conc.	DUP-20140724 conc.	RPD
Calcium	8120 mg/kg	22100 mg/kg	92.5
Copper	1090 mg/kg	28.7 mg/kg	190
Lead	26.4 mg/kg	10.8 mg/kg	83.9
Sodium	169 mg/kg	72.1 mg/kg	79.5

Ammonia by Method E350.1

No QA/QC issues were noted.

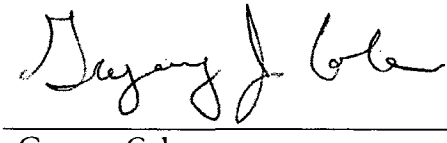
Validation Qualifiers

The following validation qualifiers may have been applied to the data, as appropriate.

- 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; and the reporting limit is approximate.
- U = The analyte was tested, 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.

Summary Evaluation of Data and Potential Usability Issues

Hexachlorocyclopentadiene has been rejected in sample 05-B-002-0-1 due to no matrix spike recovery. Overall, the non-rejected data are acceptable for the intended purposes. Most data meet the criteria for the parameters reviewed. Minor data quality issues were identified, only some required qualification of the data.

Signed:  Dated: 10/23/14

Gregory Cole
Senior Scientist