



Write or Copy/Paste Document Title In This Space

Document Name for DecDocs:

WorkPlan.VCP.V00444.2002-02-28.Workplan_for_Site_Remediation_Activities

V00444 - Beacon Salvage

DO NOT PHOTOCOPY. PRINT FROM PDF VERSION ONLY.





FILE COPY

WORKPLAN

FOR SITE REMEDIATION ACTIVITIES

FOR THE "BEACON SALVAGE" PROPERTY

LOCATED AT

RED FLYNN DRIVE

CITY OF BEACON

DUTCHESS COUNTY, NEW YORK

Date of Preparation: November 30, 2001

Date of Revision: February 28, 2002

ECOSYSTEMS STRATEGIES, INC.
60 WORRALL AVENUE
POUGHKEEPSIE, NEW YORK 12603
(845) 452-1658

ESI File Number: SB2096.40

WORKPLAN

FOR SITE REMEDIATION ACTIVITIES

FOR THE "BEACON SALVAGE" PROPERTY

LOCATED AT
RED FLYNN DRIVE
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK

Date of Preparation: November 30, 2001
Date of Revision: February 28, 2002

Prepared By:

Ecosystems Strategies, Inc.
60 Worrall Avenue
Poughkeepsie, New York 12603

Dewkett Engineering, P.C.
187 E. Market Street
Rhinebeck, NY 12572

Prepared For:

Scenic Hudson Land Trust, Inc.
9 Vassar Street
Poughkeepsie, New York 12601

The undersigned have reviewed this Workplan for Site Remediation Activities and certifies to Scenic Hudson Land Trust, Inc. that the information provided in this document is accurate as of the date of issuance by this office.

Paul H Ciminello
President

Jefferson Akins, P.E.
Project Engineer

TABLE OF CONTENTS

EXECUTIVE SUMMARY

1.0 INTRODUCTION 1
- 1.1 Purpose
- 1.2 Site Location and Description
- 1.3 Known Environmental Conditions of Concern
- 1.4 Proposed Future Use of the Site

2.0 PROPOSED SITE REMEDIATION SERVICES 6
- 2.1 Overview of Proposed Remediation Services
- 2.2 Proposed Site Preparation Services
  - 2.2.1 Agency Notification
  - 2.2.2 Equipment Calibration
  - 2.2.3 Clean-Up Levels
  - 2.2.4 Site Remediation Coordination Activities
  - 2.2.5 Health and Safety Plan
  - 2.2.6 Community Air Monitoring Plan
- 2.3 Proposed Specific Remediation Services
  - 2.3.1 Excavation of Contaminated Soil
  - 2.3.2 Post-Excavation Soil Sampling
  - 2.3.3 Site Restoration in PCB-Contaminated Soil Removal Area
  - 2.3.4 Installation of Clean Fill Barrier Layer or Equivalent
  - 2.3.5 Post-Remediation Groundwater Sampling
  - 2.3.6 Access and Use Restrictions
  - 2.3.7 Documentation of Site Remediation and/or Closure

3.0 TIME SCHEDULE 15

ATTACHMENTS

A *Maps*
B *Previous Laboratory Data*
C *Complete Laboratory Data Packages*
D *Health and Safety Plan*
E *Engineering Evaluation*
F *Community Air Monitoring Plan*

WORKPLAN FOR SITE REMEDIATION ACTIVITIES

PREPARED FOR THE

"BEACON SALVAGE PROPERTY"

LOCATED IN THE CITY OF BEACON

DUTCHESS COUNTY, NEW YORK

Executive Summary

This Draft Workplan details remedial services proposed to address known soil contamination on the "Beacon Salvage Property" located west of Red Flynn Drive Street in the City of Beacon, Dutchess County, New York. This Site has been used historically as a scrap metal processing facility. Soils on the eastern portion of the site have been contaminated with PCBs at concentrations ranging from 0.53 ppm to 17 ppm. Soils located in the eastern portion of the Site, as well as the western portion of the Site, have been found to contain elevated concentrations of lead; soils in the central portion of the Site do not contain elevated metals.

Proposed future use of the Site is undetermined at this time but is anticipated to include passive recreation, as well as commercial or residential. Remediation will be completed as if the entire Site will be used for the most restrictive use (residential).

Remedial actions are proposed to: 1) excavate PCB-contaminated soil on the eastern portion of the property in the vicinity of the metal processing/ "burn areas" and where miscellaneous debris has been stored for several years; and 2) placement of a barrier layer consisting of eighteen inches of clean fill (or engineering equivalent) on all portions of the Site where elevated lead is present, excluding that part of the property subject to PCB-contaminated soil removal. Upon completion of all remedial activities, a final summary Report will be prepared and submitted to the NYSDEC for review, and a "No Further Action" letter will be issued by the NYSDEC.

1.0 Introduction

1.1 Purpose

The purpose of this Workplan is to provide guidance on the manner in which site remediation services are provided to address known environmental conditions (see Section 1.3, below) on the property known as the "Beacon Salvage Site", located west of Red Flynn Drive in the City of Beacon, Dutchess County, New York (hereafter referred to as the "Site"). It is the expressed intent of this Workplan to provide specific actions which will adequately address each identified environmental condition such that upon completion of all activities no adverse health impacts will result from future development of the Site.

This Workplan is considered "Final" as it incorporates specific comments made by the New York State Department of Environmental Conservation (NYSDEC) and by the New York State Department of Health ("NYSDOH").

1.2 Site Location and Description

The Beacon Salvage property is defined as the approximately 4.2-acre lot located at the westernmost end of Red Flynn Drive where the property has approximately 170 feet of frontage. This property extends approximately 1,100 feet westwards from Red Flynn Drive and includes lands located under the waters of the Hudson River, which also adjoins the property to the west. The Site is comprised of a single tax lot (City of Beacon Tax Identification: 30-5954-32-48835). A Site Location Map and a Selected Site Features Map are provided in Attachment A of this Workplan.

The Site is an elongated, irregularly-shaped lot which is occupied by a house located in the central portion of the property and a barn located on the central northeastern portion of the property. Located to the east of the on-site barn structure is an area which has historically been used for the storage and processing of scrap metal. This area of the property consists of open areas with scrub, trees, and overgrown vegetation.

The majority of the subject property is situated on a generally level plot with surface elevations ranging from approximately 5 to 10 feet above mean sea/level (ms/l), based on a review of United States Geological Survey (USGS) Topographic Maps of the Wappingers Falls, New York and West Point, New York Quadrangles. The westernmost portion of the property is underwater. Observations made by this office indicate that the eastern portion of the property is relatively level, while the western portion of the property has a gentle downward slope to the west to the waters of the Hudson River.

One groundwater monitoring well (RD-7) associated with ongoing remediation of the southern adjoining "Former Garret Storm" oil terminal is now located on the Site. (A second well, RD-9, was destroyed during debris removal.) These wells are located north of the southern property line in the central and southeastern portions of the property and represent upgradient wells for this adjoining petroleum contaminated site. Groundwater investigations conducted to date on both the Site and adjoining property document that depth to groundwater ranges from approximately three to 6 ½ feet below surface grade. The direction of groundwater flow is known to be subject to tidal influences; available data indicate that groundwater flows in a northeasterly direction during rising tides and flows in a southwesterly direction during low tides.

1.3 Known Environmental Conditions of Concern

The Site has been the subject of soil sampling which has documented the presence of polychlorinated biphenyls (PCBs) and metals in on-site soils. In June 2000, ESI collected samples from 12 locations in the eastern portion of the site, including three "burn areas" where burning of wire was believed to have occurred. These samples were collected from depths ranging from the surface to five feet below surface grade. In August 2000, ESI collected additional surface and subsurface soil samples from the vicinity of the previously identified "burn areas" for analysis of PCBs. In October 2000, samples obtained from two on-site monitoring wells were analyzed for PCBs. Supplemental surface soil sampling for both PCBs and RCRA metals was performed throughout the site in August 2001; at this time a sample from the remaining on-site monitoring well was also collected for analysis of RCRA metals. Additional surface soil sampling and analysis for arsenic and lead was conducted by ESI in October 2001 on the western portion of the property. Lastly, in February 2002, additional groundwater samples were collected from the property by ESI for analysis of RCRA metals, PCBs, VOCs, and SVOCs. Provided in Attachments B and C of this Workplan are copies of summary laboratory data tables and complete laboratory packages, respectively.

Soil data from June and August 2000 and August 2001 document the presence of elevated levels of PCBs at concentrations ranging from non-detectable to 17,720 μg/l (ppb) in surface soils located almost exclusively in the vicinity of the "burn areas". One surface soil sample (SS-2) collected to the west of the barn was found to have somewhat elevated PCBs; however, the proposed soil cover will adequately address this area. Analysis of subsurface soil samples did not indicate the presence of elevated levels of PCBs above action levels in soils at depths greater than three feet below surface grade. Groundwater samples collected in October 2000 from two on-site groundwater monitoring wells identified as RD-7 and RD-9 documented the absence of PCBs in groundwater.

Laboratory analysis of the soil samples for RCRA metals in June 2000 indicated the presence of elevated concentrations of arsenic, selenium, and lead. Sampling conducted in August 2001 throughout the site likewise documented the presence of elevated arsenic and lead; however, selenium was either not detected or significantly below the action level in all eight samples. The October 2001 soil sampling round found that soils on the western portion of the property exhibited elevated concentrations of lead and arsenic above action levels. These cumulative data support the conclusion that elevated metal concentrations are present throughout the site in both surface and subsurface soils and that the likely source of these elevated metals is the fill material used to create the property. TCLP analyses conducted in June 2000 indicate that on-site soils can be managed as non-hazardous waste. Additionally, laboratory analysis of a single groundwater sample obtained from the remaining on-site monitoring well (RD-7) in August 2001 found no detectable concentrations of any dissolved RCRA metals (with the exception of Barium which was present at a concentration below the drinking water standard).

In February 2002, six temporary well points (TMW-1 through TMW-6) were installed on the property to provide additional information regarding groundwater quality. Samples were obtained from four these wells (TMW-2, TMW-3, TMW-4, and TME-6); two wells (TMW-1 and TMW-5) had insufficient recharge. No detectable concentrations of VOCs, SVOCs, or PCBs were found in these samples and no metals were detected with the exception of barium which was present at concentrations significantly below the NYSDEC action level.

Based on all work conducted to date, the following environmental conditions are known to exist on the Site:

- Groundwater has not been impacted with respect to VOCs, SVOCs, PCBs or RCRA metals.

- Surface soils on the eastern portion of the Site are known to contain concentrations of PCBs above NYSDEC action levels, possibly attributable to activities related to the usage of the Site as a scrap metal processing area. Borings extended on the Site documented the presence of PCB-contaminated surface soils in this area of the property (see Detail Map of Proposed Remediation, Attachment A). In total, an estimated footprint of between 5,000 - 8,000 square feet in the scrap metal processing area of the property is likely to contain elevated levels of PCBs at concentrations above NYSDEC action levels and, therefore, requiring remediation.

- Additional on-site soils (including subsurface soils) contain concentrations of PCBs which are below NYSDEC action levels and are, therefore, not the subject of this Workplan. No remedial work is warranted for these areas based on current analytical data, and no such work is recommended.

- Surface and subsurface soils in the eastern portion of the Site and in the far western portion of the Site are known to contain concentrations of metals (arsenic and lead primarily) above NYSDEC action levels. The approximate boundaries of on-site areas with elevated lead are provided in the Proposed Field Work Map (Attachment A). The source of this contamination is believe to be the fill historically used to create the property and possibly the use of the property as a scrap metal processing area. In total, it is estimated that approximately 80,000 square feet of the subject property (excluding the 5,000 - 8,000 square feet in the PCB-contaminated area) will require remediation (see Proposed Field Work Map, Attachment A).

1.4 Proposed Future Use of the Site

Proposed future use of the Site is undetermined at this time but is anticipated to include passive recreation, as well as commercial or restricted residential uses. Remediation will be completed as if the entire Site will be used for the most restrictive use (restricted residential).

Current site development plans include the retention of both on-site structures, the barn and the residence. Available data support the conclusion that no remedial action is likely to be warranted in the vicinity of the residence, should this structure be removed at a later date. In the event that the barn is removed, it is anticipated that the extension of the barrier layer (see Section 2.3.4, below) to cover the footprint of this structure would be warranted.

OK with DOH?

2.0 Proposed Site Remediation Services

This section of the Workplan details activities which are proposed to be conducted to address the known environmental conditions on the Site, as identified in Section 1.3, above. A Proposed Field Work Map depicting relevant Site features, conditions of concern, and areas of proposed remedial activities, is provided in Attachment A of this Workplan. All work proposed herein will be conducted according to a Health and Safety Plan ("HASP"), provided as Attachment D of this Workplan.

For the purpose of the work detailed in these specifications, the "Owner" is defined as The Scenic Hudson Land Trust, Inc., which will contract with the environmental consultant and/or remediation firm (hereafter referred to as the On-site Coordinator ("OSC") to provide the services detailed below.

2.1 Overview of Proposed Remediation Services

The proposed remedial services described in detail in subsequent sections of this Workplan consist of the following:

1. Excavation of PCB-contaminated soil in the vicinity of scrap metal processing/ "burn areas" and disposal of this excavated soil at a properly permitted facility (Section 2.3.1, below);

2. Post-excavation soil sampling to document acceptable levels of PCBs in remaining soils (Section 2.3.2 below);

3. Restoration of the portion of the site where PCB soils were removed to original grade at the conclusion of all soil removal and inspection services (Section 2.3.3, below);

4. Placement of a barrier layer (Section 2.3.4) on all areas on the site where elevated lead has been detected excluding the scrap metal processing/"burn areas" which will be excavated (see Item #1, above) and the central portion of the site where elevated metals were not found.

5. Post-remediation groundwater sampling to document the continued absence of total PCBs below 0.09 μg/l and metals concentrations below drinking water standards (Section 2.3.5);

6. Implementation of access and use restrictions (Section 2.3.6); and

7. Preparation of a final Report to the Owner and the NYSDEC (Section 2.3.7 below).

Prior to or in conjunction with the initiation of these actions described below in sections 2.3.1 through 2.3.7, the tasks detailed in Section 2.2, below, will be conducted.

2.2 Proposed Site Preparation Services

This section of the Workplan provides details on activities and services necessary to be initiated and/or completed prior to the implementation of Site remediation services.

2.2.1 Agency Notification

NYSDEC will be notified in writing at least five (5) business days prior to the start of field work. Notification of subsequent field activities will be in accordance with reasonable business practice, with verbal notification for immediate (within 48 hours) activities and written notification otherwise. Written notifications will be transmitted to the NYSDEC via facsimile.

2.2.2 Equipment Calibration

The photo-ionization detector ("PID") will be calibrated at the onset of each workday, and a written calibration log will be maintained for this project. The PID will be calibrated to read parts per million gas equivalents of isobutylene in accordance with protocols set forth by the equipment manufacturer. This PID will be used not for purposes of monitoring PCBs but to identify soils potentially containing elevated concentrations of volatile organic compounds.

2.2.3 Clean-up Levels

Site clean-up will be achieved when surface soils are determined to be less than 1 ppm of total PCBs and subsurface (greater than 2.0 feet below surface grade) soils are determined to be less than 10 ppm. As a soil cover (see Section 2.3.4 below) is proposed to address the presence of elevated metals concentrations, no clean-up levels with respect to metals are appropriate.

Currently, no detected concentrations of PCBs or RCRA metals (excepting one metal at a concentration below its drinking water standard) have been identified in on-site groundwater. Post remediation groundwater samples will be collected to document that groundwater concentrations of total PCBs continue to be less than 0.09 μg/l and that RCRA metals concentrations are below drinking water standards.

2.2.4 Site Remediation Coordination Activities

Prior to the initiation of field work, all subcontractors will be notified of the components of the Health and Safety Plan (see 2.3.5, below). All necessary insurance certificates will be secured from subcontractors by the Owner.

An assessment of subsurface soil characteristics, including soil type, the presence of foreign materials, field indications of contamination (e.g., unusual coloration patterns, or odors), and instrument indications of contamination (i.e., PID readings) will be made by the OSC during all site remediation work.

The OSC will be responsible for identifying any soils which, in the opinion of the OSC, may contain elevated concentrations of contaminants and should, therefore, require special handling. Those soils identified by the OSC will be removed to the soil stockpiling area (see Sections 2.3.1 through 2.3.3, below) for characterization and proper disposition. The OSC will monitor the removal of all contaminated soil, including monitoring the trucks and establishing the designated truck routes. The OSC will also ensure that any unforeseen environmental conditions are managed in accordance with applicable federal and state regulations.

2.2.5 Health and Safety Plan

The site-specific HASP will be reviewed with site personnel prior to the initiation of fieldwork. This HASP will be reviewed with the appropriate subcontractors prior to the initiation of field work. All proposed work will be performed in "Level D" personal protective equipment; however, field personnel (including subcontractors) will be prepared to continue services wearing more protective levels of equipment should field conditions warrant.

2.2.6 Community Air Monitoring Plan

Field monitoring of dust and VOCs will be conducted in accordance with the Community Air Monitoring Plan provided in Attachment F. Continuous Dust Monitoring will be performed at the upwind (background) and downwind perimeters of the exclusion zone during all soil excavation activities using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size and capable of integrating over a period of 15 minutes (or less).

NOT DONE

Downwind particulate levels 100 $\mu g/m^3$ greater than background or evidence of visible dust leaving the work area will result in the implementation of dust suppression activities, including, but not limited to, watering the excavation area or ceasing excavation. Work will continue so long as the downwind particulate concentration is within 100 $\mu cg/m^3$ of the upwind level; work will be stopped if the downwind particulate levels are greater than 100 $\mu cg/m^3$ above the upwind level.

Monitoring for VOCs will occur periodically at the downwind perimeter of the work area. Recorded PID readings consistently in excess of 5 ppm will be considered evidence of unacceptable air emissions, and proper procedures to reduce emissions will be instituted. PID readings in excess of 25 ppm above background will necessitate ceasing work and the implementation of monitoring at the nearest residential or commercial structure.

NOT DONE!

2.3 Proposed Specific Remediation Services

This section of the Workplan provides a detailed description of the remedial tasks that will be conducted at the subject property. During the course of all remedial activities, appropriate measures (e.g., vehicle traffic patterns, stormwater run-off controls) will be implemented to ensure that contaminated soil is minimally disturbed.

As required, an Engineering Evaluation of this proposed remediation is provided in Attachment E of this Workplan.

2.3.1 Excavation of Contaminated Soil

The following activities will be conducted on the eastern portion of the property in the vicinity of the scrap metal processing area/"burn areas":

1. Surface material such as metals, wood, and other miscellaneous surface debris will be removed and stockpiled or properly disposed of off-site. Any subsurface debris encountered during the excavation of on-site soils will be disposed of in a manner consistent with applicable NYSDEC regulations (6 NYCRR, Part 360).

   All appropriate disposal documentation will be maintained by the Owner for inclusion in the final Report (see Section 2.3.5, below).

2. Excavation of soils in the scrap metal processing/"burn areas" will be conducted in a manner consistent with field conditions and technical observations from field personnel. At this time, it is anticipated that between 400 and 600 cubic yards of PCB-contaminated soil will be excavated for off-site disposal (the exact volume of soil will be determined by post-excavation integrity sample data). Excavation will extend to a depth of approximately 1.5 - 2.0 feet below surface grade in 6-inch lifts.

3. In the event that on-site storage occurs, the excavated soils will be stored on double-lined, 6-mil poly sheeting and covered with a single sheet of 6-mil plastic. The pile will be located to minimize the likelihood of direct contact with standing water or rising river levels resulting from an unusual storm event. The integrity of the overlaying plastic will be periodically inspected, and replacement of the plastic will occur when appropriate until such time as all soils are removed from the site.

4. All PCB contaminated materials will be removed from the property by an appropriately licensed hauler who will be responsible for exiting the site and traveling on a pre-determined truck route. Trucks will be covered and leak-proof and appropriate measures will be taken to control the generation of fugitive dust from the trucks during transports. All manifests and supporting documentation of waste disposal will be obtained for inclusion in the final Report.

2.3.2 Post-Excavation Soil Sampling

Upon completion of excavation activities, soils proposed to remain on the Site will be sampled and analyzed for PCBs using USEPA Method 8080. The total number of confirmatory soil samples collected for laboratory analysis will depend on the final dimensions of the excavation. One sample will be collected for every 400 to 500 square feet of floor area and sidewall samples will be collected approximately every 40 to 50 feet using a using a 20 or 25 foot grid. At this time, it is anticipated that between 14 and 17 confirmatory soil samples will be collected for analysis. Soil samples will be collected using dedicated, disposable latex gloves. Samples will be place in pre-cleaned jars provided by the laboratory. After sample collection, the sample containers will be placed in a cooler prior to overnight transport to a NYSDOH-certified laboratory for analysis. Appropriate chain of custody procedures will be followed.

2.3.3 Site Restoration in PCB-Contaminated Soil Removal Area

The Site will be regraded to approximate original grade at the conclusion of all soil removal and inspection (including, if warranted, NYSDEC inspection) services. To the extent possible, on-site soils that have not been impacted by PCB contamination will be used for site regrading. In the event that soil importation is necessary, the Owner will secure only certified clean fill material.

2.3.4 Installation of Clean Fill Barrier Layer or Equivalent

A clean fill barrier layer will be placed on all areas of the site where elevated lead has been detected, excluding the scrap metal processing/"burn areas" which will be excavated. (See Proposed Field Work Map in Attachment A).

A marker layer consisting of an easily identifiable, non-biodegradable layer such as high visible plastic mesh will first be placed on all areas which are targeted for the placement of the clean fill barrier layer.

After the marker layer has been appropriately placed, a minimum of 18 inches of certified clean fill material will be placed on the site in the designated areas. Fill material will be placed and compacted in lifts not exceeding 12 inches compacted depth. The final layer of soil will contain sufficient organic matter to permit revegetation. This final layer may be replaced with topsoil in areas where final landscaping has been determined. The 18 inch soil barrier layer may also be substituted by any of the following:

- asphalt or concrete
- Geocomposite Liner (GCL)
- building

The specific thickness of each of these alternative materials will be dependent on ultimate site development plans but will not be less than 3". The determination to utilize substitute materials will be made based on design considerations but will not be considered approved until written approval from the NYSDEC is received. A grading and cover plan illustrating the locations of structures, parking areas, landscaping and clean fill or equivalent substitute as well as the depth to contaminated soil will be provided to the NYSDEC after site development plans have been finalized. It will be the responsibility of the Owner to provide adequate justification for any and all proposed substitutes.

