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WORKPLAN

FOR SITE

REMEDIATION ACTIVITIES

"BEACON WATERFRONT" SITE

CITY OF BEACON

DUTCHESS COUNTY, NEW YORK

Date of Preparation: May 10, 1999

ECOSYSTEMS STRATEGIES, INC.
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ESI File Number: SG96152.50

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Prepared By:

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Poughkeepsie, NY 12601

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

Any and all questions or comments, including requests for additional information, should be submitted to the undersigned.

Paul H. Ciminello
President

WORKPLAN FOR SITE REMEDIATION ACTIVITIES ON THE PROPERTY KNOWN AS THE "BEACON WATERFRONT" SITE LOCATED IN THE CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

Executive Summary

This Workplan details proposed remedial services to address known soil and groundwater contamination on the "Beacon Waterfront" Site located at the west end of Ferry Street in the City of Beacon, Dutchess County, New York. This Site has been the subject of a NYSDEC approved groundwater investigation and is the location of one "Active" NYSDEC spill (NYSDEC Spill File Number: 9212560) and two "Closed" petroleum spills.

Remedial actions are proposed to excavate contaminated soil in the fuel distribution area (including encountered pipes and tanks) and either operate a mobile asphalt manufacturing system or dispose of properly (off-site), monitor levels of dissolved hydrocarbons in existing monitor wells and if warranted, install and operate a product removal system. Upon completion, a final summary Report will be prepared and submitted to the NYSDEC for review, and a determination to "Close" the spill file will be made by the NYSDEC.

Remedial services will be initiated in conjunction with site development.

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 Waterfront" Site 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 and the currently "Active" NYSDEC spill file will be properly "closed".

This Workplan is considered by this office to be a "Final" document and has been submitted to New York State Department of Environmental Conservation ("NYSDEC") for their review and acceptance. This document includes revisions made in response to specific comments made by the NYSDEC and by the NYS Department of Health.

1.2 Site Location and Description

The subject property is defined as the approximate 6.9-acre former Garret Storm, Inc. Major Oil Storage Facility (MOSF) located off of Ferry Road in the City of Beacon, Dutchess County, New York (see the Site Location Map, Attachment A). The subject property is comprised of a single tax lot (City of Beacon Tax Identification: Map 5954, Block 32, Lot 481822).

The subject property is an irregularly-shaped parcel which is located off of Ferry Street between the Consolidated Railroad Corp. right of way (ROW) and the Hudson River; a portion of the subject property (approximately 2.4 acres) extends into the Hudson River. The subject property is a former major oil storage facility that ceased operation in 1992; all of the on-site aboveground tanks were removed by July 1994. The subject property contains the remnants of this previous usage, including tank cradles and a pump house. The western portion of the subject property is currently used as a marina for the Dutchess Boat Club; a one-story clubhouse and a shed are located on the peninsula.

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). There is a gradual upwards slope towards the Ferry Street Bridge. Groundwater is known to be influenced by tides, with the direction of groundwater flow to be to the southwest at times of falling tides and to the northeast at times of rising tides.

1.3 Known Environmental Conditions of Concern

The Site has been the subject of several environmental investigations which have, in the opinion of the NYSDEC and this office, accurately and comprehensively documented on-site environmental conditions. Data are summarized in Attachment B of this Workplan from investigations conducted from 1989 to 1998. Both soil and groundwater samples were analyzed to document site conditions. Soil data from 1989 (see Attachment B, Table 1) document the absence of elevated metals in both surface and subsurface soils. With the exception of elevated lead in one surface sample and slightly elevated mercury in most soil samples, metals were within levels considered to be naturally occurring. In addition, groundwater collected in 1989 (see Attachment B, Table 2) documented the absence of volatile organic compounds. Groundwater data generated in 1989 also documented the absence of PCBs.

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

1. *Presence of Petroleum Hydrocarbons in Localized On-Site Soils*

- Surface and Subgrade soils in the former fuel distribution area are known to contain concentrations of semi-volatile petroleum hydrocarbons, resulting from former on-site fuel storage and handling activities. Test pits and borings extended on the Site document the presence of petroleum contaminated soils in the vicinity of the former fuel distribution area, with olfactory and visual evidence of contamination decreasing in soils to the south, east and west (see Detail Map of Proposed Remediation, Attachment A). In total, an estimated footprint of 5,000 square feet in the former distribution area is likely to contain significantly elevated hydrocarbon contamination.