2.3.5 Post-Remediation Groundwater Sampling

At the completion of all soil excavation work, one on-site groundwater monitoring well (referred to as RD-7) will be sampled for total PCBs and RCRA metals. The well is down-gradient of the excavation area and is, therefore, an appropriate sampling location. All sampling will be conducted as per the requirements set forth below. A second well in the approximate location of the former well, RD-9, will be installed and developed in accordance with NYSDEC protocols and will be sampled as described below. The groundwater sample will be analyzed for PCBs using USEPA Method 8080 and RCRA metals. All analyses will be performed by a laboratory certified by NYSDOH to perform this analysis.

Well Installation Procedures:

- The exact location of the new monitoring well is shown on the Proposed Field Work Map provided in Attachment A of this Workplan. The location will be proximal to the former on-site monitoring well.

- The new well will be drilled using a truck-mounted, hollow-stem auger. The well will be constructed of two-inch PVC casing and a ten-foot length of 0.01-inch slotted PVC well screening across the water table. No glue will be used to thread the casing lengths. A locked riser cap with vent will be installed at the top of the PVC riser.

- The well will be constructed such that a minimum of 1.0 foot of screening will extend above the water table; approximately 8.0 feet of screening will extend below the water level.

- The annular space between well screen and the borehole will be backfilled with clean/ #1 silica sand to a depth of one foot above the well screen. A bentonite seal will be poured down the borehole above the sand pack and allowed to hydrate before grouting the remaining annular space with cement.

Sample Collection Procedures:

1. Basic climatological data (e.g., temperature, precipitation, etc.) will be recorded in log sheets.

2. The protective casing on the well will be unlocked.

3. The air in the well head will be screened for organic vapors; measurements will be recorded in log sheets.

4. The measuring tape will be decontaminated, and the well's static groundwater level will be recorded. The measurement of the water surface to the top of the well casing (not protective casing) will be determined to the nearest 0.01 foot, and the height of standing water in the well will be calculated.

5. From the well diameter, total well depth, and the measured depth of the standing water, the volume of standing water in the well will be calculated and recorded in log sheets.

6. The well will be purged using a purging pump or dedicated bailer. The purging pump, if used, will be properly decontaminated between wells to prevent cross-contamination. Dedicated, disposable, polyethylene tubing will be used at each well. Care will be taken to minimize the amount of groundwater agitation created during purging. The actual number of well volumes to be removed during purging may vary depending upon the site characteristics, well design, and the chemicals or parameters for which analysis shall be performed. At a minimum, three well volumes to a maximum of five well volumes will be purged from each well prior to sampling. The purged volumes will be calculated by discharging the purge water into a container of known volume.

   RCRA METALS? LOW FLOW?

   If purging the well with a pump, the pump will be placed at the top of the water column and lowered as the water level decreases to minimize groundwater agitation.

   The time at the beginning and the end of purging will be recorded in log sheets.

7. Using a dedicated, disposable bailer, groundwater samples from the well will be collected (during sample collection, the bailer will not touch the ground or any object except for the well casing).

8. The groundwater sample will be immediately transferred from the bailer to the appropriate sample containers.

9. Immediately, all sample jars will be labeled and stored on ice and the sample information recorded on field log sheets, as well as the laboratory's chain-of-custody forms.

10. The protective cap on the well will be replaced and locked.

11. At the end of the day, all samples collected on that day will be sent to a NYSDOH-certified laboratory for analyses.

2.3.6 Access and Use Restrictions

Subsequent to the implementation of the remedial tasks described above in Sections 2.3.1 through 2.3.5, access and use restrictions will be placed on the property to ensure that the integrity of the fill cover is not jeopardized and that future users of the site are not exposed to contaminants. In general, no activity which will likely result in damage to the barrier layer will be permitted without NYSDEC review and written approval. A detailed description of the proposed action and the specific measure proposed to protect the public health and to minimize any release of contaminants to the environment will be submitted to the NYSDEC prior to the implementation of such actions. Further, an annual certification by a Professional Engineer licensed in New York will be conducted to ensure that the controls continue to be in-place and are effective.

2.3.7 Documentation of Site Remediation and/or Closure

At the completion of all Site closure services, a final Report summarizing all services performed on the subject property will be prepared. This Report will document the proper handling, removal, and off-site disposal of any wastes requiring special handling and will include results of any laboratory analyses generated during activities described in this Workplan. Also included in this Report will be maps illustrating Site closure activities. The NYSDEC will review the submitted Report and provide a written response to the Owner.

As required, the final Report will be signed by a professional engineer licensed to practice in New York State.

3.0 Time Schedule

The schedule outlined below will be maintained unless revised by mutual consent of the NYSDEC and the Owner.

- Within sixty (60) days of the approval of the Workplan, soils contaminated with PCBs will be excavated, soil samples documenting remaining site integrity will be collected and analyzed, and site restoration activities in the vicinity of the PCB-contaminated soil removal area will have been completed.

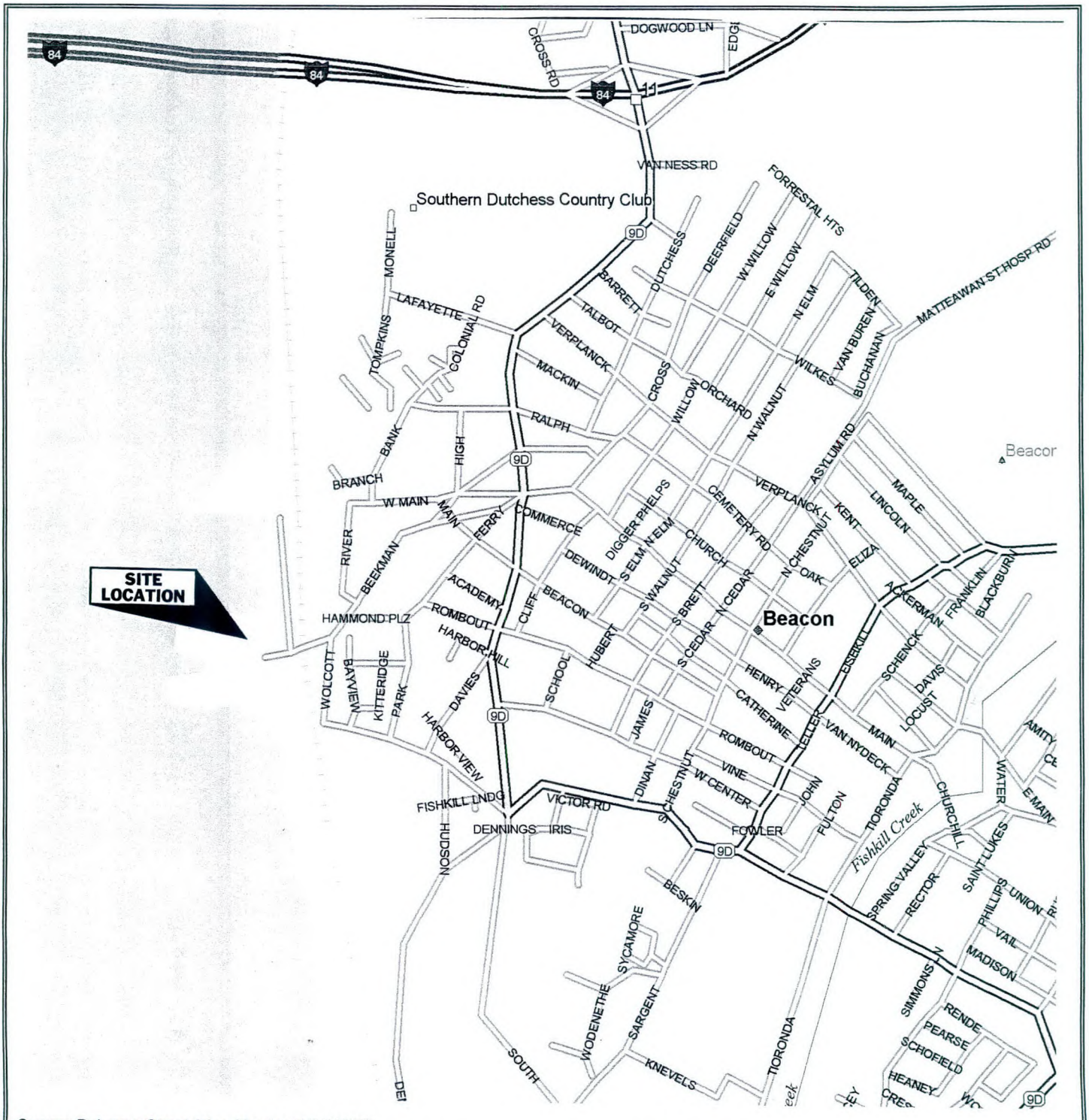
- Within one hundred twenty (120) days of the approval of the Workplan, the new well will have been installed and groundwater sampling will have been conducted.

- Within two years of the approval of the Workplan, the barrier layer for lead-containing soils will be installed. ?

- Within thirty (30) days of completion of the barrier layer installation, a final Report will be submitted to the NYSDEC. Within fifty (50) days of the receipt of this Report, the NYSDEC will provide written response to the Owner as to the adequacy of Site Remediation Services. Satisfactory completion of all services will necessitate the NYSDEC issuing a "No Further Action" letter.

ATTACHMENT A

Maps



Source: DeLorme Street Atlas, Version 6.0 (`1988)

Site Location Map

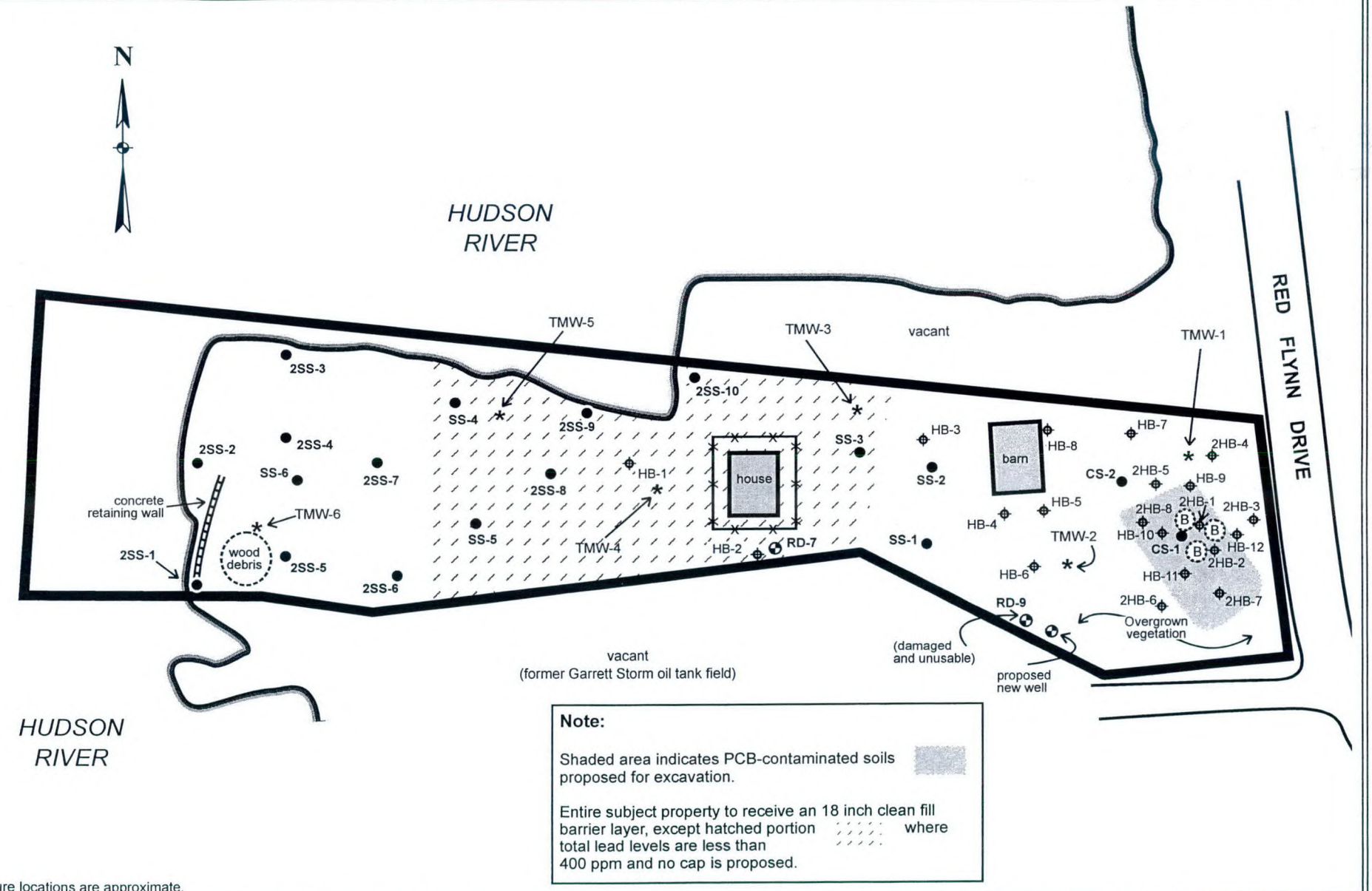
"Beacon Salvage"
Red Flynn Drive
City of Beacon, Dutchess County, New York

N

ESI File: SB2096.40

Date: February 2002

Attachment A



Note:

Shaded area indicates PCB-contaminated soils proposed for excavation.

Entire subject property to receive an 18 inch clean fill barrier layer, except hatched portion where total lead levels are less than 400 ppm and no cap is proposed.

Feature locations are approximate.

Proposed Remediation Field Work Map

"Beacon Salvage"
Red Flynn Drive
City of Beacon
Dutchess County, New York

Legend:

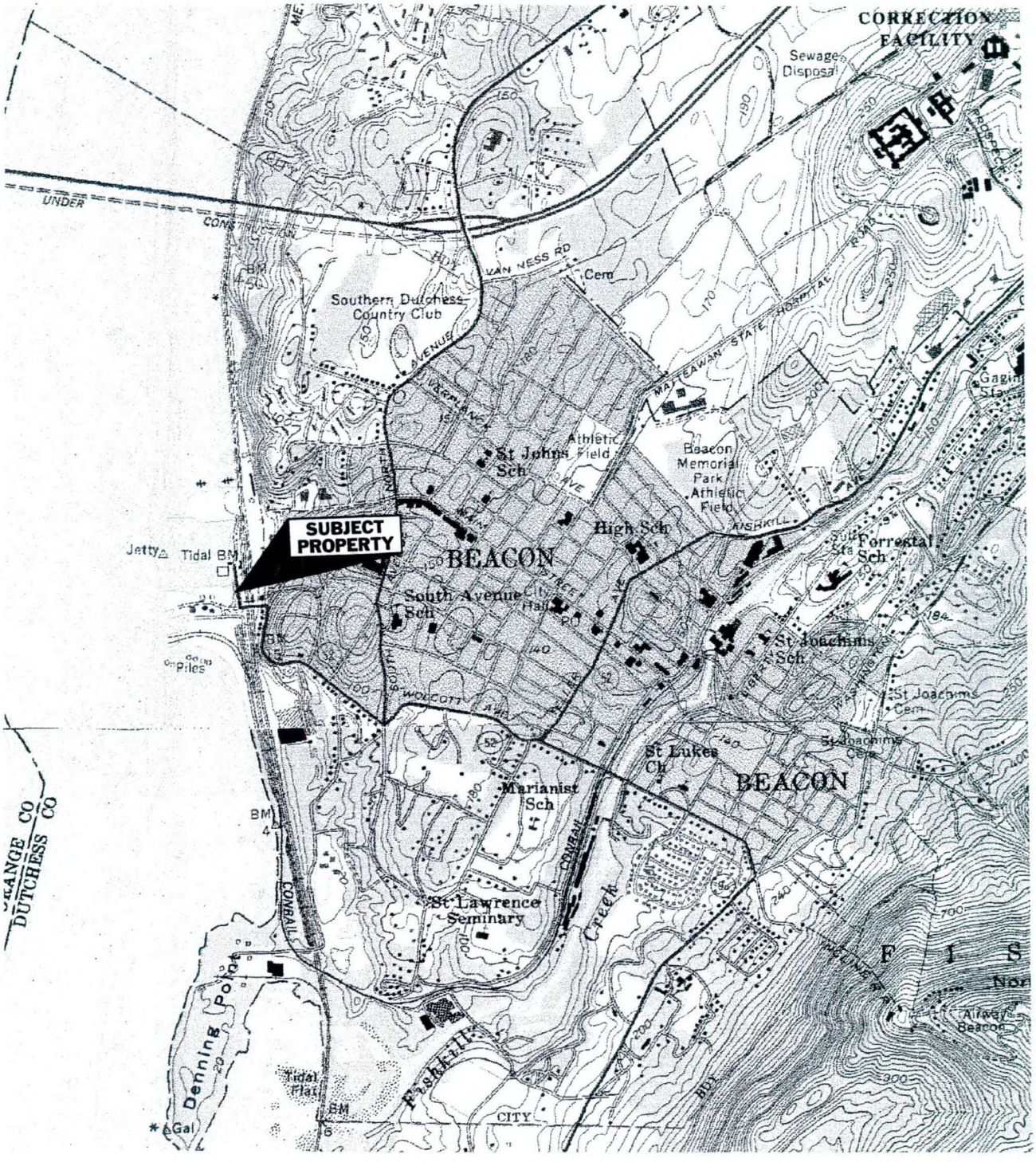
- subject property border
- former hand boring location/samples taken 6/30/00 HB-2
- former hand boring location/samples taken 8/15/00 2HB-2
- surface soil SS-1
- monitoring well RD-1
- Burn spot (B)
- Temporary groundwater sampling point *
- composite sample CS-1

ESI File: SB2096.40

February 2002

Scale: 1" = 100' (approximately)

Attachment A



Source: U.S. Department of the Interior Geological Survey Topographic Map of the Wappingers Falls, NY Quadrangle, dated 1956 (photorevised 1981)

U.S.G.S. Topographic Map

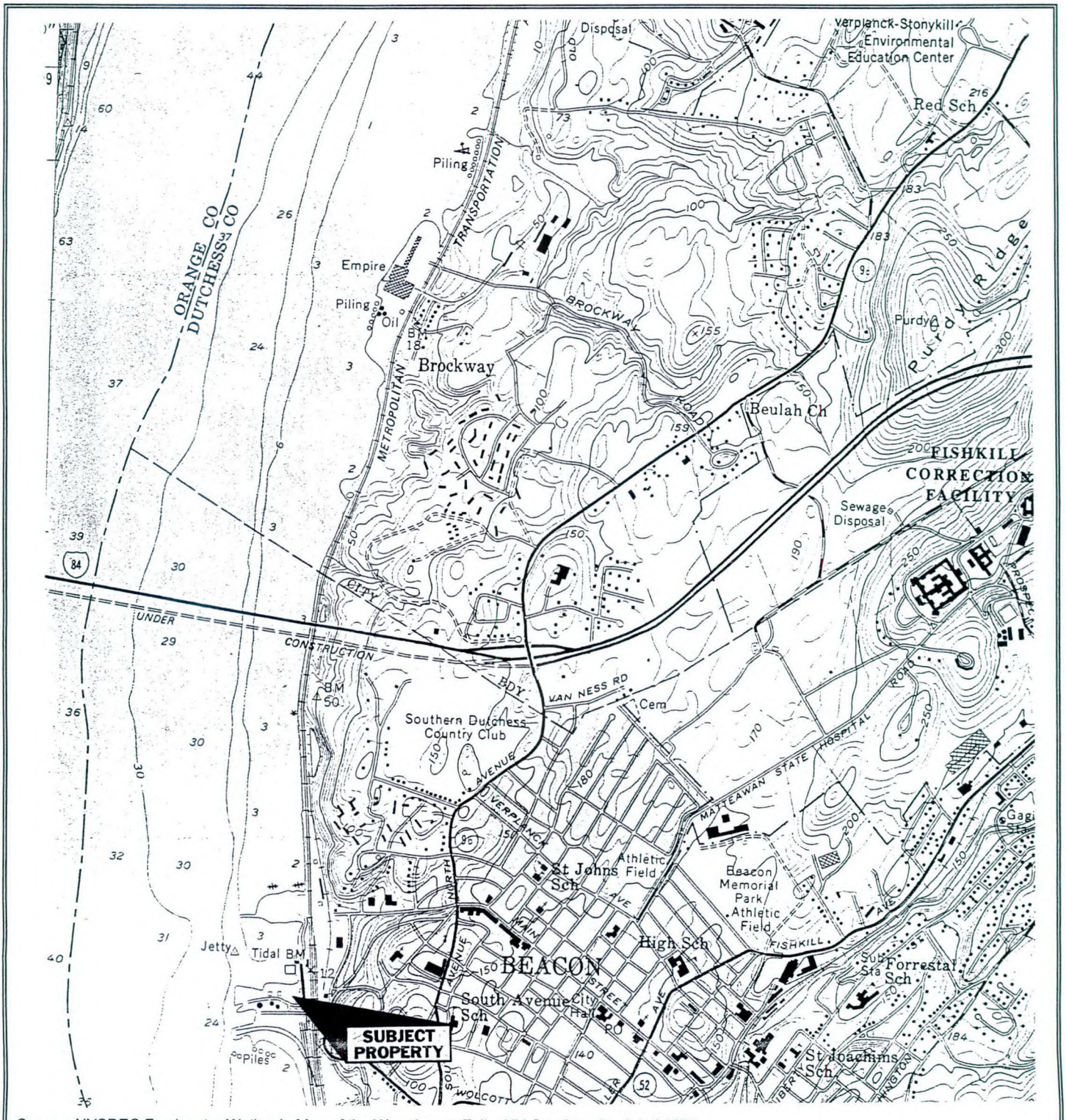
"Beacon Salvage"
Red Flynn Drive
City of Beacon, Dutchess County, New York

N

ESI File: SB2096.40

Date: February 2002

Scale: 1:24000



Source: NYSDEC Freshwater Wetlands Map of the Wappingers Falls, NY Quadrangle, dated 1973

NYSDEC Freshwater Wetlands Map

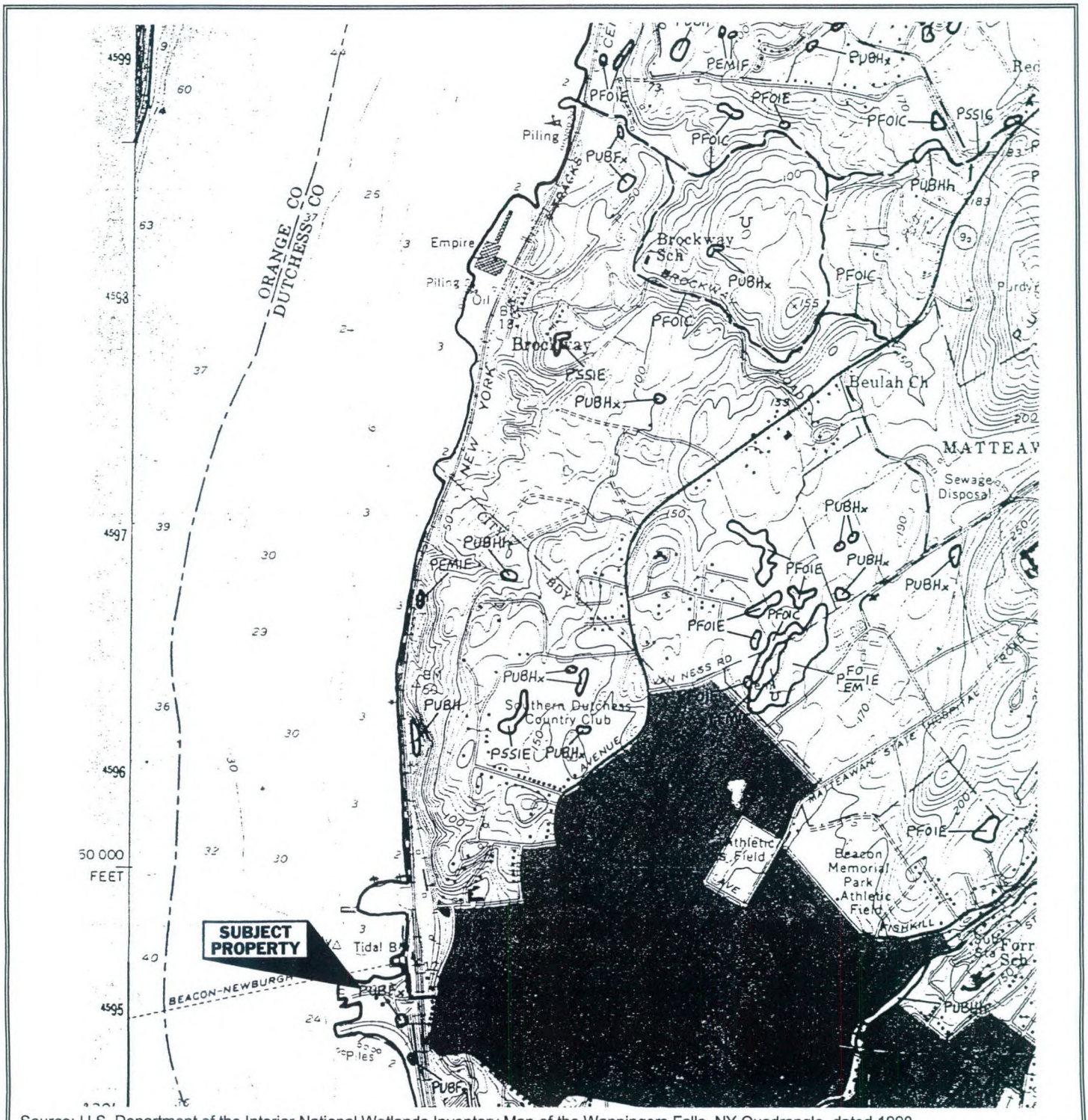
"Beacon Salvage"
Red Flynn Drive
City of Beacon, Dutchess County, New York

N

ESI File: SB2096.40

Date: February 2002

Scale: 1:24000



Source: U.S. Department of the Interior National Wetlands Inventory Map of the Wappingers Falls, NY Quadrangle, dated 1990

National Wetlands Inventory Map

"Beacon Salvage"
Red Flynn Drive
City of Beacon, Dutchess County, New York

N

ESI File: SB2096.40

Date: February 2002

Scale: 1:24000

ATTACHMENT B

Previous Laboratory Data

Summary of PCBs in Soil Samples from June 2000 Sampling
(Results in **bold** exceed designated action levels. All results measured in μg/kg.)

Compound (Method 8082)	Action Level[1]	Sample Identification					
					Re-analyses		
		HB-9 (0-1')	HB-10 (0-1')	HB-11 (0-1')	HB-9 (0-1')	HB-10 (0-1')	HB-11 (0-1')
PCB-1016	1,000	80	**5,400**	240	ND	ND	ND
PCB-1221	1,000	ND	ND	ND	ND	ND	ND
PCB-1232	1,000	ND	ND	ND	ND	ND	ND
PCB-1242	1,000	ND	ND	ND	ND	ND	ND
PCB-1248	1,000	ND	ND	ND	ND	ND	ND
PCB-1254	1,000	260	**8,100**	570	540	**12,400**	730
PCB-1260	1,000	14	ND	ND	380	**5,320**	290
PCB-Total	1,000	480	**13,500**	810	920	**17,720**	**1,020**

Notes: 1. Action level for PCBs is 1,000 μg/kg for surface soils; 10,000 μg/kg for subsurface soils pursuant to the NYSDEC Technical Administrative Guidance Memorandum #4046 (TAGM) revised January 24, 1994, as modified by subsequent, relevant records of decision (RODs).
ND = Not Detected above specified detection limit.

Summary of PCBs in Soil Samples from August 2000 Sampling
(Results in **bold** exceed designated action levels. All results measured in μg/kg.)

Compound (Method 8082)	Action Level[1]	Sample Identification						
		2HB-1 (0'-0.5')	2HB-1 (4'-5')	2HB-2 (0'-0.5')	2HB-3 (0'-0.5')	2HB-3 (4'-5')	2HB-4 (0'-0.5')	2HB-4 (3'-5')
PCB-1016	1,000	40	30	80	100	820	40	ND
PCB-1221	1,000	ND	ND	ND	ND	ND	ND	ND
PCB-1232	1,000	ND	ND	ND	ND	ND	ND	ND
PCB-1242	1,000	ND	ND	ND	ND	ND	ND	ND
PCB-1248	1,000	ND	ND	ND	ND	ND	ND	ND
PCB-1254	1,000	400	120	520	200	480	120	ND
PCB-1260	1,000	150	ND	ND	180	190	90	ND
Total PCBs	1,000	590	150	600	480	**1,500**	250	ND

Notes: 1. Action level for PCBs is 1,000 μg/kg for surface soils; 10,000 μg/kg for subsurface soils pursuant to the NYSDEC Technical Administrative Guidance Memorandum #4046 (TAGM) Revised January 24, 1994 as modified by subsequent, relevant records of decision (RODs).
2. ND = Not Detected above specified detection limit.

Table 2 (continued)

Compound (Method 8082)	Action Level[1]	Sample Identification							
		2HB-5 (0'-0.5')	2HB-5 (5'-6')	2HB-6 (0'-0.5')	2HB-6 (4'-6')	2HB-7 (0'-0.5')	2HB-7 (4'-6')	2HB-8 (0'-0.5')	2HB-8 (3'-4')
PCB-1016	1,000	170	ND	100	30	670	ND	280	ND
PCB-1221	1,000	ND	ND	ND	ND	ND	ND	ND	ND
PCB-1232	1,000	ND	ND	ND	ND	ND	ND	ND	ND
PCB-1242	1,000	ND	ND	ND	ND	ND	ND	ND	ND
PCB-1248	1,000	ND	ND	ND	ND	ND	ND	ND	ND
PCB-1254	1,000	ND	270	450	180	540	ND	130	110
PCB-1260	1,000	380	200	ND	ND	ND	ND	430	ND
Total PCBs	1,000	550	470	550	210	**1,200**	ND	**2,000**	110

Notes: 1. Action level for PCBs is 1,000 μg/kg for surface soils; 10,000 μg/kg for subsurface soils pursuant to the NYSDEC Technical Administrative Guidance Memorandum #404 (TAGM) revised January 24, 1994, as modified by subsequent, relevant records of decision (RODs).
ND = Not Detected above specified detection limit.

Summary of PCBs, Pesticides, and SVOCs in Soil Samples from August 2001 Sampling
(Results in **bold** exceed designated action levels. All results measured in μg/kg.)

Compound	Action Level[1]	Sample Identification							
		CS-1	CS-2	SS-1	SS-2	SS-3	SS-4	SS-5	SS-6
PCBs (total)	1,000	**1100**	810	740	**1100**	180	30	ND	60
Pesticides	varies	ND	ND	NA	NA	NA	NA	NA	NA
VOCs	varies	ND	ND	NA	NA	ND	ND	NA	NA
SVOCs:									
Benzo (a) Anthracene	224	**2,700**	**2,100**	NA	NA	ND	ND	NA	NA
Benzo (a) Pyrene	61	**1,900**	**2,100**	NA	NA	ND	ND	NA	NA
Benzo (a) Fluoranthene	1,100	**1,900**	**2,200**	NA	NA	ND	ND	NA	NA
Benzo (k) Fluoranthene	1,100	**2,600**	**2,500**	NA	NA	800	ND	NA	NA
Benzo (g,h,i) Perylene	50,000	ND	670	NA	NA	ND	ND	NA	NA
Chrysene	400	**3,000**	**2,500**	NA	NA	**730**	ND	NA	NA
Fluoranthene	50,000	4,500	4,200	NA	NA	1,400	ND	NA	NA
Indeno (1,2,3-cd) Pyrene	3,200	ND	870	NA	NA	ND	ND	NA	NA
Phenanthrene	50,000	2,100	2,400	NA	NA	850	ND	NA	NA
Pyrene	50,000	4,300	3,700	NA	NA	1,100	ND	NA	NA
TCDF	NP	ND	ND	NA	NA	NA	ND	NA	NA
TCDD	NP	ND	ND	NA	NA	NA	ND	NA	NA

Notes: 1: Source: NYSDEC Technical and Administrative Guidance Memorandum revised January 24, 1994, as modified by subsequent, relevant NYSDEC Records of Decisions (RODs).
ND = Not Detected above specified detection limit
NA = Not Analyzed
NP = Not Provided

Summary of Metal Concentrations in Soil Samples from August 2001 Sampling
(Results in **bold** exceed designated action levels. All results measured in mg/kg.)

Metals	Background Levels[1]	Action Level[1]	Sample Identification							
			CS-1	CS-2	SS-1	SS-2	SS-3	SS-4	SS-5	SS-6
Arsenic	3 - 12	7.5	**12.8**	**26.6**	**14.2**	**17.4**	**11.4**	5.34	7.5	**11**
Barium	15 - 600	300	143	151	157	19.4	60.8	58.4	128	131
Cadmium	0.1 - 1	10	4.21	2.09	1.48	8.87	0.9	ND	ND	3.37
Chromium	1.5 - 4.0	50	**57.5**	39.2	13.7	18.7	11.5	14.2	17.3	11.6
Lead	200-500	400	**472**	**404**	**558**	**3,950**	395	140	319	**470**
Mercury	0.001 - 0.2	1	ND	0.25	0.35	**1.14**	0.34	ND	0.42	0.92
Selenium	0.1 - 3.9	2	ND	ND	ND	ND	1.33	ND	ND	ND
Silver	NP	NP	0.95	0.67	ND	1.88	ND	ND	ND	ND

Notes:
1. Source: NYSDEC Technical and Administrative Guidance Memorandum #4046, revised January 24, 1994, as modified by subsequent, relevant NYSDEC Records of Decision (RODs)
ND = Not detected above specified detection limit
NP = Not Provided
SB = Site Background

Table 5: Summary of Arsenic and Lead Concentrations in Soil Samples from October 2001 Sampling
(Results in **bold** exceed designated action levels. All results measured in mg/kg.)

Metals	Background Levels[1]	Action Level[1]	2SS-1	2SS-2	2SS-3	2SS-4	2SS-5	2SS-6	2SS-7	2SS-8	2SS-9	2SS-10
Arsenic	3.0 -12.0	7.5	7.35	10.4	11.3	**25.7**	10.9	9.88	**15.7**	11.4	11.3	**13.1**
Lead	4.0 - 61	400	**700**	**603**	**654**	**1180**	**1280**	**1060**	**828**	303	214	332

Notes:
1. Source: NYSDEC Technical and Administrative Guidance Memorandum #4046 , revised January 24, 1994, as modified by subsequent, relevant NYSDEC Records of Decision (RODs)

Summary of RCRA Metals in Groundwater from August 2001 and February 2002 Sampling
All data provided in ug/L or ppb. Concentrations in **bold** exceed NYSDEC established action levels.

Metals	Action Levels [1]	Sample Identification				
		RD-7	TMW-2	TMW-3	TMW-4 (filtered)	TMW-4 (unfiltered)
Arsenic	25	ND	ND	ND	ND	ND
Barium	1,000	75	83	51	84	79
Cadmium	5	ND	ND	ND	ND	ND
Chromium	50	ND	ND	ND	ND	ND
Lead	25	ND	ND	ND	ND	ND
Mercury	0.7	ND	ND	ND	ND	ND
Selenium	10	ND	ND	ND	ND	ND
Silver	50	ND	ND	ND	ND	ND

Notes:

1. Source: NYSDEC Water Quality Regulations Surface Water and Groundwater Classifications and Standards New York State Codes, Rules and Regulations, Title 6, Chapter X, Parts 700 – 706

ND = Not detected above specified laboratory detection limit.

Summary of PCBs in Groundwater from October 2000 and February 2002 Sampling
All data provided in ug/L or ppb. Concentrations in **bold** exceed NYSDEC established action levels.

Compound (Method 8082)	Action Level[1]	Sample Identification					
		RD-7	RD-8	TMW-2	TMW-3	TMW-4	TMW-6
PCB-1016	0.09	ND	ND	ND	ND	ND	ND
PCB-1221	0.09	ND	ND	ND	ND	ND	ND
PCB-1232	0.09	ND	ND	ND	ND	ND	ND
PCB-1242	0.09	ND	ND	ND	ND	ND	ND
PCB-1248	0.09	ND	ND	ND	ND	ND	ND
PCB-1254	0.09	ND	ND	ND	ND	ND	ND
PCB-1260	0.09	ND	ND	ND	ND	ND	ND

Notes:

1. Source: NYSDEC Water Quality Regulations Surface Water and Groundwater Classifications and Standards New York State Codes, Rules and Regulations, Title 6, Chapter X, Parts 700 – 706

ND = Not detected above specified laboratory detection limit.

Summary of PAHs in Groundwater from February 2002 Sampling
All data provided in ug/L or ppb. Concentrations in **bold** exceed NYSDEC established action levels.

Compound[3] (Method 8270C)	ActionLevel[1, 2]	Sample Identification	
		TMW-2	TMW-4
Acenaphthene	5	ND	ND
Acenaphthylene	5	ND	ND
Anthracene	5	ND	ND
Benzo (a) Anthracene	.002[2]	ND	ND
Benzo (a) Pyrene	.002[2]	ND	ND
Benzo (b) Fluoranthene	.002[2]	ND	ND
Benzo (k) Fluoranthene	.002[2]	ND	ND
Benzo (g,h,i) Perylene	5	ND	ND
Chrysene	.002[2]	ND	ND
Dibenzo (a,h) Anthracene	5	ND	ND
Fluoranthene	5	ND	ND
Fluorene	5	ND	ND
Indeno (1,2,3-cd) Pyrene	.002[2]	ND	ND
2-Methyl Napthalene	5	ND	ND
Naphthalene	5	ND	ND
Phenanthrene	5	ND	ND
Pyrene	5	ND	ND

Notes:

1. Source: NYSDEC Water Quality Regulations Surface Water and Groundwater Classifications and Standards, New York State Codes, Rules and Regulations, Title 6, Chapter X parts 700-706, including amendments through August 4, 1999.
2. Source: NYSDEC Division Technical and Administrative Guidance Memorandum on Determination of Soil Cleanup Objectives and Cleanup Levels dated January 24, 1994, as modified by subsequent, relevant NYSDEC Records of Decision (RODs).
3. Any compounds not listed were not detected in any of the samples analyzed.

ND = Not Detected above specified detection limit.

Summary of VOCs in Groundwater from February 2002 Sampling
All data provided in ug/L or ppb. Concentrations in **bold** exceed NYSDEC established action levels.

Volatile Organic Compounds (Method 8260)	Action Level[1]	Sample Identification	
		TMW-2	TMW-4
Benzene	0.7	ND	ND
n-Butylbenzene	5	ND	ND
Tert-Butylbenzene	5	ND	ND
Ethylbenzene	5	ND	ND
p-Isopropyltoluene	5	ND	ND
Toluene	5	ND	ND
Isopropylbenzene	5	ND	ND
MTBE	10	ND	ND
Naphthalene	10	ND	ND
n-Propylbenzene	5	ND	ND
1,2,4-Trimethylbenzene	5	ND	ND
1,3,5-Trimethylbenzene	5	ND	ND
o-Xylene	5	ND	ND
p/m-Xylene	5	ND	ND

Notes:

1. Source: NYSDEC Water Quality Regulations Surface Water and Groundwater Classifications and Standards, New York State Codes, Rules and Regulations, Title 6, Chapter X parts 700-706, including amendments through August 4, 1999.

ND = Not Detected above specified detection limit.

ATTACHMENT C

Complete Laboratory Data Package

YORK
ANALYTICAL LABORATORIES, INC.

RECEIVED
JUL 17 2000

Technical Report

prepared for

Ecosystems Strategies, Inc.
60 Worrall Avenue
Poughkeepsie, NY 12603
Attention: Larry Porres

Report Date: 7/13/2000
Re: Client Project ID: SB 2096.20
York Project No.: 00070044

CT License No. PH-0723 New York License No. 10854 Mass. License No. M-CT106 Rhode Island License No. 93 EPA I.D. No. CT00106

ONE RESEARCH DRIVE STAMFORD, CT 06906 (203) 325-1371 FAX (203) 357-0166

Report Date: 7/13/2000
Client Project ID: SB 2096.20

York Project No.: 00070044

Ecosystems Strategies, Inc.
60 Worrall Avenue
Poughkeepsie, NY 12603
Attention: Larry Porres

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on 06/30/00. The project was identifed as your project "SB 2096.20 ".

The analysis was conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables .

The results of the analysis are summarized in the following table(s).

Analysis Results

Client Sample ID			HB-1/0-2		HB-1/4-5	
York Sample ID			00070044-01		00070044-02	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
Total RCRA Metals	SW846	mg/kG	---	---	---	---
Arsenic, total			106	1.00	25.9	1.00
Barium, total			57.5	0.50	68.8	0.50
Cadmium, total			Not detected	0.50	Not detected	0.50
Chromium, total			13.6	0.50	19.8	0.50
Lead, total			213	0.50	535	0.50
Selenium, total			22.9	1.00	7.50	1.00
Silver, total			Not detected	0.50	Not detected	0.50
Mercury	SW846-7471	mg/kG	Not detected	0.25	Not detected	0.25

Client Sample ID			HB-2/0-2		HB-3/0-2	
York Sample ID			00070044-03		00070044-04	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
Total RCRA Metals	SW846	mg/kG	---	---	---	---
Arsenic, total			1.60	1.00	11.6	1.00
Barium, total			34.7	0.50	144	0.50
Cadmium, total			Not detected	0.50	1.66	0.50

YORK

Client Sample ID			HB-2/0-2		HB-3/0-2	
York Sample ID			00070044-03		00070044-04	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
Chromium, total			3.99	0.50	6.43	0.50
Lead, total			13.3	0.50	886	0.50
Selenium, total			1.54	1.00	8.03	1.00
Silver, total			Not detected	0.50	Not detected	0.50
Mercury	SW846-7471	mg/kG	Not detected	0.25	Not detected	0.25

Client Sample ID			HB-3/2-4		HB-4/0-2	
York Sample ID			00070044-05		00070044-06	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
Total RCRA Metals	SW846	mg/kG	---	---	---	---
Arsenic, total			16.7	1.00	6.25	1.00
Barium, total			69.8	0.50	117	0.50
Cadmium, total			Not detected	0.50	1.82	0.50
Chromium, total			6.31	0.50	10.9	0.50
Lead, total			418	0.50	97.1	0.50
Selenium, total			4.79	1.00	3.39	1.00
Silver, total			Not detected	0.50	Not detected	0.50
Mercury	SW846-7471	mg/kG	Not detected	0.25	Not detected	0.25
Total Petroleum Hydrocarbons-DRO	SW846-8015B	mg/kg	---	---	Not detected	6.1

Client Sample ID			HB-4/2-4		HB-5/0-2	
York Sample ID			00070044-07		00070044-08	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
Total RCRA Metals	SW846	mg/kG	---	---	---	---
Arsenic, total			6.28	1.00	3.70	1.00
Barium, total			60.5	0.50	176	0.50
Cadmium, total			4.02	0.50	Not detected	0.50
Chromium, total			11.5	0.50	5.03	0.50
Lead, total			69.0	0.50	63.3	0.50
Selenium, total			2.43	1.00	2.55	1.00
Silver, total			Not detected	0.50	Not detected	0.50
Mercury	SW846-7471	mg/kG	Not detected	0.25	Not detected	0.25

Client Sample ID			HB-6/0-1		HB-7/0-1	
York Sample ID			00070044-09		00070044-10	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
Total RCRA Metals	SW846	mg/kG	---	---	---	---
Arsenic, total			3.08	1.00	19.0	1.00
Barium, total			222	0.50	157	0.50
Cadmium, total			Not detected	0.50	2.23	0.50
Chromium, total			6.19	0.50	16.0	0.50

YORK

Client Sample ID			HB-6/0-1		HB-7/0-1	
York Sample ID			00070044-09		00070044-10	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
Lead, total			151	0.50	1170	0.50
Selenium, total			2.39	1.00	4.68	1.00
Silver, total			Not detected	0.50	Not detected	0.50
Mercury	SW846-7471	mg/kG	Not detected	0.25	Not detected	0.25

Client Sample ID			HB-8/0-1		HB-9/0-1	
York Sample ID			00070044-11		00070044-12	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
PCB	SW846-3550B/8082	mg/Kg	---	---	---	---
PCB 1016					0.08	0.022
PCB 1221					Not detected	0.022
PCB 1232					Not detected	0.022
PCB 1242					Not detected	0.022
PCB 1248					Not detected	0.022
PCB 1254					0.26	0.022
PCB 1260					0.14	0.022
PCB, Total					0.48	0.022
Total RCRA Metals	SW846	mg/kG	---	---	---	---
Arsenic, total			8.79	1.00	12.6	1.00
Barium, total			170	0.50	160	0.50
Cadmium, total			3.34	0.50	3.09	0.50
Chromium, total			24.6	0.50	17.8	0.50
Lead, total			896	0.50	1010	0.50
Selenium, total			4.27	1.00	2.93	1.00
Silver, total			Not detected	0.50	Not detected	0.50
Mercury	SW846-7471	mg/kG	0.26	0.25	0.35	0.25
Total Petroleum Hydrocarbons-DRO	SW846-8015B	mg/kg	210	13	---	---

Client Sample ID			HB-10/0-1		HB-11/0-1	
York Sample ID			00070044-13		00070044-14	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
PCB	SW846-3550B/8082	mg/Kg	---	---	---	---
PCB 1016			1.2	0.44	0.24	0.024
PCB 1221			Not detected	0.44	Not detected	0.024
PCB 1232			Not detected	0.44	Not detected	0.024
PCB 1242			Not detected	0.44	Not detected	0.024
PCB 1248			Not detected	0.44	Not detected	0.024
PCB 1254			8.1	0.44	0.57	0.024
PCB 1260			Not detected	0.44	Not detected	0.024
PCB, Total			9.3	0.44	0.81	0.024
Total RCRA Metals	SW846	mg/kG	---	---	---	---
Arsenic, total			5.73	1.00	21.2	1.00
Barium, total			97.8	0.50	170	0.50
Cadmium, total			1.63	0.50	Not detected	0.50
Chromium, total			8.72	0.50	8.16	0.50

YORK

Client Sample ID			HB-10/0-1		HB-11/0-1	
York Sample ID			00070044-13		00070044-14	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
Lead, total			276	0.50	187	0.50
Selenium, total			3.94	1.00	3.98	1.00
Silver, total			Not detected	0.50	Not detected	0.50
Mercury	SW846-7471	mg/kG	0.85	0.25	Not detected	0.25

Units Key:

For Waters/Liquids: mg/L = ppm ; ug/L = ppb For Soils/Solids: mg/kg = ppm ; ug/kg = ppb

Notes:

1. The MDL (Minimum Detectable Limit) reported is adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. If dilution factor is reported at the end of the compound list, the MDL is determined by multiplying the MDL times the listed dilution factor.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.