2. *Presence of Dissolved Petroleum Hydrocarbons in On-site Groundwater.*

- Groundwater on the Site, as documented by 1994 and 1997 data, contained low levels of dissolved semi-volatile petroleum hydrocarbons at the two monitoring wells located in the fuel distribution area (wells RD-2 and RD-6). Data from 1994 groundwater sampling documented that water quality standards were exceeded for three hydrocarbons at RD-2: naphthalene (120 μg/l), 1-methyl naphthalene (380 μg/l) and 2-methyl naphthalene (480 μg/l). At RD-6, 2-methyl naphthalene was documented at 120 μg/l). Groundwater samples analyzed in January 1997 documented the presence of 1-methyl naphthalene in RD-2 at 10 μg/l and at RD-6 at 5 μg/l.

  The source of these dissolved hydrocarbons is considered by this office and the NYSDEC to be the contaminated soil in the former fuel distribution area. The proposed excavation of hydrocarbon-contaminated soils (see Section 2.0, below) will reduce the likelihood of dissolved hydrocarbons remaining in on-site groundwater.

3. *Possible Presence of Undissolved Petroleum on Shallow Groundwater.*

- Petroleum sheens were noted in on-site wells in November 1994 and petroleum odors from purgewater were noted during field work in January 1997. No periodic monitoring of petroleum sheens has been conducted to document temporal variations in sheens.

  The source of documented sheens is considered by this office and the NYSDEC to be petroleum contaminated soils which are present on the Site. The removal of this contaminated soil will reduce the likelihood of future sheening on groundwater.

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. All work proposed herein will be conducted according to a Health and Safety Plan, to be prepared prior to the initiation of fieldwork. All proposed work will be performed in "Level D" personal protective equipment; however, field personnel (including subcontractors) will be prepared to continue services wearing protective levels of equipment, should field conditions warrant.

For the purpose of the work detailed in these specifications, a qualified environmental consultant will be retained to provide the specified services; this individual or firm is hereafter referred to as the On-Site Coordinator ("OSC"). For the purpose of the work detailed in these specifications, the "Owner" is defined as Scenic Hudson Land Trust, Inc. which will contract with the environmental consultant to provide the services detailed below.

2.1 Overview of Proposed Services

This section of the Workplan provides detailed information on three specific tasks to be conducted at the subject property:

1. Excavate soil in the vicinity of the former fuel distribution area and generate asphalt on-site using a mobile processing system or dispose of excavated soil in a properly permitted facility (Section 2.2.1, below);

2. Document the presence of post-excavation sheening on the shallow groundwater and install and operate, if warranted, a product-skimming system to remove floating product present (Section 2.2.2);

3. Conduct groundwater monitoring services to document hydrocarbon concentrations in on-site monitoring wells (Section 2.2.3)

2.2 Proposed Closure Services

It is the intent of the Owner to properly remediate on-site contaminated soil in a manner consistent with procedures and clean-up guidelines outlined in STARS Memo #1 (July 1993), including but not limited to soil clean-up guidance values. The following asphalt manufacturing process is considered to be the preferred alternative for site remediation. However, site conditions, remediation schedule and/or economic considerations may compel the Owner to remove the soil for off-site disposition. Off-site disposition will involve the use of properly licensed haulers and facilities.

2.2.1 Excavation and On-site Processing of Contaminated Soil in Former Fuel Distribution Area

The following activities will be conducted:

1. Surface material which will not be excavated will be removed and stockpiled or properly disposed of off-site. Anticipated materials for removal include:
   - fuel distribution building;
   - concrete cradles for former aboveground tanks within the fuel distribution area;
   - metal piping associated with fuel distribution present on the surface; and
   - well casing for monitor well identification RD-2 (casing may be re-used depending on condition).

   The fuel distribution building will be demolished and the debris disposed of as building demolition debris 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 2.4, below).

2. Excavation of soils in the former fuel distribution area will proceed 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 petroleum contaminated soil will be excavated for on-site asphalt processing. Excavation will extend to a depth determined in the field to be appropriate to remove soils with the most concentrated levels of hydrocarbons while providing acceptable raw materials for the manufacturing of asphalt.