Approved By: Robert Bradley **Date:** 7/13/2000

Robert Q. Bradley
Managing Director

YORK

YORK
ANALYTICAL LABORATORIES, INC.
ONE RESEARCH DRIVE
STAMFORD, CT 06906
(203) 325-1371 FAX (203) 357-0166

Field Chain-of-Custody Record

Company Name	Report To:	Invoice To:	Project ID/No.	Samples Collected By (Signature)
ECOSYSTEMS	LARRY FORBES	PAM	SB 2096.20	LARRY FORBES (Name Printed)

Sample No.	Location/ID	Date Sampled	Sample Matrix: Water	Soil	Air	OTHER	ANALYSES REQUESTED	Container Description(s)
HB-1	0-2	6-29-00		✓			RCRA METALS	1, 4oz Jar
HB-1	4-5	"		✓			"	"
HB-2	0-2	"		✓			"	"
HB-3	0-2	"		✓			"	"
HB-3	2-4	"		✓			"	"
HB-4	0-2	"		✓			" + TPH/FID*	"
HB-4	2-4	"		✓			"	"
HB-5	0-2	"		✓			"	"
HB-6	0-1	"		✓			"	"
HB-7	0-1	"		✓			"	"

Chain-of-Custody Record

Bottles Relinquished from Lab by	Date/Time	Sample Relinquished by (Larry Forbes)	6-30-00 9:40am Date/Time
Bottles Received in Field by	Date/Time	Sample Relinquished by	Date/Time
Sample Received by (R. Van Deusen)	6-30-00 9:40 Date/Time	Sample Received in LAB by (J. Locke)	6-30-00/1740 Date/Time

Comments/Special Instructions
*FID for kerosene

Turn-Around Time
___Standard ___RUSH(define)_____

YORK
ANALYTICAL LABORATORIES, INC.
ONE RESEARCH DRIVE
STAMFORD, CT 06906
(203) 325-1371 FAX (203) 357-0166

00072049

Field Chain-of-Custody Record

Company Name	Report To:	Invoice To:	Project ID/No.	Samples Collected By (Signature) / Name (Printed)
ECOSYSTEMS	LARRY FORRES	PAM	SB2096.20	LARRY FORRES

Sample No.	Location/ID	Date Sampled	Sample Matrix: Water	Soil	Air	OTHER	ANALYSES REQUESTED	Container Description(s)
HB-8	0-1	6-29-00		✓			RCRA METALS, TPH/FID*	1, 4oz Jar
HB-9	0-1	"		✓			RCRA METALS, PCB 8080	"
HB-10	0-1	"		✓			" "	"
HB-11	0-1	"		✓			" "	"
HB-12	0-1	"		✓			HOLD	"

Chain-of-Custody Record

Bottles Relinquished from Lab by	Date/Time	Sample Relinquished by	6-30-00 9:40am Date/Time	R. Van Dessen Sample Received by	6-30-00 9:40 Date/Time
Bottles Received in Field by	Date/Time	Sample Relinquished by	Date/Time	J. Lul Sample Received in LAB by	6-30-00/1740 Date/Time

Comments/Special Instructions
* FID for kerosene

Turn-Around Time
✓ Standard ____ RUSH(define)_____

YORK
ANALYTICAL LABORATORIES, INC.

RECEIVED
JUL 27 2000

Technical Report

prepared for

Ecosystems Strategies, Inc.
60 Worrall Avenue
Poughkeepsie, NY 12603
Attention: Larry Porres

Report Date: 7/25/2000
Re: Client Project ID: SB 2096.20
York Project No.: 00070345

CT License No. PH-0723 New York License No. 10854 Mass. License No. M-CT106 Rhode Island License No. 93 EPA I.D. No. CT00106

Report Date: 7/25/2000
Client Project ID: SB 2096.20

York Project No.: 00070345

Ecosystems Strategies, Inc.
60 Worrall Avenue
Poughkeepsie, NY 12603
Attention: Larry Porres

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on 07/17/00. The project was identifed as your project "SB 2096.20 ".

The analysis was conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables .

The results of the analysis are summarized in the following table(s).

Analysis Results

Client Sample ID			HB-1/0-2		HB-3/2-4	
York Sample ID			00070345-01		00070345-02	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
TCLP Arsenic	SW846-6010	mg/L	Not detected	0.010	---	---
TCLP Lead	1311/6010	mg/L	---	---	0.126	0.005

Client Sample ID			HB-7/0-1		HB-8/0-1	
York Sample ID			00070345-03		00070345-04	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
TCLP Lead	1311/6010	mg/L	0.488	0.005	0.405	0.005
Total Petroleum Hydrocarbons	EPA 418.1m	mg/kg	---	---	175	5.0

Client Sample ID			HB-9/0-1		HB-10/0-1	
York Sample ID			00070345-05		00070345-06	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
PCB	SW846-3550B/8082	mg/Kg	---	---	---	---
PCB 1016			Not detected	0.02	Not detected	0.10
PCB 1221			Not detected	0.02	Not detected	0.10
PCB 1232			Not detected	0.02	Not detected	0.10
PCB 1242			Not detected	0.02	Not detected	0.10
PCB 1248			Not detected	0.02	Not detected	0.10
PCB 1254			0.54	0.02	12.4	0.10
PCB 1260			0.38	0.02	5.32	0.10
PCB, Total			0.92	0.02	17.72	0.10

Client Sample ID			HB-11/0-1	
York Sample ID			00070345-07	
Matrix			SOIL	
Parameter	Method	Units	Results	MDL
PCB	SW846-3550B/8082	mg/Kg	---	---
PCB 1016			Not detected	0.02
PCB 1221			Not detected	0.02
PCB 1232			Not detected	0.02
PCB 1242			Not detected	0.02
PCB 1248			Not detected	0.02
PCB 1254			0.73	0.02
PCB 1260			0.29	0.02
PCB, Total			1.02	0.02

Units Key:

For Waters/Liquids: mg/L = ppm ; ug/L = ppb For Soils/Solids: mg/kg = ppm ; ug/kg = ppb

Notes:

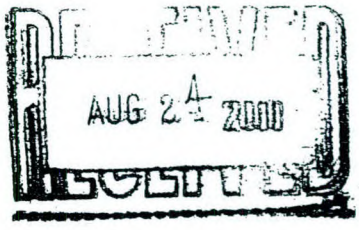
1. The MDL (Minimum Detectable Limit) reported is adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. If dilution factor is reported at the end of the compound list, the MDL is determined by multiplying the MDL times the listed dilution factor.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.

Approved By: _____ Date: 7/25/2000

Robert Q. Bradley
Managing Director

YORK

YORK
ANALYTICAL LABORATORIES, INC.



Technical Report

prepared for

Ecosystems Strategies, Inc.
60 Worrall Avenue
Poughkeepsie, NY 12603
Attention: Mary Martello

Report Date: 8/22/2000
Re: Client Project ID: SB2096.20
York Project No.: 00080344

CT License No. PH-0723 New York License No. 10854 Mass. License No. M-CT106 Rhode Island License No. 93 EPA I.D. No. CT00106

ONE RESEARCH DRIVE STAMFORD, CT 06906 (203) 325-1371 FAX (203) 357-0166

Report Date: 8/22/2000
Client Project ID: SB2096.20

York Project No.: 00080344

Ecosystems Strategies, Inc.
60 Worrall Avenue
Poughkeepsie, NY 12603
Attention: Mary Martello

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on 08/16/00. The project was identifed as your project "SB2096.20 ".

The analysis was conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables .

The results of the analysis are summarized in the following table(s).

Analysis Results

Client Sample ID			HB-1 (0-.5)		HB-1 (4'-5')	
York Sample ID			00080344-01		00080344-02	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
PCB	SW846-3550B/8082	mg/Kg	---	---	---	---
PCB 1016			0.04	0.02	0.03	0.02
PCB 1221			Not detected	0.02	Not detected	0.02
PCB 1232			Not detected	0.02	Not detected	0.02
PCB 1242			Not detected	0.02	Not detected	0.02
PCB 1248			Not detected	0.02	Not detected	0.02
PCB 1254			0.40	0.02	0.12	0.02
PCB 1260			0.15	0.02	Not detected	0.02
PCB, Total			0.59	0.02	0.15	0.02

Client Sample ID			HB-2 (0'-.5')		HB-3 (0'-.5')	
York Sample ID			00080344-03		00080344-04	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
PCB	SW846-3550B/8082	mg/Kg	---	---	---	---
PCB 1016			0.08	0.02	0.10	0.02
PCB 1221			Not detected	0.02	Not detected	0.02
PCB 1232			Not detected	0.02	Not detected	0.02

YORK

Client Sample ID			HB-2 (0'-.5')		HB-3 (0'-.5')	
York Sample ID			00080344-03		00080344-04	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
PCB 1242			Not detected	0.02	Not detected	0.02
PCB 1248			Not detected	0.02	Not detected	0.02
PCB 1254			0.52	0.02	0.20	0.02
PCB 1260			Not detected	0.02	0.18	0.02
PCB, Total			0.60	0.02	0.48	0.02

Client Sample ID			HB-3 (4'-5')		HB-4 (0'-.5')	
York Sample ID			00080344-05		00080344-06	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
PCB	SW846-3550B/8082	mg/Kg	---	---	---	---
PCB 1016			0.82	0.02	0.04	0.02
PCB 1221			Not detected	0.02	Not detected	0.02
PCB 1232			Not detected	0.02	Not detected	0.02
PCB 1242			Not detected	0.02	Not detected	0.02
PCB 1248			Not detected	0.02	Not detected	0.02
PCB 1254			0.48	0.02	0.12	0.02
PCB 1260			0.19	0.02	0.09	0.02
PCB, Total			1.5	0.02	0.25	0.02

Client Sample ID			HB-4 (3'-5')		HB-5 (0'-.5')	
York Sample ID			00080344-07		00080344-08	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
PCB	SW846-3550B/8082	mg/Kg	---	---	---	---
PCB 1016			Not detected	0.02	0.17	0.02
PCB 1221			Not detected	0.02	Not detected	0.02
PCB 1232			Not detected	0.02	Not detected	0.02
PCB 1242			Not detected	0.02	Not detected	0.02
PCB 1248			Not detected	0.02	Not detected	0.02
PCB 1254			Not detected	0.02	Not detected	0.02
PCB 1260			Not detected	0.02	0.38	0.02
PCB, Total			Not detected	0.02	0.55	0.02

Client Sample ID			HB-5 (5'-6')		HB-6 (0'-.5')	
York Sample ID			00080344-09		00080344-10	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
PCB	SW846-3550B/8082	mg/Kg	---	---	---	---
PCB 1016			Not detected	0.02	0.10	0.02
PCB 1221			Not detected	0.02	Not detected	0.02
PCB 1232			Not detected	0.02	Not detected	0.02
PCB 1242			Not detected	0.02	Not detected	0.02
PCB 1248			Not detected	0.02	Not detected	0.02
PCB 1254			0.27	0.02	0.45	0.02
PCB 1260			0.20	0.02	Not detected	0.02
PCB, Total			0.47	0.02	0.55	0.02

YORK

Client Sample ID			HB-6 (4'-6')		HB-7 (0'-.5')	
York Sample ID			00080344-11		00080344-12	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
PCB	SW846-3550B/8082	mg/Kg	---	---	---	---
PCB 1016			0.03	0.02	0.67	0.02
PCB 1221			Not detected	0.02	Not detected	0.02
PCB 1232			Not detected	0.02	Not detected	0.02
PCB 1242			Not detected	0.02	Not detected	0.02
PCB 1248			Not detected	0.02	Not detected	0.02
PCB 1254			0.18	0.02	0.54	0.02
PCB 1260			Not detected	0.02	Not detected	0.02
PCB, Total			0.21	0.02	1.2	0.02

Client Sample ID			HB-7 (4'-6')		HB-8 (0'-.5')	
York Sample ID			00080344-13		00080344-14	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
PCB	SW846-3550B/8082	mg/Kg	---	---	---	---
PCB 1016			Not detected	0.02	0.28	0.02
PCB 1221			Not detected	0.02	Not detected	0.02
PCB 1232			Not detected	0.02	Not detected	0.02
PCB 1242			Not detected	0.02	Not detected	0.02
PCB 1248			Not detected	0.02	Not detected	0.02
PCB 1254			Not detected	0.02	1.3	0.02
PCB 1260			Not detected	0.02	0.43	0.02
PCB, Total			Not detected	0.02	2.0	0.02

Client Sample ID			HB-8 (3'-4')	
York Sample ID			00080344-15	
Matrix			SOIL	
Parameter	Method	Units	Results	MDL
PCB	SW846-3550B/8082	mg/Kg	---	---
PCB 1016			Not detected	0.02
PCB 1221			Not detected	0.02
PCB 1232			Not detected	0.02
PCB 1242			Not detected	0.02
PCB 1248			Not detected	0.02
PCB 1254			0.11	0.02
PCB 1260			Not detected	0.02
PCB, Total			0.11	0.02

YORK

Report Date: 8/22/2000
Client Project ID: SB2096.20

York Project No.: 00080344

Units Key:

For Waters/Liquids: mg/L = ppm ; ug/L = ppb For Soils/Solids: mg/kg = ppm ; ug/kg = ppb

Notes:

1. The MDL (Minimum Detectable Limit) reported is adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. If dilution factor is reported at the end of the compound list, the MDL is determined by multiplying the MDL times the listed dilution factor.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.

Approved By: _____ **Date:** 8/22/2000

Robert Q. Bradley
Managing Director

YORK

YORK
ANALYTICAL LABORATORIES, INC.
ONE RESEARCH DRIVE
STAMFORD, CT 06906
(203) 325-1371 FAX (203) 357-0166

Field Chain-of-Custody Record

Company Name	Report To:	Invoice To:	Project ID/No.	Samples Collected By (Signature) / Name (Printed)
Ecosystems Strategies	Mary Martella	Pam	SB20960.20	Mary F. Martella / Mary F. Martella

Sample No.	Location/ID	Date Sampled	Sample Matrix: Water	Soil	Air	OTHER	ANALYSES REQUESTED	Container Description(s)
	HB-1 (0'-.5')	8-15-00		X			PCBs 8082	1. 4oz glass jc
	HB-1 (4'-5')	8-15-00		X			" "	" "
	HB-2 (0'-.5')	8-15-00		X			" "	" "
	HB-3 (0'-5')	8-15-00		X			" "	" "
	HB-3 (4'-5')	8-15-00		X			" "	" "
	HB-4 (0'-.5')	8-15-00		X			" "	" "
	HB-4 (3'-5')	8-15-00		X			" "	" "
	HB-5 (0'-.5')	8-15-00		X			" "	" "
	HB-5 (5'-6')	8-15-00		X			" "	" "
	HB-6 (0'-.5')	8-15-00		X			" "	" "

Chain-of-Custody Record

Bottles Relinquished from Lab by	Date/Time	Mary F. Martella — Sample Relinquished by	8/16/00 9:45 — Date/Time
Bottles Received in Field by	Date/Time	Sample Relinquished by	Date/Time
Sample Received by	8/16/00 9:45 — Date/Time		
Sample Received in LAB by	8-16-00 1400 — Date/Time		

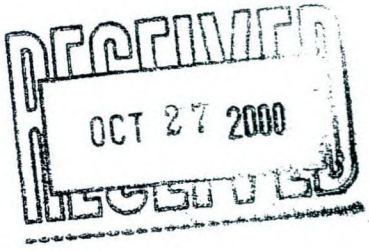
Comments/Special Instructions

Turn-Around Time

___ Standard X RUSH(define) 8/21 or 8/22

YORK

ANALYTICAL LABORATORIES, INC.



Technical Report

prepared for

Ecosystems Strategies, Inc.
60 Worrall Avenue
Poughkeepsie, NY 12603
Attention: Jon Kaplan

Report Date: 10/24/2000
Re: Client Project ID: 5696152.20
York Project No.: 00100348 R2

CT License No. PH-0723 New York License No. 10854 Mass. License No. M-CT106 Rhode Island License No. 93 EPA I.D. No. CT00106

ONE RESEARCH DRIVE STAMFORD, CT 06906 (203) 325-1371 FAX (203) 357-0166

Report Date: 10/24/2000
Client Project ID: 5696152.20

York Project No.: 00100348 R2

Ecosystems Strategies, Inc.
60 Worrall Avenue
Poughkeepsie, NY 12603
Attention: Jon Kaplan

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on 10/17/00. The project was identifed as your project "5696152.20 ".

The analysis was conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables .

The results of the analysis are summarized in the following table(s).

Analysis Results

Client Sample ID			RD-7		RD-9	
York Sample ID			00100348-03		00100348-04	
Matrix			WATER		WATER	
Parameter	Method	Units	Results	MDL	Results	MDL
PCB	SW846-3510C/8082	ug/L	---	---	---	---
PCB 1016			Not detected	0.40	Not detected	0.24
PCB 1221			Not detected	0.40	Not detected	0.24
PCB 1232			Not detected	0.40	Not detected	0.24
PCB 1242			Not detected	0.40	Not detected	0.24
PCB 1248			Not detected	0.40	Not detected	0.24
PCB 1254			Not detected	0.40	Not detected	0.24
PCB 1260			Not detected	0.40	Not detected	0.24
PCB, Total			Not detected	0.40	Not detected	0.24

Units Key:

For Waters/Liquids: mg/L = ppm ; ug/L = ppb For Soils/Solids: mg/kg = ppm ; ug/kg = ppb

Notes:

1. The MDL (Minimum Detectable Limit) reported is adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. If dilution factor is reported at the end of the compound list, the MDL is determined by multiplying the MDL times the listed dilution factor.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.

Approved By: Robert Q. Bradley
Managing Director

Date: 10/24/2000

YORK

YORK
ANALYTICAL LABORATORIES, INC.
ONE REBEARCH DRIVE
STAMFORD, CT 06906
(203) 325-1371 FAX (203) 357-0166

Field Chain-of-Custody Record

Company Name	Report To:	Invoice To:	Project ID/No.
ECOSYSTEMS STRATEGIES	JON KAPLAN RYAN VAN BUREN	PAM	5696 152.20 ~~569304.20~~

JONKAPLAN RYAN VAN BUREN
Samples Collected By (Signature)

JON KAPLAN Ryan van Buren
Name (Printed)

Sample No.	Location/ID	Date Sampled	Sample Matrix: Water	Soil	Air	OTHER	ANALYSES REQUESTED	Container Description(s)
	RD-9	10/13/00	✓				8080 PCB	1-32oz.
	RD-7	10/13/00	✓				8080 PCB *	1-32oz.

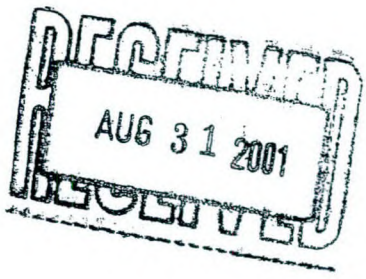
Chain-of-Custody Record

	Date/Time
Bottles Relinquished from Lab by	
Bottles Received in Field by	
Jonathan Lyst — Sample Relinquished by	
Sample Relinquished by	
Wayne — Sample Received by	10/17 130
J. Lyst — Sample Received in LAB by	10-17-00/1710

Comments/Special Instructions
see other chain of custody (only 1 32oz for all analysis)

Turn-Around Time
___Standard ___RUSH(define)_____

YORK
ANALYTICAL LABORATORIES, INC.