3. If on-site soil processing will occur, excavated soil will be transported to an on-site screener (four inch openings) to remove large material unacceptable for asphalt processing. The screened out materials will be removed from the Site as non-hazardous fill, consistent with NYSDEC guidelines.

4. Remaining soil will be processed into asphalt using a cold mix process. A water suspended liquid emulsion will be introduced and the resulting "cold batch" asphalt will be stockpiled on-site or immediately applied, depending on the coordination of Site development with remedial actions. A NYSDEC approved company will be used to convert the contaminated soil to cold-mix asphalt according to the company specific Beneficial Use Determination (BUD) approval process.

5. In the event that on-site storage occurs, the generated asphalt 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 (at the same time as well as the well inspections detailed in Section 2.2.2, below) and replacement of the plastic will occur when appropriate.

6. Upon completion of excavation activities, soils proposed to remain on the Site will be sampled and analyzed for semi-volatile organic compounds (SVOCs) using USEPA Method 8270 (PAH fraction only). The total number of soil samples collected for analysis will depend on the volume of soil excavated; one sample for every 30 feet of wall and one sample for every 200 square feet of floor will be collected for laboratory analysis. At this time, it is anticipated that between six and twelve soil samples will be collected for analysis. A minimum of four soil samples will also be analyzed for VOCs (USEPA Method 8021) and RCRA metals.

2.2.2 Document the Presence of Post-Excavation Sheens on Groundwater

All groundwater monitoring wells, three (3) on-site and four (4) off-site; one on-site well is anticipated to be destroyed in the course of remediation) will be monitored on a bi-monthly basis (every two months) for the presence or absence of free product in accordance with the following procedures:

- All wells will be opened and PID readings will be recorded for each well head. A disposable bailer will be used for each well, to collect groundwater from the well, check for visual presence of product, and to place groundwater in a sample jar for PID jar headspace analysis. Notations will be made with respect to the presence or absence of petroleum odors, and a qualitative assessment of the magnitude of detected odors will be recorded. Headspace PID readings will be recorded in field notebooks.
- Sorbent pads which have been previously installed into each well will be removed and inspected for evidence of floating product.
- A monthly monitoring report will be prepared for the Owner summarizing Site conditions and will be submitted to the Owner and the NYSDEC.
- If excessive product accumulation is noted in any well, actions to physically remove measurable product will be taken. Manual bailing of product and on-site storage will be considered, as will mechanical removal via and oil/water separator.

At the time of soil excavation, the excavation area (that portion of the Site subject to soil removal in the vicinity of the former fuel distribution area) will be partially unfilled to form an observation pit. This pit will remain open for a maximum of 48 hours, after which it will be backfilled. The pit will be visually inspected to document the presence or absence of petroleum sheens in this pre-determined area of highest soil concentrations. Any product present will be physically removed with pads, booms or other appropriate sorbent materials. At the close of 48 hours, a determination will be made by the NYSDEC as to the need for a replacement observation well (or possibly a large diameter extraction well) at this location; such well, if warranted, will be installed.

2.2.3 Monitor Groundwater Quality

Groundwater monitoring will occur on a semi-annual basis. A first round of sampling will occur within 30 days of the completion of all site remediation work. The on-site and off-site wells sampled in the first round will be in accordance with the following procedure:

- Sampling will be conducted beginning at the *a priori* least contaminated well and proceed to the most contaminated well.
- The protective casing on the well will be unlocked.
- The air in the well head will be screened for explosive gas levels and organic vapors; measurements will be recorded in log sheets.

- The measurement of the water to the top of the well casing (not protective casing) will be determined to the nearest 0.01 foot.
- The well will be purged using a purging pump or a 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. 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.
- Using a dedicated, disposable bailer, groundwater samples from the well bill be collected (during sample collection, the bailer will not touch the ground or any object except for the well casing). The groundwater sample will be immediately transferred from the bailer to the appropriate sample containers. Sample jars will be labeled, stored on ice and the sample information recorded on field log sheets as well as the laboratory's Chain-of-Custody forms. After all wells have been sampled, the sample vials will be shipped via overnight deliver to the designated laboratory.