Technical Report

prepared for

Ecosystems Strategies, Inc.
60 Worrall Avenue
Poughkeepsie, NY 12603
Attention: Jonathan A. Kaplan

Report Date: 8/29/2001
Re: Client Project ID: SB2096.40
York Project No.: 01080459

Report Date: 8/29/2001
Client Project ID: SB2096.40
York Project No.: 01080459

Ecosystems Strategies, Inc.
60 Worrall Avenue
Poughkeepsie, NY 12603
Attention: Jonathan A. Kaplan

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on 08/20/01. The project was identifed as your project "SB2096.40 ".

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables .

All samples were received in proper condition meeting the NELAC acceptance requirements for environmental samples except those indicated under the Notes section of this report.

All the analyses met the method and laboratory standard operating procedure requirements except as indicated under the Notes section of this report, or as indicated by any data flags, the meaning of which is explained in the attachment to this report, if applicable.

The results of the analyses, which are all reported on an as-received basis unless otherwise noted, are summarized in the following table(s).

Analysis Results

Client Sample ID			CS-1		CS-2	
York Sample ID			01080459-01		01080459-02	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
Pesticides 8080 List soil	SW846-3550B/8081	ug/Kg	---	---	---	---
4,4'-DDD			Not detected	10	Not detected	10
4,4'-DDE			Not detected	10	Not detected	10
4,4'-DDT			Not detected	10	Not detected	10
Aldrin			Not detected	10	Not detected	10
alpha-BHC			Not detected	10	Not detected	10
beta-BHC			Not detected	10	Not detected	10
Chlordane			Not detected	50	Not detected	50
delta-BHC			Not detected	10	Not detected	10
Dieldrin			Not detected	10	Not detected	10
Endosulfan I			Not detected	10	Not detected	10
Endosulfan II			Not detected	10	Not detected	10
Endosulfan sulfate			Not detected	10	Not detected	10
Endrin			Not detected	10	Not detected	10
Endrin aldehyde			Not detected	10	Not detected	10
gamma-BHC (Lindane)			Not detected	10	Not detected	10
Heptachlor			Not detected	10	Not detected	10

Client Sample ID			CS-1		CS-2	
York Sample ID			01080459-01		01080459-02	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
Heptachlor epoxide			Not detected	10	Not detected	10
Methoxychlor			Not detected	500	Not detected	500
Toxaphene			Not detected	500	Not detected	500
Volatiles-8260 list	SW846-8260	ug/Kg	---	---	---	---
1,1,1,2-Tetrachloroethane			Not detected	5.0	Not detected	5.0
1,1,1-Trichloroethane			Not detected	5.0	Not detected	5.0
1,1,2,2-Tetrachloroethane			Not detected	5.0	Not detected	5.0
1,1,2-Trichloroethane			Not detected	5.0	Not detected	5.0
1,1-Dichloroethane			Not detected	5.0	Not detected	5.0
1,1-Dichloroethylene			Not detected	5.0	Not detected	5.0
1,1-Dichloropropylene			Not detected	5.0	Not detected	5.0
1,2,3-Trichlorobenzene			Not detected	5.0	Not detected	5.0
1,2,3-Trichloropropane			Not detected	5.0	Not detected	5.0
1,2,3-Trimethylbenzene			Not detected	5.0	Not detected	5.0
1,2,4-Trichlorobenzene			Not detected	5.0	Not detected	5.0
1,2,4-Trimethylbenzene			Not detected	5.0	Not detected	5.0
1,2-Dibromo-3-chloropropane			Not detected	5.0	Not detected	5.0
1,2-Dibromoethane			Not detected	5.0	Not detected	5.0
1,2-Dichlorobenzene			Not detected	5.0	Not detected	5.0
1,2-Dichloroethane			Not detected	5.0	Not detected	5.0
1,2-Dichloroethylene (Total)			Not detected	5.0	Not detected	5.0
1,2-Dichloropropane			Not detected	5.0	Not detected	5.0
1,3,5-Trimethylbenzene			Not detected	5.0	Not detected	5.0
1,3-Dichlorobenzene			Not detected	5.0	Not detected	5.0
1,3-Dichloropropane			Not detected	5.0	Not detected	5.0
1,4-Dichlorobenzene			Not detected	5.0	Not detected	5.0
1-Chlorohexane			Not detected	5.0	Not detected	5.0
2,2-Dichloropropane			Not detected	5.0	Not detected	5.0
2-Chlorotoluene			Not detected	5.0	Not detected	5.0
4-Chlorotoluene			Not detected	5.0	Not detected	5.0
Benzene			Not detected	5.0	Not detected	5.0
Bromobenzene			Not detected	5.0	Not detected	5.0
Bromochloromethane			Not detected	50	Not detected	50
Bromodichloromethane			Not detected	50	Not detected	50
Bromoform			Not detected	5.0	Not detected	5.0
Bromomethane			Not detected	50	Not detected	50
Carbon tetrachloride			Not detected	5.0	Not detected	5.0
Chlorobenzene			Not detected	5.0	Not detected	5.0
Chloroethane			Not detected	5.0	Not detected	5.0
Chloroform			Not detected	50	Not detected	50
Chloromethane			Not detected	50	Not detected	50
cis-1,3-Dichloropropylene			Not detected	5.0	Not detected	5.0
Dibromochloromethane			Not detected	5.0	Not detected	5.0
Dibromomethane			Not detected	5.0	Not detected	5.0
Dichlorodifluoromethane			Not detected	5.0	Not detected	5.0
Ethylbenzene			Not detected	5.0	Not detected	5.0
Hexachlorobutadiene			Not detected	5.0	Not detected	5.0
Isopropylbenzene			Not detected	5.0	Not detected	5.0
Methylene chloride			Not detected	5.0	Not detected	5.0
Naphthalene			Not detected	5.0	Not detected	5.0
n-Butylbenzene			Not detected	5.0	Not detected	5.0

YORK

Client Sample ID			CS-1		CS-2	
York Sample ID			01080459-01		01080459-02	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
n-Propylbenzene			Not detected	5.0	Not detected	5.0
o-Xylene			Not detected	5.0	Not detected	5.0
p- & m-Xylenes			Not detected	5.0	Not detected	5.0
p-Isopropyltoluene			Not detected	5.0	Not detected	5.0
sec-Butylbenzene			Not detected	5.0	Not detected	5.0
Styrene			Not detected	5.0	Not detected	5.0
tert-Butylbenzene			Not detected	5.0	Not detected	5.0
Tetrachloroethylene			Not detected	5.0	Not detected	5.0
Toluene			Not detected	5.0	Not detected	5.0
trans-1,3-Dichloropropylene			Not detected	5.0	Not detected	5.0
Trichloroethylene			Not detected	5.0	Not detected	5.0
Trichlorofluoromethane			Not detected	5.0	Not detected	5.0
Vinyl chloride			Not detected	50	Not detected	50
BNA-8270 List soil	SW846-8270	ug/Kg	---	---	---	---
1,2,4-Trichlorobenzene			Not detected	660	Not detected	660
1,2-Dichlorobenzene			Not detected	660	Not detected	660
1,3-Dichlorobenzene			Not detected	660	Not detected	660
1,4-Dichlorobenzene			Not detected	660	Not detected	660
2,4,5-Trichlorophenol			Not detected	660	Not detected	660
2,4,6-Trichlorophenol			Not detected	660	Not detected	660
2,4-Dichlorophenol			Not detected	660	Not detected	660
2,4-Dimethylphenol			Not detected	660	Not detected	660
2,4-Dinitrophenol			Not detected	3400	Not detected	3400
2,4-Dinitrotoluene			Not detected	660	Not detected	660
2,6-Dinitrotoluene			Not detected	660	Not detected	660
2-Chloronaphthalene			Not detected	660	Not detected	660
2-Chlorophenol			Not detected	660	Not detected	660
2-Methylnaphthalene			Not detected	660	Not detected	660
2-Methylphenol			Not detected	660	Not detected	660
2-Nitroaniline			Not detected	3400	Not detected	3400
2-Nitrophenol			Not detected	660	Not detected	660
3,3'-Dichlorobenzidine			Not detected	660	Not detected	660
3-Nitroaniline			Not detected	3400	Not detected	3400
4,6-Dinitro-2-methylphenol			Not detected	3400	Not detected	3400
4-Bromophenyl phenyl ether			Not detected	660	Not detected	660
4-Chloro-3-methyl phenol			Not detected	660	Not detected	660
4-Chloroaniline			Not detected	660	Not detected	660
4-Chlorophenyl phenyl ether			Not detected	660	Not detected	660
4-Methylphenol			Not detected	660	Not detected	660
4-Nitroaniline			Not detected	3400	Not detected	3400
4-Nitrophenol			Not detected	3400	Not detected	3400
Acenaphthene			Not detected	660	Not detected	660
Acenaphthylene			Not detected	660	Not detected	660
Anthracene			Not detected	660	Not detected	660
Benzo(a)anthracene			2700	660	2100	660
Benzo(a)pyrene			1900	660	2100	660
Benzo(b)fluoranthene			1900	660	2200	660
Benzo(g,h,i)perylene			Not detected	660	670	660
Benzo(k)fluoranthene			2600	660	2500	660
Benzyl alcohol			Not detected	660	Not detected	660
Bis(2-chloroethoxy)methane			Not detected	660	Not detected	660

YORK

Client Sample ID			CS-1		CS-2	
York Sample ID			01080459-01		01080459-02	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
Bis(2-chloroethyl)ether			Not detected	660	Not detected	660
Bis(2-chloroisopropyl)ether			Not detected	660	Not detected	660
Bis(2-ethylhexyl)phthalate			Not detected	660	Not detected	660
Butyl benzyl phthalate			Not detected	660	Not detected	660
Chrysene			3000	660	2500	660
Dibenz(a,h)anthracene			Not detected	660	Not detected	660
Dibenzofuran			Not detected	660	Not detected	660
Diethylphthalate			Not detected	660	Not detected	660
Dimethylphthalate			Not detected	660	Not detected	660
Di-n-butylphthalate			Not detected	660	Not detected	660
Di-n-octylphthalate			Not detected	660	Not detected	660
Fluoranthene			4500	660	4200	660
Fluorene			Not detected	660	Not detected	660
Hexachlorobenzene			Not detected	660	Not detected	660
Hexachlorobutadiene			Not detected	660	Not detected	660
Hexachlorocyclopentadiene			Not detected	660	Not detected	660
Hexachloroethane			Not detected	660	Not detected	660
Indeno(1,2,3-cd)pyrene			Not detected	660	870	660
Isophorone			Not detected	660	Not detected	660
Naphthalene			Not detected	660	Not detected	660
Nitrobenzene			Not detected	660	Not detected	660
N-Nitrosodi-n-propylamine			Not detected	660	Not detected	660
N-Nitrosodiphenylamine			Not detected	660	Not detected	660
Pentachlorophenol			Not detected	3400	Not detected	3400
Phenanthrene			2100	660	2400	660
Phenol			Not detected	660	Not detected	660
Pyrene			4300	660	3700	660
PCB	SW846-3550B/8082	mg/Kg	---	---	---	---
PCB 1016			0.32	0.02	0.14	0.02
PCB 1221			Not detected	0.02	Not detected	0.02
PCB 1232			Not detected	0.02	Not detected	0.02
PCB 1242			Not detected	0.02	Not detected	0.02
PCB 1248			Not detected	0.02	Not detected	0.02
PCB 1254			0.57	0.02	0.54	0.02
PCB 1260			0.24	0.02	0.13	0.02
PCB, Total			1.1	0.02	0.81	0.02
Total RCRA Metals	SW846	mg/kG	---	---	---	---
Arsenic, total			12.8	1.00	26.6	1.00
Barium, total			143	0.50	151	0.50
Cadmium, total			4.21	0.50	2.09	0.50
Chromium, total			57.5	0.50	39.2	0.50
Lead, total			472	0.50	404	0.50
Selenium, total			Not detected	1.00	Not detected	1.00
Silver, total			0.95	0.50	0.67	0.50
Mercury	SW846-7471	mg/kG	Not detected	0.25	0.25	0.25
Tetrachlorodibenzofurans(TCDF)	SW846-8270	ug/kg	Not detected	33	Not detected	33
2,3,7,8-TCDD (Dioxin)	SW846-8270	ug/kg	Not detected	33	Not detected	33
Total Organic Carbon	SM	mg/kg	124	0.10	120	0.10

YORK

Client Sample ID			SS-1		SS-2	
York Sample ID			01080459-03		01080459-04	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
PCB	SW846-3550B/8082	mg/Kg	---	---	---	---
PCB 1016			0.43	0.02	0.15	0.02
PCB 1221			Not detected	0.02	Not detected	0.02
PCB 1232			Not detected	0.02	Not detected	0.02
PCB 1242			Not detected	0.02	Not detected	0.02
PCB 1248			Not detected	0.02	Not detected	0.02
PCB 1254			0.31	0.02	0.94	0.02
PCB 1260			Not detected	0.02	Not detected	0.02
PCB, Total			0.74	0.02	1.1	0.02
Total RCRA Metals	SW846	mg/kG	---	---	---	---
Arsenic, total			14.2	1.00	17.4	1.00
Barium, total			157	0.50	194	0.50
Cadmium, total			1.48	0.50	8.87	0.50
Chromium, total			13.7	0.50	18.7	0.50
Lead, total			558	0.50	3950	0.50
Selenium, total			Not detected	1.00	Not detected	1.00
Silver, total			Not detected	0.50	1.88	0.50
Mercury	SW846-7471	mg/kG	0.35	0.25	1.14	0.25

Client Sample ID			SS-3		SS-4	
York Sample ID			01080459-05		01080459-06	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
Volatiles-8260 list	SW846-8260	ug/Kg	---	---	---	---
1,1,1,2-Tetrachloroethane			Not detected	5.0	Not detected	5.0
1,1,1-Trichloroethane			Not detected	5.0	Not detected	5.0
1,1,2,2-Tetrachloroethane			Not detected	5.0	Not detected	5.0
1,1,2-Trichloroethane			Not detected	5.0	Not detected	5.0
1,1-Dichloroethane			Not detected	5.0	Not detected	5.0
1,1-Dichloroethylene			Not detected	5.0	Not detected	5.0
1,1-Dichloropropylene			Not detected	5.0	Not detected	5.0
1,2,3-Trichlorobenzene			Not detected	5.0	Not detected	5.0
1,2,3-Trichloropropane			Not detected	5.0	Not detected	5.0
1,2,3-Trimethylbenzene			Not detected	5.0	Not detected	5.0
1,2,4-Trichlorobenzene			Not detected	5.0	Not detected	5.0
1,2,4-Trimethylbenzene			Not detected	5.0	Not detected	5.0
1,2-Dibromo-3-chloropropane			Not detected	5.0	Not detected	5.0
1,2-Dibromoethane			Not detected	5.0	Not detected	5.0
1,2-Dichlorobenzene			Not detected	5.0	Not detected	5.0
1,2-Dichloroethane			Not detected	5.0	Not detected	5.0
1,2-Dichloroethylene (Total)			Not detected	5.0	Not detected	5.0
1,2-Dichloropropane			Not detected	5.0	Not detected	5.0
1,3,5-Trimethylbenzene			Not detected	5.0	Not detected	5.0
1,3-Dichlorobenzene			Not detected	5.0	Not detected	5.0
1,3-Dichloropropane			Not detected	5.0	Not detected	5.0
1,4-Dichlorobenzene			Not detected	5.0	Not detected	5.0
1-Chlorohexane			Not detected	5.0	Not detected	5.0
2,2-Dichloropropane			Not detected	5.0	Not detected	5.0

Client Sample ID			SS-3		SS-4	
York Sample ID			01080459-05		01080459-06	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
2-Chlorotoluene			Not detected	5.0	Not detected	5.0
4-Chlorotoluene			Not detected	5.0	Not detected	5.0
Benzene			Not detected	5.0	Not detected	5.0
Bromobenzene			Not detected	5.0	Not detected	5.0
Bromochloromethane			Not detected	50	Not detected	50
Bromodichloromethane			Not detected	50	Not detected	50
Bromoform			Not detected	5.0	Not detected	5.0
Bromomethane			Not detected	50	Not detected	50
Carbon tetrachloride			Not detected	5.0	Not detected	5.0
Chlorobenzene			Not detected	5.0	Not detected	5.0
Chloroethane			Not detected	5.0	Not detected	5.0
Chloroform			Not detected	50	Not detected	50
Chloromethane			Not detected	50	Not detected	50
cis-1,3-Dichloropropylene			Not detected	5.0	Not detected	5.0
Dibromochloromethane			Not detected	5.0	Not detected	5.0
Dibromomethane			Not detected	5.0	Not detected	5.0
Dichlorodifluoromethane			Not detected	5.0	Not detected	5.0
Ethylbenzene			Not detected	5.0	Not detected	5.0
Hexachlorobutadiene			Not detected	5.0	Not detected	5.0
Isopropylbenzene			Not detected	5.0	Not detected	5.0
Methylene chloride			Not detected	5.0	Not detected	5.0
Naphthalene			Not detected	5.0	Not detected	5.0
n-Butylbenzene			Not detected	5.0	Not detected	5.0
n-Propylbenzene			Not detected	5.0	Not detected	5.0
o-Xylene			Not detected	5.0	Not detected	5.0
p- & m-Xylenes			Not detected	5.0	Not detected	5.0
p-Isopropyltoluene			Not detected	5.0	Not detected	5.0
sec-Butylbenzene			Not detected	5.0	Not detected	5.0
Styrene			Not detected	5.0	Not detected	5.0
tert-Butylbenzene			Not detected	5.0	Not detected	5.0
Tetrachloroethylene			Not detected	5.0	Not detected	5.0
Toluene			Not detected	5.0	Not detected	5.0
trans-1,3-Dichloropropylene			Not detected	5.0	Not detected	5.0
Trichloroethylene			Not detected	5.0	Not detected	5.0
Trichlorofluoromethane			Not detected	5.0	Not detected	5.0
Vinyl chloride			Not detected	50	Not detected	50
BNA-8270 List soil	SW846-8270	ug/Kg	---	---	---	---
1,2,4-Trichlorobenzene			Not detected	660	Not detected	330
1,2-Dichlorobenzene			Not detected	660	Not detected	330
1,3-Dichlorobenzene			Not detected	660	Not detected	330
1,4-Dichlorobenzene			Not detected	660	Not detected	330
2,4,5-Trichlorophenol			Not detected	660	Not detected	330
2,4,6-Trichlorophenol			Not detected	660	Not detected	330
2,4-Dichlorophenol			Not detected	660	Not detected	330
2,4-Dimethylphenol			Not detected	660	Not detected	330
2,4-Dinitrophenol			Not detected	3400	Not detected	1700
2,4-Dinitrotoluene			Not detected	660	Not detected	330
2,6-Dinitrotoluene			Not detected	660	Not detected	330
2-Chloronaphthalene			Not detected	660	Not detected	330
2-Chlorophenol			Not detected	660	Not detected	330
2-Methylnaphthalene			Not detected	660	Not detected	330

Client Sample ID			SS-3		SS-4	
York Sample ID			01080459-05		01080459-06	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
2-Methylphenol			Not detected	660	Not detected	330
2-Nitroaniline			Not detected	3400	Not detected	1700
2-Nitrophenol			Not detected	660	Not detected	330
3,3'-Dichlorobenzidine			Not detected	660	Not detected	330
3-Nitroaniline			Not detected	3400	Not detected	1700
4,6-Dinitro-2-methylphenol			Not detected	3400	Not detected	1700
4-Bromophenyl phenyl ether			Not detected	660	Not detected	330
4-Chloro-3-methyl phenol			Not detected	660	Not detected	330
4-Chloroaniline			Not detected	660	Not detected	330
4-Chlorophenyl phenyl ether			Not detected	660	Not detected	330
4-Methylphenol			Not detected	660	Not detected	330
4-Nitroaniline			Not detected	3400	Not detected	1700
4-Nitrophenol			Not detected	3400	Not detected	1700
Acenaphthene			Not detected	660	Not detected	330
Acenaphthylene			Not detected	660	Not detected	330
Anthracene			Not detected	660	Not detected	330
Benzo(a)anthracene			Not detected	660	Not detected	330
Benzo(a)pyrene			Not detected	660	Not detected	330
Benzo(b)fluoranthene			Not detected	660	Not detected	330
Benzo(g,h,i)perylene			Not detected	660	Not detected	330
Benzo(k)fluoranthene			800	660	Not detected	330
Benzyl alcohol			Not detected	660	Not detected	330
Bis(2-chloroethoxy)methane			Not detected	660	Not detected	330
Bis(2-chloroethyl)ether			Not detected	660	Not detected	330
Bis(2-chloroisopropyl)ether			Not detected	660	Not detected	330
Bis(2-ethylhexyl)phthalate			Not detected	660	Not detected	330
Butyl benzyl phthalate			Not detected	660	Not detected	330
Chrysene			730	660	Not detected	330
Dibenz(a,h)anthracene			Not detected	660	Not detected	330
Dibenzofuran			Not detected	660	Not detected	330
Diethylphthalate			Not detected	660	Not detected	330
Dimethylphthalate			Not detected	660	Not detected	330
Di-n-butylphthalate			Not detected	660	Not detected	330
Di-n-octylphthalate			Not detected	660	Not detected	330
Fluoranthene			1400	660	Not detected	330
Fluorene			Not detected	660	Not detected	330
Hexachlorobenzene			Not detected	660	Not detected	330
Hexachlorobutadiene			Not detected	660	Not detected	330
Hexachlorocyclopentadiene			Not detected	660	Not detected	330
Hexachloroethane			Not detected	660	Not detected	330
Indeno(1,2,3-cd)pyrene			Not detected	660	Not detected	330
Isophorone			Not detected	660	Not detected	330
Naphthalene			Not detected	660	Not detected	330
Nitrobenzene			Not detected	660	Not detected	330
N-Nitrosodi-n-propylamine			Not detected	660	Not detected	330
N-Nitrosodiphenylamine			Not detected	660	Not detected	330
Pentachlorophenol			Not detected	3400	Not detected	1700
Phenanthrene			850	660	Not detected	330
Phenol			Not detected	660	Not detected	330
Pyrene			1100	660	Not detected	330

Client Sample ID			SS-3		SS-4	
York Sample ID			01080459-05		01080459-06	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
PCB	SW846-3550B/8082	mg/Kg	---	---	---	---
PCB 1016			0.04	0.02	Not detected	0.02
PCB 1221			Not detected	0.02	Not detected	0.02
PCB 1232			Not detected	0.02	Not detected	0.02
PCB 1242			Not detected	0.02	Not detected	0.02
PCB 1248			Not detected	0.02	Not detected	0.02
PCB 1254			0.14	0.02	0.03	0.02
PCB 1260			Not detected	0.02	Not detected	0.02
PCB, Total			0.18	0.02	0.03	0.02
Total RCRA Metals	SW846	mg/kG	---	---	---	---
Arsenic, total			11.5	1.00	5.34	1.00
Barium, total			60.8	0.50	58.4	0.50
Cadmium, total			0.90	0.50	Not detected	0.50
Chromium, total			11.5	0.50	14.2	0.50
Lead, total			395	0.50	140	0.50
Selenium, total			1.33	1.00	Not detected	1.00
Silver, total			Not detected	0.50	Not detected	0.50
Mercury	SW846-7471	mg/kG	0.34	0.25	Not detected	0.25

Client Sample ID			SS-5		SS-6	
York Sample ID			01080459-07		01080459-08	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
PCB	SW846-3550B/8082	mg/Kg	---	---	---	---
PCB 1016			Not detected	0.02	Not detected	0.02
PCB 1221			Not detected	0.02	Not detected	0.02
PCB 1232			Not detected	0.02	Not detected	0.02
PCB 1242			Not detected	0.02	Not detected	0.02
PCB 1248			Not detected	0.02	Not detected	0.02
PCB 1254			Not detected	0.02	0.06	0.02
PCB 1260			Not detected	0.02	Not detected	0.02
PCB, Total			Not detected	0.02	0.06	0.02
Total RCRA Metals	SW846	mg/kG	---	---	---	---
Arsenic, total			7.50	1.00	11.0	1.00
Barium, total			128	0.50	231	0.50
Cadmium, total			Not detected	0.50	3.37	0.50
Chromium, total			17.3	0.50	11.6	0.50
Lead, total			319	0.50	470	0.50
Selenium, total			Not detected	1.00	Not detected	1.00
Silver, total			Not detected	0.50	Not detected	0.50
Mercury	SW846-7471	mg/kG	0.42	0.25	0.92	0.25

YORK

Client Sample ID			RD-7	
York Sample ID			01080459-09	
Matrix			WATER	
Parameter	Method	Units	Results	MDL
Total RCRA Metals	SW846	mg/L	---	---
Arsenic, total			Not detected	0.010
Barium, total			0.075	0.005
Cadmium, total			Not detected	0.005
Chromium, total			Not detected	0.005
Lead, total			Not detected	0.005
Selenium, total			Not detected	0.010
Silver, total			Not detected	0.005
Mercury	SW-7470	mg/L	Not detected	0.0002

Units Key: For Waters/Liquids: mg/L = ppm ; ug/L = ppb For Soils/Solids: mg/kg = ppm ; ug/kg = ppb

Notes for York Project No. 01080459

1. The MDL (Minimum Detectable Limit) reported is adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All samples were received in proper condition for analysis with proper documentation.
6. All analyses conducted met method or Laboratory SOP requirements.
7. It is noted that no analyses reported herein were subcontracted to another laboratory.

Approved By: Robert Q. Bradley
Robert Q. Bradley
Managing Director

Date: 8/29/2001

YORK

YORK
ANALYTICAL LABORATORIES, INC.
ONE RESEARCH DRIVE
STAMFORD, CT 06906
(203) 325-1371 FAX (203) 357-0166

Field Chain-of-Custody Record

Company Name	Report To:	Invoice To:	Project ID/No.	
Ecosystems Strategies, Inc.	Jonathan Kaplan	Pam Q	SB2096.40	Samples Collected By (Signature): Jonathan Teubl Name (Printed): Jonathan Teubl, JK, KW

Sample No.	Location/ID	Date Sampled	Sample Matrix: Water	Soil	Air	OTHER	ANALYSES REQUESTED	Container Description(s)
	CS-1	8-17-01		X			RCRA metals (Method 6010), pesticides (Method 8082), PCBs (Method 8081), VOCs (Methods 8260), sVOCs (both base neutral and acid extractable as per Method 8270), dioxins, furans (Method 8270) and total organic carbon.	1 8oz jar
	CS-2	"		X			Same as CS-1	1 8oz jar

Chain-of-Custody Record

	Date/Time		Date/Time		Date/Time
Bottles Relinquished from Lab by		Sample Relinquished by	8-20-01 13:??	Sample Received by: R. Van Dousen	8/20/01 13:20
Bottles Received in Field by		Sample Relinquished by		Sample Received in LAB by: J. Lake	8-20-01 17:00

Comments/Special Instructions

Turn-Around Time
____Standard ____RUSH(define)_____

YORK
ANALYTICAL LABORATORIES, INC.
ONE RESEARCH DRIVE
STAMFORD, CT 06906
(203) 325-1371 FAX (203) 357-0166

Field Chain-of-Custody Record

Company Name	Report To:	Invoice To:	Project ID/No.	
Ecosystems strategies, Inc	Jonathan Kaplan	Pam Q	SB2096.40	Jonathan Teubl Samples Collected By (Signature) Jonathan Teubl, JK, KW Name (Printed)

Sample No.	Location/ID	Date Sampled	Sample Matrix: Water	Soil	Air	OTHER	ANALYSES REQUESTED	Container Description(s)
	SS-1 0"-4"	8-17-01		X			RCRA metals (total wt.) and	1 8oz jar
							PCBs (EPA method 8082)	
	SS-2 0"-4"						"	
	SS-3 0"-4"						RCRA metals (total wt), PCBs	
							(Method 8082), VOCs (Method 8260) and SVOCs (Method 8270)	
	SS-4 0"-4"						"	
	SS-5 0"-4"						RCRA metals (total wt.) and	
							PCBs (EPA method 8082)	
	SS-6 0"-4"			X			"	X
	RD-7	X	X				RCRA metals (EPA Method 6010)	2 32oz jar

Chain-of-Custody Record

Bottles Relinquished from Lab by	Date/Time	Sample Relinquished by	8/20/01 3:20 pm Date/Time	Sample Received by	8/20/01 3:20 Date/Time
Bottles Received in Field by	Date/Time	Sample Relinquished by	Date/Time	Sample Received in LAB by	8-20-01 1700 Date/Time

Comments/Special Instructions

Turn-Around Time
___Standard ___RUSH(define)_____

YORK
ANALYTICAL LABORATORIES, INC.

Technical Report

prepared for

Ecosystems Strategies, Inc.
60 Worrall Avenue
Poughkeepsie, NY 12603
Attention: Jonathan A. Kaplan

Report Date: 10/25/2001
Re: Client Project ID: SB2096.31
York Project No.: 01100489

CT License No. PH-0723 New York License No. 10854 Mass. License No. M-CT106 Rhode Island License No. 93 EPA I.D. No. CT00106

ONE RESEARCH DRIVE STAMFORD, CT 06906 (203) 325-1371 FAX (203) 357-0166

Report Date: 10/25/2001
Client Project ID: SB2096.31
York Project No.: 01100489

Ecosystems Strategies, Inc.
60 Worrall Avenue
Poughkeepsie, NY 12603
Attention: Jonathan A. Kaplan

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on 10/22/01. The project was identifed as your project "SB2096.31 ".

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables .

All samples were received in proper condition meeting the NELAC acceptance requirements for environmental samples except those indicated under the Notes section of this report.

All the analyses met the method and laboratory standard operating procedure requirements except as indicated under the Notes section of this report, or as indicated by any data flags, the meaning of which is explained in the attachment to this report, if applicable.

The results of the analyses, which are all reported on an as-received basis unless otherwise noted, are summarized in the following table(s).

Analysis Results

Client Sample ID			2 SS-1		2 SS-2	
York Sample ID			01100489-01		01100489-02	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
Arsenic	SW6010	mg/kG	7.35	1.00	10.4	1.00
Lead	SW846-6010	mg/kG	700	0.500	603	0.500

Client Sample ID			2 SS-3		2 SS-4	
York Sample ID			01100489-03		01100489-04	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
Arsenic	SW6010	mg/kG	11.3	1.00	25.7	1.00
Lead	SW846-6010	mg/kG	654	0.500	1180	0.500

Client Sample ID			2 SS-5		2 SS-6	
York Sample ID			01100489-05		01100489-06	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
Arsenic	SW6010	mg/kG	10.9	1.00	9.88	1.00

YORK

Client Sample ID			2 SS-5		2 SS-6	
York Sample ID			01100489-05		01100489-06	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
Lead	SW846-6010	mg/kG	1280	0.500	1060	0.500

Client Sample ID			2 SS-7		2 SS-8	
York Sample ID			01100489-07		01100489-08	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
Arsenic	SW6010	mg/kG	15.7	1.00	11.4	1.00
Lead	SW846-6010	mg/kG	828	0.500	303	0.500

Client Sample ID			2 SS-9		2 SS-10	
York Sample ID			01100489-09		01100489-10	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
Arsenic	SW6010	mg/kG	11.3	1.00	13.1	1.00
Lead	SW846-6010	mg/kG	214	0.500	332	0.500

Units Key: For Waters/Liquids: mg/L = ppm ; ug/L = ppb For Soils/Solids: mg/kg = ppm ; ug/kg = ppb

Notes for York Project No. 01100489

1. The MDL (Minimum Detectable Limit) reported is adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All samples were received in proper condition for analysis with proper documentation.
6. All analyses conducted met method or Laboratory SOP requirements.
7. It is noted that no analyses reported herein were subcontracted to another laboratory.

Approved By: Robert Q. Bradley
Managing Director

Date: 10/25/2001

YORK

YORK
ANALYTICAL LABORATORIES, INC.
ONE RESEARCH DRIVE
STAMFORD, CT 06905
(203) 325-1371 FAX (203) 357-0166

Field Chain-of-Custody Record

Company Name	Report To:	Invoice To:	Project ID/No.	Samples Collected By (Signature) / Name (Printed)
EST	JONATHAN A. KAPLAN	PAM	SB2096.31	JONATHAN A KAPLAN / R.H.

Sample No.	Location/ID	Date Sampled	Sample Matrix: Water	Soil	Air	OTHER	ANALYSES REQUESTED	Container Description(s)
	2 SS-1	10/19/01		X			TOTAL WEIGHT LEAD + ARSENIC	1-8oz
	2 SS-2							
	2 SS-3							
	2 SS-4							
	2 SS-5							
	2 SS-6							
	2 SS-7							
	2 SS-8							
	2 SS-9							
	2 SS-10	X		X			X	

Chain-of-Custody Record

	Date/Time		Date/Time		Date/Time
Bottles Relinquished from Lab by		C. Ritter	10/22 12:00	Wayne	10/22 1200
Bottles Received in Field by		Sample Relinquished by		Sample Received in LAB by	10-22-01 1330

Turn-Around Time
Standard X RUSH (define) BY THURSDAY 10/25/01

Comments/Special Instructions
4.8°C

YORK
ANALYTICAL LABORATORIES, INC.

RECEIVED
AUG 31 2001

Technical Report

prepared for

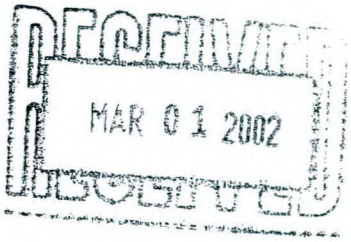
Ecosystems Strategies, Inc.
60 Worrall Avenue
Poughkeepsie, NY 12603
Attention: Jonathan A. Kaplan

Report Date: 8/29/2001
Re: Client Project ID: SB2096.40
York Project No.: 01080459

CT License No. PH-0723 New York License No. 10854 Mass. License No. M-CT106 Rhode Island License No. 93 EPA I.D. No. CT00106

ONE RESEARCH DRIVE STAMFORD, CT 06906 (203) 325-1371 FAX (203) 357-0166

YORK
ANALYTICAL LABORATORIES, INC.



Technical Report

prepared for

Ecosystems Strategies, Inc.
60 Worrall Avenue
Poughkeepsie, NY 12603
Attention: Jonathan A. Kaplan

Report Date: 2/27/2002
Re: Client Project ID: SB2096.40
York Project No.: 02020470

CT License No. PH-0723 New York License No. 10854 Mass. License No. M-CT106 Rhode Island License No. 93 EPA I.D. No. CT00106

ONE RESEARCH DRIVE STAMFORD, CT 06906 (203) 325-1371 FAX (203) 357-0166

Report Date: 2/27/2002
Client Project ID: SB2096.40
York Project No.: 02020470

Ecosystems Strategies, Inc.
60 Worrall Avenue
Poughkeepsie, NY 12603
Attention: Jonathan A. Kaplan

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on 02/22/02. The project was identifed as your project "SB2096.40 ".

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables .

All samples were received in proper condition meeting the NELAC acceptance requirements for environmental samples except those indicated under the Notes section of this report.

All the analyses met the method and laboratory standard operating procedure requirements except as indicated under the Notes section of this report, or as indicated by any data flags, the meaning of which is explained in the attachment to this report, if applicable.

The results of the analyses, which are all reported on an as-received basis unless otherwise noted, are summarized in the following table(s).

Analysis Results

Client Sample ID			TMW-2		TMW-3	
York Sample ID			02020470-01		02020470-02	
Matrix			WATER		WATER	
Parameter	Method	Units	Results	MDL	Results	MDL
Volatiles-8260 list	SW846-8260	ug/L	---	---	---	---
1,1,1,2-Tetrachloroethane			Not detected	1		
1,1,1-Trichloroethane			Not detected	1		
1,1,2,2-Tetrachloroethane			Not detected	1		
1,1,2-Trichloroethane			Not detected	1		
1,1-Dichloroethane			Not detected	1		
1,1-Dichloroethylene			Not detected	1		
1,1-Dichloropropylene			Not detected	1		
1,2,3-Trichlorobenzene			Not detected	1		
1,2,3-Trichloropropane			Not detected	1		
1,2,3-Trimethylbenzene			Not detected	1		
1,2,4-Trichlorobenzene			Not detected	1		
1,2,4-Trimethylbenzene			Not detected	1		
1,2-Dibromo-3-chloropropane			Not detected	1		
1,2-Dibromoethane			Not detected	1		
1,2-Dichlorobenzene			Not detected	1		
1,2-Dichloroethane			Not detected	1		

YORK

Client Sample ID			TMW-2		TMW-3	
York Sample ID			02020470-01		02020470-02	
Matrix			WATER		WATER	
Parameter	Method	Units	Results	MDL	Results	MDL
1,2-Dichloroethylene (Total)			Not detected	1		
1,2-Dichloropropane			Not detected	1		
1,3,5-Trimethylbenzene			Not detected	1		
1,3-Dichlorobenzene			Not detected	1		
1,3-Dichloropropane			Not detected	1		
1,4-Dichlorobenzene			Not detected	1		
1-Chlorohexane			Not detected	1		
2,2-Dichloropropane			Not detected	1		
2-Chlorotoluene			Not detected	1		
4-Chlorotoluene			Not detected	1		
Benzene			Not detected	1		
Bromobenzene			Not detected	1		
Bromochloromethane			Not detected	1		
Bromodichloromethane			Not detected	1		
Bromoform			Not detected	1		
Bromomethane			Not detected	1		
Carbon tetrachloride			Not detected	1		
Chlorobenzene			Not detected	1		
Chloroethane			Not detected	1		
Chloroform			Not detected	1		
Chloromethane			Not detected	1		
cis-1,3-Dichloropropylene			Not detected	1		
Dibromochloromethane			Not detected	1		
Dibromomethane			Not detected	1		
Dichlorodifluoromethane			Not detected	1		
Ethylbenzene			Not detected	1		
Hexachlorobutadiene			Not detected	1		
Isopropylbenzene			Not detected	1		
Methylene chloride			Not detected	1		
Naphthalene			Not detected	1		
n-Butylbenzene			Not detected	1		
n-Propylbenzene			Not detected	1		
o-Xylene			Not detected	1		
p- & m-Xylenes			Not detected	1		
p-Isopropyltoluene			Not detected	1		
sec-Butylbenzene			Not detected	1		
Styrene			Not detected	1		
tert-Butylbenzene			Not detected	1		
Tetrachloroethylene			Not detected	1		
Toluene			Not detected	1		
trans-1,3-Dichloropropylene			Not detected	1		
Trichloroethylene			Not detected	1		
Trichlorofluoromethane			Not detected	1		
Vinyl chloride			Not detected	1		
Polynuclear Aromatic Hydroc.(BN)	SW846-8270	ug/L	---	---	---	---
Acenaphthene			Not detected	10		
Acenaphthylene			Not detected	10		
Anthracene			Not detected	10		
Benzo[a]anthracene			Not detected	10		
Benzo[a]pyrene			Not detected	10		
Benzo[b]fluoranthene			Not detected	10		

YORK

Client Sample ID			TMW-2		TMW-3	
York Sample ID			02020470-01		02020470-02	
Matrix			WATER		WATER	
Parameter	Method	Units	Results	MDL	Results	MDL
Benzo[g,h,i]perylene			Not detected	10		
Benzo[k]fluoranthene			Not detected	10		
Chyrsene			Not detected	10		
Dibenz[a,h]anthracene			Not detected	10		
Fluoranthene			Not detected	10		
Fluorene			Not detected	10		
Indeno[1,2,3-cd]pyrene			Not detected	10		
Naphthalene			Not detected	10		
Phenanthrene			Not detected	10		
Pyrene			Not detected	10		
PCB	SW846-3510C/8082	ug/L	---	---	---	---
PCB 1016			Not detected	0.2	Not detected	0.2
PCB 1221			Not detected	0.2	Not detected	0.2
PCB 1232			Not detected	0.2	Not detected	0.2
PCB 1242			Not detected	0.2	Not detected	0.2
PCB 1248			Not detected	0.2	Not detected	0.2
PCB 1254			Not detected	0.2	Not detected	0.2
PCB 1260			Not detected	0.2	Not detected	0.2
PCB, Total			Not detected	0.2	Not detected	0.2
Total RCRA Metals	SW846-6010B	mg/L	---	---	---	---
Arsenic, total			Not detected	0.010	Not detected	0.010
Barium, total			0.083	0.005	0.051	0.005
Cadmium, total			Not detected	0.005	Not detected	0.005
Chromium, total			Not detected	0.005	Not detected	0.005
Lead, total			Not detected	0.005	Not detected	0.005
Selenium, total			Not detected	0.010	Not detected	0.010
Silver, total			Not detected	0.005	Not detected	0.005
Mercury	SW846-7470	mg/L	Not detected	0.0002	Not detected	0.0002

Client Sample ID			TMW-4 Filtered		TMW-4 Unfiltered	
York Sample ID			02020470-03		02020470-04	
Matrix			WATER		WATER	
Parameter	Method	Units	Results	MDL	Results	MDL
Total RCRA Metals	SW846-6010B	mg/L	---	---	---	---
Arsenic, total			Not detected	0.010	Not detected	0.010
Barium, total			0.084	0.005	0.079	0.005
Cadmium, total			Not detected	0.005	Not detected	0.005
Chromium, total			Not detected	0.005	Not detected	0.005
Lead, total			Not detected	0.005	Not detected	0.005
Selenium, total			Not detected	0.010	Not detected	0.010
Silver, total			Not detected	0.005	Not detected	0.005
Mercury	SW846-7470	mg/L	Not detected	0.0002	Not detected	0.0002

YORK

Client Sample ID			TMW-4		TMW-6	
York Sample ID			02020470-05		02020470-06	
Matrix			WATER		WATER	
Parameter	Method	Units	Results	MDL	Results	MDL
Volatiles-8260 list	SW846-8260	ug/L	---	---	---	---
1,1,1,2-Tetrachloroethane			Not detected	1		
1,1,1-Trichloroethane			Not detected	1		
1,1,2,2-Tetrachloroethane			Not detected	1		
1,1,2-Trichloroethane			Not detected	1		
1,1-Dichloroethane			Not detected	1		
1,1-Dichloroethylene			Not detected	1		
1,1-Dichloropropylene			Not detected	1		
1,2,3-Trichlorobenzene			Not detected	1		
1,2,3-Trichloropropane			Not detected	1		
1,2,3-Trimethylbenzene			Not detected	1		
1,2,4-Trichlorobenzene			Not detected	1		
1,2,4-Trimethylbenzene			Not detected	1		
1,2-Dibromo-3-chloropropane			Not detected	1		
1,2-Dibromoethane			Not detected	1		
1,2-Dichlorobenzene			Not detected	1		
1,2-Dichloroethane			Not detected	1		
1,2-Dichloroethylene (Total)			Not detected	1		
1,2-Dichloropropane			Not detected	1		
1,3,5-Trimethylbenzene			Not detected	1		
1,3-Dichlorobenzene			Not detected	1		
1,3-Dichloropropane			Not detected	1		
1,4-Dichlorobenzene			Not detected	1		
1-Chlorohexane			Not detected	1		
2,2-Dichloropropane			Not detected	1		
2-Chlorotoluene			Not detected	1		
4-Chlorotoluene			Not detected	1		
Benzene			Not detected	1		
Bromobenzene			Not detected	1		
Bromochloromethane			Not detected	1		
Bromodichloromethane			Not detected	1		
Bromoform			Not detected	1		
Bromomethane			Not detected	1		
Carbon tetrachloride			Not detected	1		
Chlorobenzene			Not detected	1		
Chloroethane			Not detected	1		
Chloroform			Not detected	1		
Chloromethane			Not detected	1		
cis-1,3-Dichloropropylene			Not detected	1		
Dibromochloromethane			Not detected	1		
Dibromomethane			Not detected	1		
Dichlorodifluoromethane			Not detected	1		
Ethylbenzene			Not detected	1		
Hexachlorobutadiene			Not detected	1		
Isopropylbenzene			Not detected	1		
Methylene chloride			Not detected	1		
Naphthalene			Not detected	1		
n-Butylbenzene			Not detected	1		
n-Propylbenzene			Not detected	1		
o-Xylene			Not detected	1		

YORK

Client Sample ID			TMW-4		TMW-6	
York Sample ID			02020470-05		02020470-06	
Matrix			WATER		WATER	
Parameter	Method	Units	Results	MDL	Results	MDL
p- & m-Xylenes			Not detected	1		
p-Isopropyltoluene			Not detected	1		
sec-Butylbenzene			Not detected	1		
Styrene			Not detected	1		
tert-Butylbenzene			Not detected	1		
Tetrachloroethylene			Not detected	1		
Toluene			Not detected	1		
trans-1,3-Dichloropropylene			Not detected	1		
Trichloroethylene			Not detected	1		
Trichlorofluoromethane			Not detected	1		
Vinyl chloride			Not detected	1		
Polynuclear Aromatic Hydroc.(BN)	SW846-8270	ug/L	---	---	---	---
Acenaphthene			Not detected	10		
Acenaphthylene			Not detected	10		
Anthracene			Not detected	10		
Benzo[a]anthracene			Not detected	10		
Benzo[a]pyrene			Not detected	10		
Benzo[b]fluoranthene			Not detected	10		
Benzo[g,h,i]perylene			Not detected	10		
Benzo[k]fluoranthene			Not detected	10		
Chyrsene			Not detected	10		
Dibenz[a,h]anthracene			Not detected	10		
Fluoranthene			Not detected	10		
Fluorene			Not detected	10		
Indeno[1,2,3-cd]pyrene			Not detected	10		
Naphthalene			Not detected	10		
Phenanthrene			Not detected	10		
Pyrene			Not detected	10		
PCB	SW846-3510C/8082	ug/L	---	---	---	---
PCB 1016			Not detected	0.26	Not detected	0.2
PCB 1221			Not detected	0.26	Not detected	0.2
PCB 1232			Not detected	0.26	Not detected	0.2
PCB 1242			Not detected	0.26	Not detected	0.2
PCB 1248			Not detected	0.26	Not detected	0.2
PCB 1254			Not detected	0.26	Not detected	0.2
PCB 1260			Not detected	0.26	Not detected	0.2
PCB, Total			Not detected	0.26	Not detected	0.2
Total RCRA Metals	SW846-6010B	mg/L	---	---	---	---
Arsenic, total					Not detected	0.010
Barium, total					0.071	0.005
Cadmium, total					Not detected	0.005
Chromium, total					Not detected	0.005
Lead, total					Not detected	0.005
Selenium, total					Not detected	0.010
Silver, total					Not detected	0.005
Mercury	SW846-7470	mg/L	---	---	Not detected	0.0002

Units Key: For Waters/Liquids: mg/L = ppm ; ug/L = ppb For Soils/Solids: mg/kg = ppm ; ug/kg = ppb

YORK

Report Date: 2/27/2002
Client Project ID: SB2096.40
York Project No.: 02020470

Notes for York Project No. 02020470

1. The MDL (Minimum Detectable Limit) reported is adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All samples were received in proper condition for analysis with proper documentation.
6. All analyses conducted met method or Laboratory SOP requirements.
7. It is noted that no analyses reported herein were subcontracted to another laboratory.

Approved By: _____ **Date:** 2/27/2002
Robert Q. Bradley
Managing Director

YORK

YORK
ANALYTICAL LABORATORIES, INC.
ONE RESEARCH DRIVE
STAMFORD, CT 06906
(203) 325-1371 FAX (203) 357-0166

Field Chain-of-Custody Record

02020470

Company Name	Report To:	Invoice To:	Project ID/No.
ECOSYSTEMS STRATEGIES INC.	JONATHAN A KAPLAN	PAM Q	SB2096.40

Jonathan A Kaplan
Samples Collected By (Signature)

JONATHAN A KAPLAN
Name (Printed)

Sample No.	Location/ID	Date Sampled	Sample Matrix: Water	Soil	Air	OTHER	ANALYSES REQUESTED	Container Description(s)
	TMW-2	2/21/02	X				RCRA METALS PAH's-8270 PCBS-8080 VOC's-8260	3-1 LITRE 2-VIALS (40 ML)
	TMW-3		X				RCRA METALS PCBS-8080	
	TMW-4 METALS FILTERED		X				RCRA METALS	1-1 LITRE
	TMW-4 METALS UNFILTERED		X				RCRA METALS	1-1 LITRE
	TMW-4		X				PCB's-8080 VOC's 8260 PAH's-8270	2-40 ML VIAL 2-1 LITRE
	TMW-6	X	X				PCB's-8080 RCRA METALS	2-1 LITRE

Chain-of-Custody Record

Bottles Relinquished from Lab by	Date/Time	Sample Relinquished by	Date/Time
Bottles Received in Field by	Date/Time	Sample Relinquished by	Date/Time

Sample Received by: R. Van Dessen — Date/Time: 2/22/02 12:55

Sample Received in LAB by: [illegible] — Date/Time: 2/22/02

Comments/Special Instructions

Turn-Around Time

___ Standard X RUSH(define) BY 2/27/02

ATTACHMENT D

Health and Safety Plan

HEALTH AND SAFETY PLAN

FOR SITE REMEDIATION

PREPARED FOR THE

"BEACON SALVAGE" SITE
RED FLYNN DRIVE
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK

Date of Preparation: February 15, 2002

ECOSYSTEMS STRATEGIES, INC.
60 WORRALL AVENUE
POUGHKEEPSIE, NEW YORK 12603
(845) 452-1658

ESI File Number: SB2096.40

TABLE OF CONTENTS

1.0 INTRODUCTION 1
- 1.1 Purpose
- 1.2 Site Location and Description
- 1.3 Work Activities

2.0 HEALTH AND SAFETY HAZARDS 3

3.0 PERSONAL PROTECTIVE EQUIPMENT 3

4.0 CONTAMINANT CONTROL 4

5.0 MONITORING AND ACTION LEVELS 4

6.0 SITE ACCESS AND CONTROL 5

7.0 PERSONNEL TRAINING 5

8.0 DECONTAMINATION 6

9.0 EMERGENCY RESPONSE 6
- 9.1 Notification of Site Emergencies
- 9.2 Responsibilities
- 9.3 Accidents and Injuries
- 9.4 Communication
- 9.5 Safe Refuge
- 9.6 Site Security and Control
- 9.7 Emergency Evacuation
- 9.8 Resuming Work
- 9.9 Fire Fighting Procedures
- 9.10 Emergency Decontamination Procedure
- 9.11 Emergency Equipment

10.0 SPECIAL PRECAUTIONS AND PROCEDURES 9
- 10.1 Heat/Cold Stress
- 10.2 Heavy Equipment
- 10.3 Additional Safety Practices
- 10.4 Daily Log Contents

11.0 TABLES AND FIGURES 11

Table 1 Emergency Response Telephone Numbers
Figure 1 Directions to Hospital / Maps

ATTACHMENTS

A *Maps*
- *Site Location Map*
- *Proposed Remediation Field Work Map*

1.0 INTRODUCTION

1.1 Purpose

This Health and Safety Plan (HASP) has been developed to provide the requirements and general procedures to be followed by Ecosystems Strategies, Inc. ("ESI") and designated subcontractors while performing site remediation at the Beacon Salvage Property located on Red Flynn Drive in the City of Beacon, Dutchess County, New York. Site Location and Proposed Field Work Maps are attached to this HASP.

This HASP describes the responsibilities, training requirements, protective equipment, and standard operating procedures to be utilized by all personnel while on the Site. This HASP incorporates by reference the applicable Occupational Safety and Health Administration (OSHA) requirements in 29 CFR 1910 and 29 CFR 1926.

The requirements and guidelines in this HASP are based on a review of available information and evaluation of potential on-site hazards. This HASP will be discussed with Site personnel and will be available on-site for review while work is underway. On-site personnel will report to the Site Safety and Health Officer ("SSHO") in matters of health and safety. The on-site project supervisor(s) are responsible for enforcement and implementation of this HASP.

This HASP is specifically intended for the conduct of activities within the defined scope of work in specified areas of the Site. Changes in site conditions and future actions that may be conducted at this site may necessitate the modification of the requirements of the HASP. Although this HASP can be made available to interested persons for informational purposes, ESI has no responsibility over the interpretations or activities of any other persons or entities other than employees of ESI and designated subcontractors to ESI.

1.2 Site Location and Description

The Beacon Salvage property is defined as the approximately 4.2-acre lot located at the westernmost end of Red Flynn Drive where the property has approximately 170 feet of frontage. This property extends approximately 1,100 feet westwards from Red Flynn Drive and includes lands located under the waters of the Hudson River, which also adjoins the property to the west. The Site is comprised of a single tax lot (City of Beacon Tax Identification: 30-5954-32-48835). A Site Location Map and a Field Work Map are provided in Attachment A of the Workplan.

The Site is an elongated, irregularly-shaped lot which is occupied by a house located in the central portion of the property and a barn located on the central northeastern portion of the property. Located to the east of the on-site barn structure is an area which has historically been used for the storage and processing of scrap metal. This area of the property consists of open areas with scrub, trees, overgrown vegetation, and scattered debris. A Field Work Map is included as Attachment B of this HASP and illustrates the configuration of the Site, as well as the areas of proposed remedial activities (see Section 1.3, below).

1.3 Work Activities

Environmental investigation activities are detailed in the Draft Workplan for Site Remediation Activities ("Workplan") dated November 20, 2001. The specific tasks detailed in the Workplan are wholly incorporated by reference into this HASP. The Workplan was prepared in response to the Client's proposed involvement in the New York State Department of Environmental Conservation's (NYSDEC's) Voluntary Cleanup Program. The tasks described in the Workplan are proposed to address the presence of poly-chlorinated biphenyls (PCBs) in on-site surface soils located on the eastern portion of the property. This contamination is believed to have originated from the historical usage of the property as a metal processing facility. It is estimated that between 400 to 600 cubic yards of soil containing PCBs at levels requiring remediation are present. Site groundwater has not been found to have any detectable concentrations of PCBs. Soils located in the eastern portion of the Site, as well as the western portion of the Site, have been found to contain elevated concentrations of lead; soils in the central portion of the Site do not contain elevated metals.

Proposed future use of the Site is undetermined at this time but is anticipated to include passive recreation, as well as commercial or residential. Remediation will be completed as if the entire Site will be used for the most restrictive use (residential).

Based on these known conditions, the following remedial activities are proposed in the Workplan:

- Excavate PCB-contaminated soil on the eastern portion of the property in the vicinity of the metal processing/ "burn areas" and where miscellaneous debris has been stored for several years;

- Placement of a barrier layer consisting of two feet of clean fill (or engineering equivalent) on all portions of the Site where elevated lead is present, excluding that part of the property subject to PCB-contaminated soil removal.

- Collection of confirmatory soil and groundwater samples; and

- Restoration of the Site to original grade via the use of on-site soils not impacted by PCB or metals contamination or certified clean fill.

2.0 HEALTH AND SAFETY HAZARDS

The potential exists for the presence of elevated levels of PCBs and RCRA metals (specifically arsenic and lead) in on-site soils. During site remedial work (i.e., soil removal, fill placement, site grading, soil and groundwater sampling) the possibility exists for personal contact with identified contaminated soils and vapor. The compounds may be released at levels which may present a skin contact hazard and an inhalation or ingestion hazard. Exposure to elevated concentrations of these compounds in water which will be encountered during the construction of the tidal marsh is not anticipated.

Working in the vicinity of heavy equipment is the primary safety hazard at the Site. Physical hazards in working near heavy construction equipment include the following: overhead hazards, slips/trip/falls, hand and foot injuries, moving part hazards, improper lifting/back injuries, and noise.

3.0 PERSONAL PROTECTIVE EQUIPMENT

The levels of protection identified for the services specified in the Workplan represent a best estimate of exposure potential and protective equipment needed for that exposure. Determination of levels was based on data provided by previous studies of the Site and information reviewed on current and past Site usage. The SSHO may recommend revisions to these levels based on an assessment of actual exposures.

The level of protective clothing and equipment selected for this project is Level D. Workers will wear Level D protective clothing including, but not limited to, a hard hat, steel-toed boots, latex gloves (when handling soils and/or groundwater), and safety goggles (when decontaminating equipment). Personal protective equipment (PPE) will be worn at all times, as designated by this HASP.

The need for an upgrade in PPE will be determined based upon measurements taken in the breathing zone of the work area using a photo-ionization detector (PID). As outlined in Section 5.0, below, an upgrade to a higher level of protection will begin when PID readings and/or dust levels above specified limits are measured.

If any equipment fails and/or any employee experiences a failure or other alteration of their protective equipment that may affect its protective ability, that person will immediately leave the work area. The Project Manager and the SSHO will be notified and, after reviewing the situation, determine the effect of the failure on the continuation of on-going operations. If the failure affects the safety of personnel, the work site, or the surrounding environment, personnel will be evacuated until appropriate corrective actions have been taken.

4.0 CONTAMINANT CONTROL

Precautions will be taken during dry weather (e.g., wetting or covering exposed soils) to avoid breathing dust-generated from soils. A PID and a P-5 Digital Dust Indicator or equivalent equipment will be used to monitor potential contaminant levels. Response to the monitoring will be in accordance with the action levels provided in Section 5.0.

With regard to physical hazards, all personnel will maintain a safe distance from construction equipment in order to not interfere with their operation. Those personnel not involved directly with observation and supervision of site remediation activities involving heavy equipment will stand at a safe distance from all such equipment. All personnel will be familiar with the location and operation of the kill switch on utilized equipment. Precautions will be taken in lifting any heavy equipment. Additionally, hearing protection will be utilized during any operations generating excessive noise levels.

5.0 MONITORING AND ACTION LEVELS

Concentrations of metals, petroleum hydrocarbons, and PCBs in the air are expected to be below the OSHA PELs. A Community Air Monitoring Plan (provided as an attachment to the Workplan) will be implemented for all field work. Monitoring will be conducted at all times that construction activities which are likely to generate emissions are occurring.

Continuous particulate monitoring will be performed at the upwind (background) and downwind perimeters of the exclusion zone during all soil excavation activities using real-time monitoring equipment. Downwind particulate levels 100 μcg/m^3 greater than background will necessitate the implementation of dust suppression techniques. Work will continue so long as the dust suppression measures and other controls maintain the downwind particulate concentration to within 150 μcg/m^3 of background. If downwind particulate levels are greater than 150 μcg/m^3 above background, work will be stopped and an assessment will be made as to the need to initiate personnel monitoring and/or increase worker protective measures. Dust readings that consistently exceed background in the breathing zone (during any of the proposed tasks) will necessitate moving away from the source or implementing a higher PPE level.

Monitoring for VOCs will occur periodically at the downwind perimeter of the work area. Recorded PID readings consistently in excess of 5 ppm will be considered evidence of unacceptable air emissions, and proper procedures to reduce emissions will be instituted. PID readings in excess of 25 ppm above background will necessitate ceasing work and the implementation of monitoring at the nearest residential or commercial structure.

6.0 SITE ACCESS AND CONTROL

Site control procedures will be established to reduce the possibility of worker contact with compounds present in the soil, to protect the public in the area surrounding the Site and to limit access to the Site to only those persons required to be in the work zone. Measures (e.g., placement of traffic cones and warning tape) will be taken to limit the entry of unauthorized personnel into the specific areas of field activity.

7.0 PERSONNEL TRAINING

Work zones that will accomplish the general objective stated above will be established by the Project Manager and the SSHO. Site access will be monitored by the SSHO, who will maintain a log-in sheet for personnel that will include, at the minimum, personnel on the Site, their arrival and departure times, and their destination on the Site. Personnel exiting the work zone(s) will be decontaminated prior to exit. The SSHO will establish a decontamination system and decontamination procedures appropriate to the Site and the work that will prevent potentially hazardous materials from leaving the Site (see Section 8.0).

Site-specific training will be provided to each employee. Personnel will be briefed by the SSHO as to the potential hazards to be encountered. Topics will include:

- Availability of this HASP;
- General site hazards and specific hazards in the work areas, including those attributable to the chemicals present;
- Selection, use, testing, and care of the body, eye, hand, and foot protection being worn, with the limitations of each;
- Decontamination procedures for personnel, their personal protective equipment, and other equipment used on the Site;
- Emergency response procedures and requirements;
- Emergency alarm systems and other forms of notification, and evacuation routes to be followed; and
- Methods to obtain emergency assistance and medical attention.

8.0 DECONTAMINATION

Decontamination procedures for sampling equipment will consist of the following in sequence: a soapy water rinse, a de-ionized water rinse, a nitric acid rinse (10% solution), a de-ionized water rinse, a methanol rise, a de-ionized water rinse, and air drying. Decontamination will take place in 5-gallon buckets placed 6 mil plastic and wastewater generated during this process will be discharged on the site. Decontaminated or clean sampling equipment not in use will be covered with plastic and stored in a designated storage area in the work zone.

Trucks will be brushed to remove materials adhering to the surfaces. Trucks transporting contaminated materials will have covered, leak-proof boxes. A determination as to final truck transportation routes, as well as schedules, will be established subsequent to the finalizing of site development plans and the selection of a disposal facility. Truck transportation routes and schedules will be submitted to the NYSDEC prior to their utilization.

9.0 EMERGENCY RESPONSE

9.1 Notification of Site Emergencies

In the event of an emergency, the SSHO will be immediately notified of the nature and extent of the emergency.

Table 1 in this HASP contains Emergency Response Telephone Numbers, and immediately following is a map detailing the directions to the nearest hospital. This information will be maintained at the work Site by the SSHO. The location of the nearest telephone will be determined prior to the initiation of on-site activities. In addition to any permanent phone lines, a cellular phone will be available for use on-site.

9.2 Responsibilities

The SSHO who is responsible for responding to emergencies and prior to the initiation of on-site work activities will:

1. Notify individuals, authorities, and/or health care facilities of the potentially hazardous activities and potential wastes that may develop as a result of the investigation;
2. Confirm that the following safety equipment is available: first aid supplies and a fire extinguisher;
3. Have a working knowledge of safety equipment available; and

4. Confirm that a map detailing the most direct route to the hospital is prominently posted with the emergency telephone numbers.

The SSHO will be responsible for directing notification, response, and follow-up actions and for contacting outside response personnel (ambulance, fire department, or others). In the case of an evacuation, the SSHO will account for personnel. A log of individuals entering and leaving the Site will be kept so that everyone can be accounted for in an emergency.

Upon notification of an exposure incident, the SSHO will contact the appropriate emergency response personnel for recommended medical diagnosis and, if necessary, treatment. The SSHO will determine whether and at what levels exposure actually occurred, the cause of such exposure, and the means to prevent similar incidents from occurring.

9.3 Accidents and Injuries

In the event of an accident or injury, measures will be taken to assist those who have been injured or exposed and to protect others from hazards. If an individual is transported to a hospital or doctor, a copy of the HASP will accompany the individual.

The SSHO will be notified and will respond according to the severity of the incident. The SSHO will perform an investigation of the incident and prepare a signed and dated report documenting the investigation. An exposure-incident report will also be completed by the SSHO and the exposed individual. The form will be filed with the employee's medical and safety records to serve as documentation of the incident and the actions taken.

9.4 Communication

No special hand signals will be utilized within the work zone. Field personnel will utilize standard hand signals during the operation of heavy equipment.

9.5 Safe Refuge

Vehicles and on-site structures will serve as the immediate place of refuge in the event of an emergency. If evacuation from the area is necessary, project vehicles will be used to transport on-site personnel to safety.

9.6 Site Security and Control

Site security and control during emergencies, accidents, and incidents will be monitored by the SSHO. The SSHO is responsible for limiting access to the Site to authorized personnel and for oversight of reaction activities.

9.7 Emergency Evacuation

In case of an emergency, personnel will evacuate to the safe refuge identified by the SSHO, both for their personal safety and to prevent the hampering of response/rescue efforts. The main entrance to the subject property is via an unrestricted road onto Ferry Street.

9.8 Resuming Work

A determination that it is safe to return to work will be made by the SSHO and/or any personnel assisting in the emergency, e.g., fire department, police department, utility company, etc. No personnel will be allowed to return to the work areas until a full determination has ben made by the above-identified personnel that all field activities can continue unobstructed. Such a determination will depend upon the nature of the emergency (e.g., downed power lines -- removal of all lines from the property; fire -- extinguished fire; injury -- safe transport of the injured party to a medical facility with either assurance of acceptable medical care present or completion of medical care; etc.).

Before on-site work is resumed following an emergency, necessary emergency equipment will be recharged, refilled, or replaced. Government agencies will be notified as appropriate. An Incident Report Form will be filed.

9.9 Fire Fighting Procedures

A fire extinguisher will be available in the work zone during on-site activities. This extinguisher is intended for small fires. When a fire cannot be controlled with the extinguisher, the area will be evacuated immediately. The SSHO will be responsible for directing notification, response, and follow-up actions and for contacting ambulance and fire department personnel.

9.10 Emergency Decontamination Procedure

The extent of emergency decontamination depends on the severity of the injury or illness and the nature of the contamination. Whenever possible, minimum decontamination will consist of washing, rinsing, and/or removal of contaminated outer clothing and equipment. If time does not permit decontamination, the person will be given first aid treatment and then wrapped in plastic or a blanket prior to transport to medical care.

9.11 Emergency Equipment

The following on-site equipment for safety and emergency response will be maintained in the on-site vehicle of the SSHO:

1. fire extinguisher;
2. first aid kit; and
3. extra copy of this Health and Safety Plan.

10.0 SPECIAL PRECAUTIONS AND PROCEDURES

The activities associated with this investigation may involve potential risks of exposure to both chemical and physical hazards. The potential for chemical exposure to hazardous or regulated substances will be significantly reduced through the use of monitoring, personal protective clothing, engineering controls, and implementation of safe work practices.

10.1 Heat/Cold Stress

Training in prevention of heat/cold stress will be provided as part of the site-specific training. The timing of this project is such that heat/cold stress may pose a threat to the health and safety of personnel. Work/rest regimens will be employed, as necessary, so that personnel do not suffer adverse effects from heat/cold stress. Special clothing and appropriate diet and fluid intake regimens will be recommended to personnel to further reduce this temperature-related hazard. Rest periods will be recommended in the event of high/low temperatures and/or humidity to counter the negative effects of heat/cold stress.

10.2 Heavy Equipment

Precautions will be taken when standing near or working adjacent to any heavy equipment.

10.3 Additional Safety Practices

The following are important safety precautions which will be enforced during this investigation:

1. Medicine and alcohol can aggravate the effect of exposure to certain compounds. Controlled substances and alcoholic beverages will not be consumed during investigation activities. Consumption of prescribed drugs will only be at the discretion of a physician familiar with the person's work.

2. Eating, drinking, chewing gum or tobacco, smoking, or other practices that increase the probability of hand-to-mouth transfer and ingestion of material is prohibited except in areas designated by the SSHO.

3. Contact with potentially contaminated surfaces will be avoided whenever possible. Workers will not unnecessarily walk through puddles, mud, or other discolored surfaces; kneel on the ground; or lean, sit, or place equipment on drums, containers, vehicles, or the ground.

4. Personnel and equipment in the work areas will be minimized, consistent with effective site operations.

5. Unsafe equipment left unattended will be identified by a "DANGER, DO NOT OPERATE" tag.

6. Work areas for various operational activities will be established.

10.4 Daily Log Contents

The SSHO will establish a system appropriate to the Site, the work, and the work zones that will record, at a minimum, the following information:

1. Personnel on the Site, their arrival and departure times, and their destination on the Site.

2. Incidents and unusual activities that occur on the Site such as, but not limited to, accidents, spills, breaches of security, injuries, equipment failures, and weather-related problems.

3. Changes to the HASP.

4. Daily information generated such as: changes to work and health and safety plans; work accomplished and the current Site status; and monitoring results.

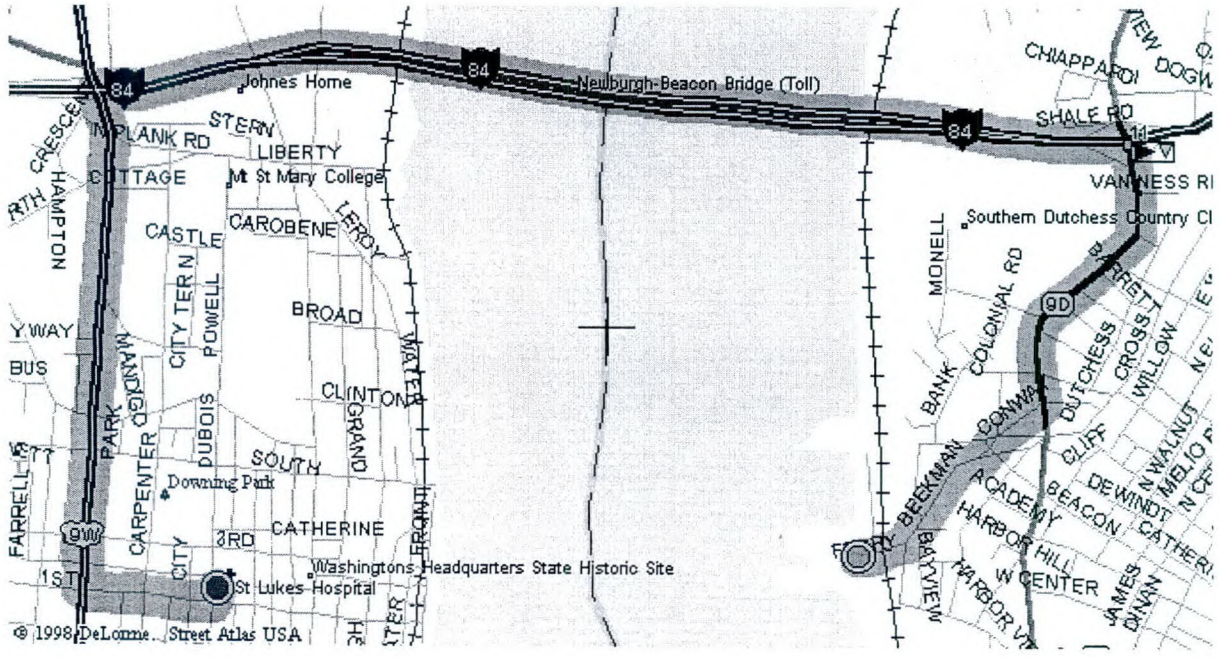
11.0 TABLES AND FIGURES

Table 1: Emergency Response Telephone Numbers

Emergency Agencies	Phone Numbers
EMERGENCY	**911**
St. Luke's Hospital 70 Dubois Street, Newburgh	**(845) 568-2305 - Emergency Room** (845) 561-4400 - Main Information
Beacon Police Department	(845) 831-4111 or 911
Beacon Fire Department	(845) 831-2121 or 911
City Hall	(845) 838-5000
City Mayor	(845) 838-5010
Water and Sewer	(845) 831-3136

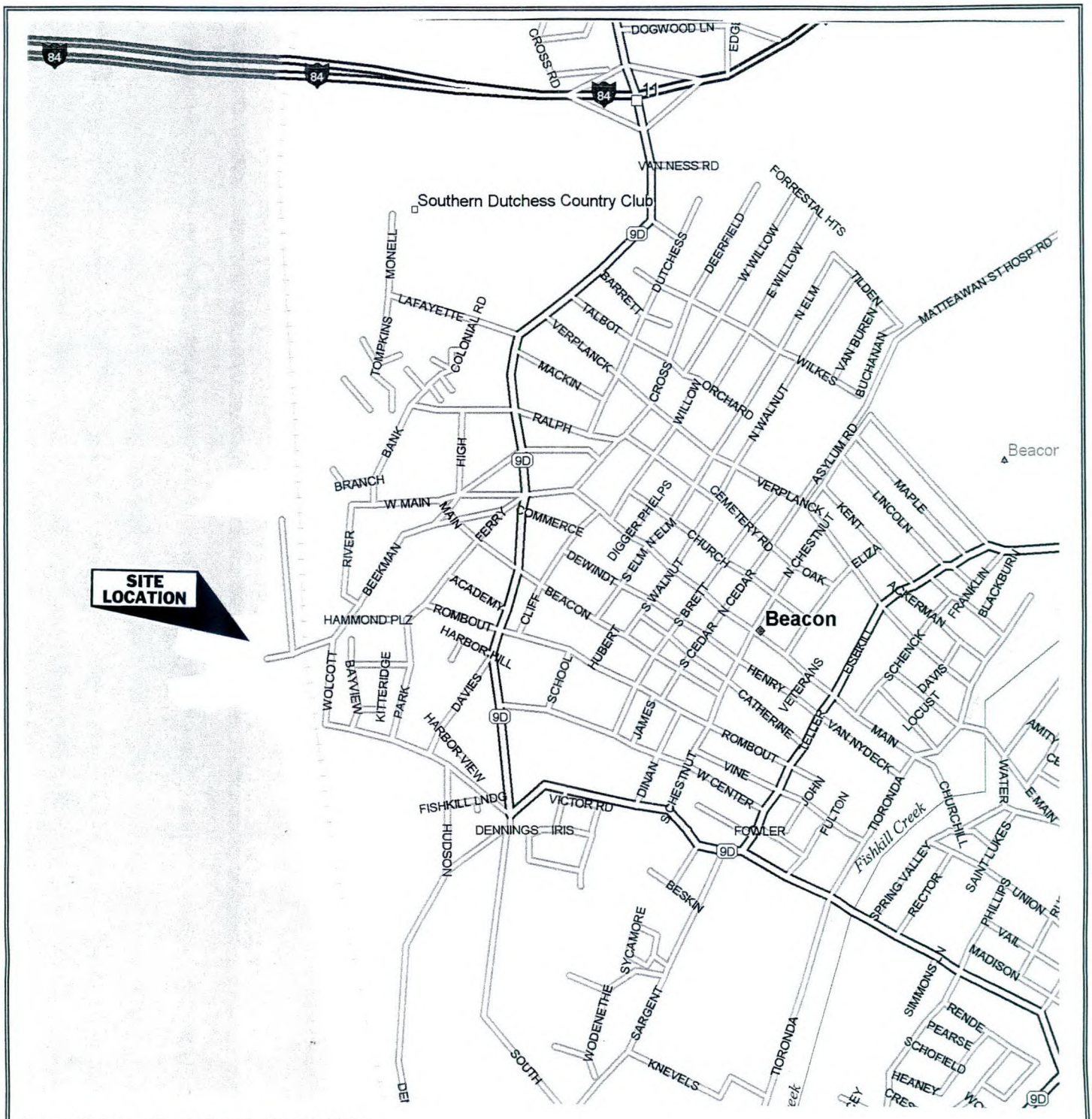
Figure 1: Directions to St. Luke's Hospital

South to Ferry Street; left on Ferry for one block to Beekman Street; left on Beekman and continue to NYS Route 9D; left on 9D to Interstate 84; West on I-84, over Beacon-Newburgh Bridge to US Route 9W; left on 9W and south to First Street (11 blocks); left on First Street and continue five blocks to Dubois Street.



ATTACHMENT A

Maps



Source: DeLorme Street Atlas, Version 6.0 (`1988)

Site Location Map

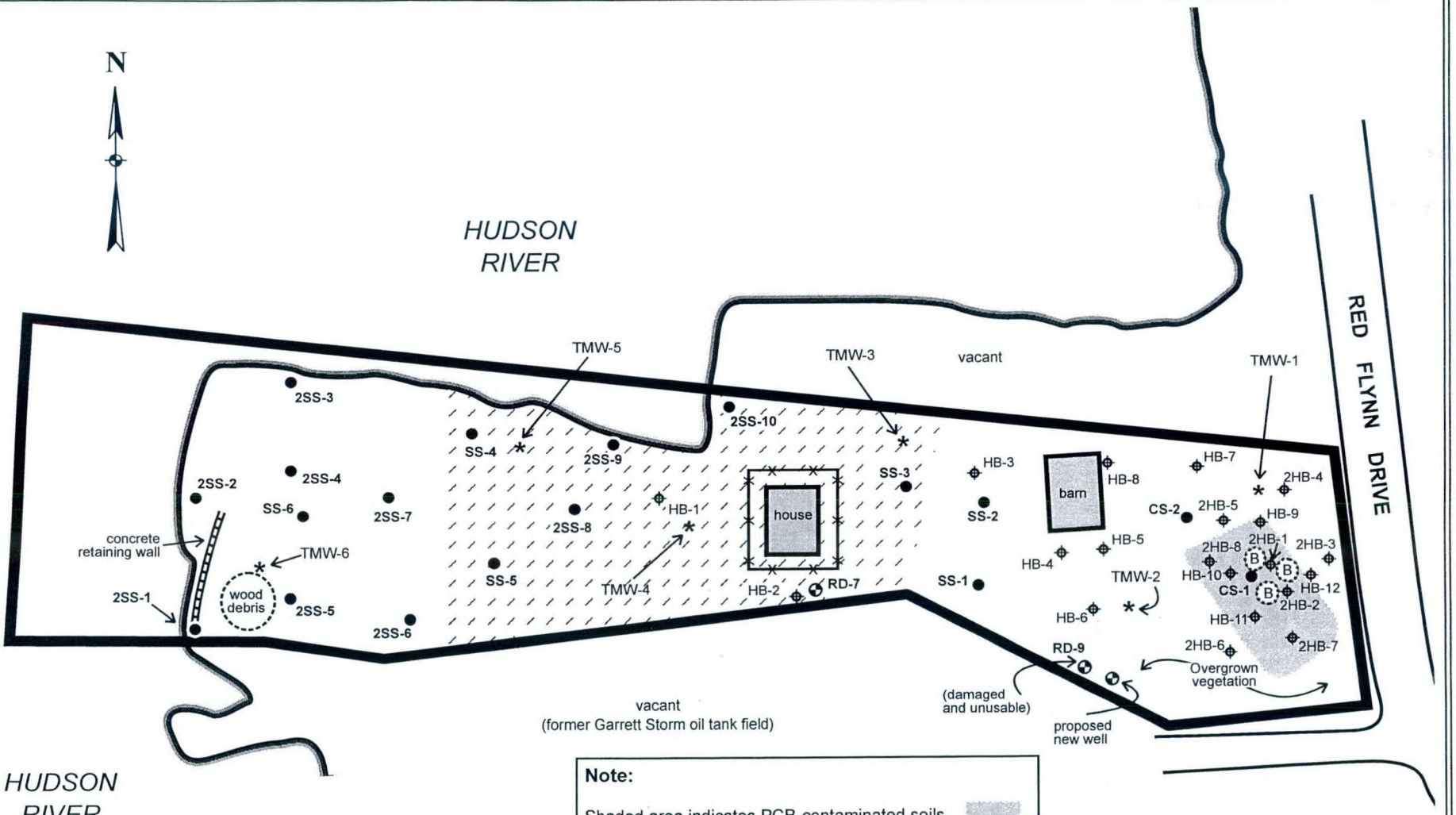
"Beacon Salvage"
Red Flynn Drive
City of Beacon, Dutchess County, New York

N

ESI File: SB2096.40

Date: February 2002

Attachment A



Note:

Shaded area indicates PCB-contaminated soils proposed for excavation.

Entire subject property to receive an 18 inch clean fill barrier layer, except hatched portion where total lead levels are less than 400 ppm and no cap is proposed.

Feature locations are approximate.

Proposed Remediation Field Work Map

"Beacon Salvage"
Red Flynn Drive
City of Beacon
Dutchess County, New York

Legend:

- subject property border
- former hand boring location/samples taken 6/30/00 HB-2
- former hand boring location/samples taken 8/15/00 2HB-2
- surface soil SS-1
- monitoring well RD-1
- Burn spot (B)
- Temporary groundwater sampling point *
- composite sample CS-1

ESI File: SB2096.40
February 2002
Scale: 1" = 100' (approximately)
Attachment A

ATTACHMENT E

Engineering Evaluation

ENGINEERING EVALUATION

FOR THE

SITE CLOSURE ACTIVITIES
ON THE
"BEACON SALVAGE" PROPERTY

LOCATED AT

RED FLYNN DRIVE
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK

February 2002

Prepared by

DEWKETT ENGINEERING, P.C.
187 EAST MARKET STREET
RHINEBECK, NEW YORK 12572-1727
(845) 876-5250



Jefferson Akins, P.E.
Project Engineer

TABLE OF CONTENTS

Section #	Description	Page No.
1.0	Introduction	1
1.1	Site History	1
2.0	Proposed Future Site Re-use	1
2.1	Subsurface Environment	1
3.0	Proposed Environmental Remediation	1
3.1	Proposed Operation and Maintenance	1
4.0	Evaluation of Environmental Remediation	2
4.1	Protection of Human Health and the Environment	2
4.2	Standards, Criteria & Guidance	2
4.3	Short-term Effectiveness and Impacts	2
4.4	Long-term Effectiveness and Performance	3
4.5	Reduction of Toxicity, Mobility or Volume	3
4.6	Implementability	3
4.7	Cost	3
4.8	Community Acceptance	3
5.0	Conclusion	4

1.0 INTRODUCTION

This Engineering Evaluation is provided for the subject parcel as part of the voluntary clean-up agreement proposed to New York State as defined in the February 2002 Workplan prepared by Ecosystems Strategies Inc. (ESI) and Dewkett Engineering, P.C. This report identifies the contamination present at the "Beacon Salvage" property located at Red Flynn Drive, City of Beacon, Dutchess County, New York and demonstrates the remedy proposed for the agreement. The remedy is critiqued according to 6 NYCRR Part 375-1.10(c) factors, these being elaborated upon in Section 4.0 of this evaluation.

1.1 Site History

The Site is an elongated, irregularly-shaped lot which is occupied by a house located in the central portion of the property and a barn located on the central northeaster portion of the property. Located to the east of the on-site barn structure is an area which has historically been used for the storage and processing of scrap metal. This area of the property consists of open areas with scrub, trees, and overgrown vegetation.

2.0 PROPOSED FUTURE SITE RE-USE

Proposed future use of the Site is undetermined at this time but is anticipated to include passive recreation, as well as commercial or residential uses. Remediation will be completed as if the entire Site will be used for the most restrictive use (residential).

3.0 PROPOSED ENVIRONMENTAL REMEDIATION

As described in the Workplan, two contaminants are present on the Site at levels warranting remediation:

- Lead is present at levels exceeding the action level of 400 ppm in on-site surface soils in the western and eastern portions of the site; soils in the central portion of the site do not contain elevated metals.
- PCBs are present at levels exceeding action levels in a defined area located east of the on-site barn.

The Workplan details a proposed remedial plan which includes the proper excavation and off-site disposition of PCB contaminated soils and the importation of a soil cover (or equivalent) to overlay the lead-contaminated soils.

3.1 Proposed Operation and Maintenance

No active maintenance programs are proposed. Institutional controls to ensure the long term integrity of the barrier layer(s) will be implemented and certified annually by a Professional Engineer licensed in New York.

4.0 EVALUATION OF ENVIRONMENTAL REMEDIATION

Factors listed in 6 NYCRR Part 375-1.10(c) are used qualify the remedial measures proposed. The proposed remedy addresses the factors noted in 375-1.10 (c) as discussed below:

4.1 Protection of Human Health and the Environment

The proposed remedy is protective of both human health and the environment by removing the contaminants of concern (PCBs) or providing a sufficient cover on top of lead containing soils to minimize the likelihood of direct human contact. Impacts to groundwater are not likely as lead is relatively immobile, and groundwater data support the conclusion that the existing lead levels on the site have not impacted groundwater to date.

All excavations performed during the site development (i.e. - foundation construction, utility trenching, etc.) shall be monitored using a photoionization detector (PID) in order to note the presence of any vaporous volatile organic compounds. Action levels and contingency measures will have been defined within the HASP.

This site is served by public water supply therefore exposure to groundwater contact for the areas of concern is effectively precluded. Central sanitary services are also provided by the municipality therefore any exposure to subgrade contamination is greatly reduced if not wholly improbable.

4.2 Standards, Criteria & Guidance

Site investigations to date have determined PCBs and lead to be the primary contaminants of the site. Action levels for these contaminants are defined in the Workplan.

The proposed remedial actions will result in SCGs being attained for PCBs in soils.

4.3 Short-term Effectiveness and Impacts

Monitoring of all excavations for vaporous compounds in worker air space shall prevent hazardous work environments. Also the handling time for any contaminated soils shall be minimized to the greatest extent practicable. Additionally the Community Air Monitoring Program will provide assurance that the environmental local to the site is not impacted during or after construction. These construction monitoring measures are somewhat common practices for protection of human health.

4.4 Long-term Effectiveness and Performance

The excavation and disposal of the PCB contaminated soil shall effectively remove this contaminant source and the proposed capping system shall isolate any metals contaminated soils from human and ecological contact. PCB contaminated soils will be removed by a licensed hauler and delivered to a permitted treatment facility with appropriate waste handling and tracking forms maintained. Given groundwater data to date, it is highly unlikely that any contamination will migrate or pose a threat to the human community or environmental. The site is served with centralized utilities and exposure due to migrating residual contaminant in the groundwater appears highly unlikely. In this method, the remedy is considered to be permanent with institutional controls put in place to ensure that contact with soils beneath the cap is not made.

4.5 Reduction of Toxicity, Mobility or Volume

The proposed remedial scope of work entails the removal of approximately 400 – 600 cubic yards of surface soils containing elevated levels of PCBs and the placement of a clean fill cap to prevent exposure to surface soils containing elevated metals concentrations. The toxicity and mobility of the remaining materials (i.e. elevated metals in surface and subsurface soils and PCBs in subsurface soils) will not be altered by the proposed remediation. The mobility of both lead and PCBs is minimal and groundwater data support the conclusion that the existing lead and PCB levels on the site have not impacted groundwater.

4.6 Implementability

Similar PCB contaminated soil removal and the soil cap installation programs have been utilized multiple times at similar sites with favorable results. No impediments to the implementation of these two remedial actions appear to exist.

4.7 Cost

Costs associated with the removal and disposal of the limited quantity of PCB contaminated soil are relatively small as compared with other technologies. Likewise the importation of a soil cover was determined to be more cost effective than the alternative of soil excavation; additionally, this option does not necessitate the exposure of contaminated soils as excavation/disposal would.

4.8 Community Acceptance

No major issues of public concern have surfaced through the course of the project to date.

5.0 CONCLUSION

The mitigative measures proposed in the Workplan appear well suited to the site conditions and contaminants present. The approach is quite simple and straight forward which leads to a high anticipated success rate in attaining the remedial action objectives in a cost-effective and efficient manner.

ATTACHMENT F

Community Air Monitoring Plan

Community Air Monitoring Plan

Real-time air monitoring for particulate levels and volatile organic compounds (VOCs) at the perimeter of the exclusion zone or work area will be necessary for the proposed scope of services. This Community Air Monitoring Plan includes protocols for VOC and particulate monitoring and appropriate response actions.

Particulate Monitoring, Response Levels, and Actions

The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities. All readings must be recorded and be available for State (DEC and DOH) personnel to review.

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the immediate work area (i.e., the exclusion zone) at temporary particulate monitoring stations.

If the downwind PM-10 particulate level is 100 micrograms per cubic meter ($\mu g/m^3$) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 100 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 100 $\mu g/m^3$ above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 100 $\mu g/m^3$ of the upwind level and in preventing visible dust migration.

VOC Monitoring, Response Levels, and Actions

Monitoring should be performed using a photoioization detector or other equivalent equipment. Equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. All readings must be recorded and be available for State (DEC and DOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

VOCs must be monitored at the downwind perimeter of the immediate work area on a periodic basis. In the event that consistent ambient air concentration exceedences are recorded (see below), continuous monitoring will be implemented. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions.

If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases below 5 ppm over background, work activities can resume with continued monitoring.

If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background.

If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown. When work shutdown occurs, downwind air monitoring, as directed by the Safety Officer, will be implemented to ensure that vapor emission does not impact the nearest residential or commercial structure at levels exceeding 5 ppm over background.