All collected samples will be submitted to a NYSDOH ELAP laboratory for analysis of volatile organic compounds using USEPA Method 8021 and for analysis of the semi-volatile petroleum hydrocarbon fraction of USEPA Method 8270 (see Attachment C for complete compound list to be analyzed). This analyte list will include the three compounds previously identified on the site: naphthalene, 1-methyl naphthalene and 2-methyl naphthalene. Laboratory data will be analyzed in a written report, submitted to the NYSDEC within 30 days of the receipt of data. Data from this initial sampling round will determine the need for and extent of additional groundwater sampling at this site, including the potential for no additional future sampling. Detectable concentrations of any analyte will be used to identify those compounds which require future monitoring. The frequency of sampling rounds and the particular analytes will be determined by the NYSDEC.

2.2.4 Site Restoration

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 petroleum contamination will be used for site regrading. In the event that soil importation is necessary, the OSC will secure only certified clean fill material.

2.3 On-site Construction Monitoring

Activities relating to the improvement of the Site prior to development of the Site will be monitored by a qualified environmental professional (herein referred to as the On-site Coordinator or "OSC") to ensure that unforeseen environmental conditions are managed in accordance with applicable federal and state environmental regulations. Activities which will be subject to monitoring include, but are not limited to:

- Excavation in the vicinity of former USTs
- Encountering USTs during soil removal
- Demolition of on-site structures, including the removal of interior materials;
- Closure of drains, pipes and other storm and sanitary sewer collection systems; and
- Removal of concrete slabs, foundations and other at-grade structural remains.

2.3.1 Relationship of the On-site Coordinator to other Site Personnel

The OSC will act as an observer on the Site and will not direct equipment or control the arrangement of work on the Site unless expressly directed to do so by the Owner. Rather, the OSC will make recommendations to the Owner's project manager with respect to environmental conditions.

2.3.2 Excavation in the Vicinity of Former UST(s)

One or two USTs may be present of the east of the former fuel distribution area. In the absence of evidence documenting tank removal, the OSC will conduct exploratory test pits in this area. The purpose of these test pits is to:

1. Document the presence or absence of USTs
2. Document the integrity of subsurface soils

2.3.3 Contingency Plan for Other Encountered USTs

In the event that other underground storage tanks are encountered in the course of excavation work, the following course of action will be taken:

- a determination as to the size, type and integrity of each encountered tank will be made;
- a determination as to whether there is evidence of leakage and subsequent soil contamination in the vicinity of the encountered tank will be made;

- if contaminated soil is encountered, samples of the soil surrounding the tank and the pit walls will be collected and analyzed for those materials which were stored in the tank and for any other components the OSC deems appropriate. If the stored material is not known, then soil and groundwater sampling will include USEPA Method 8021, USEPA Method 8270 (petroleum hydrocarbons), and heavy metals. The OSC will also determine whether the release is reportable to the NYSDEC; and
- upon receipt of all analytical results, a written report will be prepared detailing the types and extent of contamination, and remedial options available based upon the analytical results and field observations.

In the event that a significant quantity of contaminated soil remains in the excavation pit so as to make continued removal and stockpiling of soil not a cost-effective remedial method, the OSC will submit a recommendation to the Owner to terminate the excavation; alternate remedial options will then be discussed with the Owner concerning the remediation of the remaining contaminated soil.

2.4 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 "as built" drawings of the cover and other diagrams describing Site closure activities.

The NYSDEC will review the submitted Report and provide a written response to this office.

3.0 TIME SCHEDULE

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

Within thirty (30) days of execution of Voluntary Clean-up Agreement:

- On-site wells will be inspected and sorbent pads will be installed into the wells.

Within sixty (60) days of execution of Voluntary Clean-up Agreement (and every two months thereafter):

- Wells will be inspected and a monitoring report will be submitted to the Owner and the NYSDEC.

Within fifteen (15) months of execution of Voluntary Clean-up Agreement:

- Soil excavation and asphalt manufacture/off-site soil disposition will be completed;
- An observation pit will be created for the purpose of assessing the post-excavation presence of floating product and the need for a product observation/extraction well in the former fuel distribution area will be determined (with resulting work) executed by the Owner and the NYSDEC.

Within eighteen (18) months of execution of Voluntary Clean-up Agreement:

- Groundwater quality monitoring will be completed and a final Report documenting all remedial actions will be completed and submitted to the NYSDEC for review.

Within twenty (20) months of execution of Voluntary Clean-up Agreement:

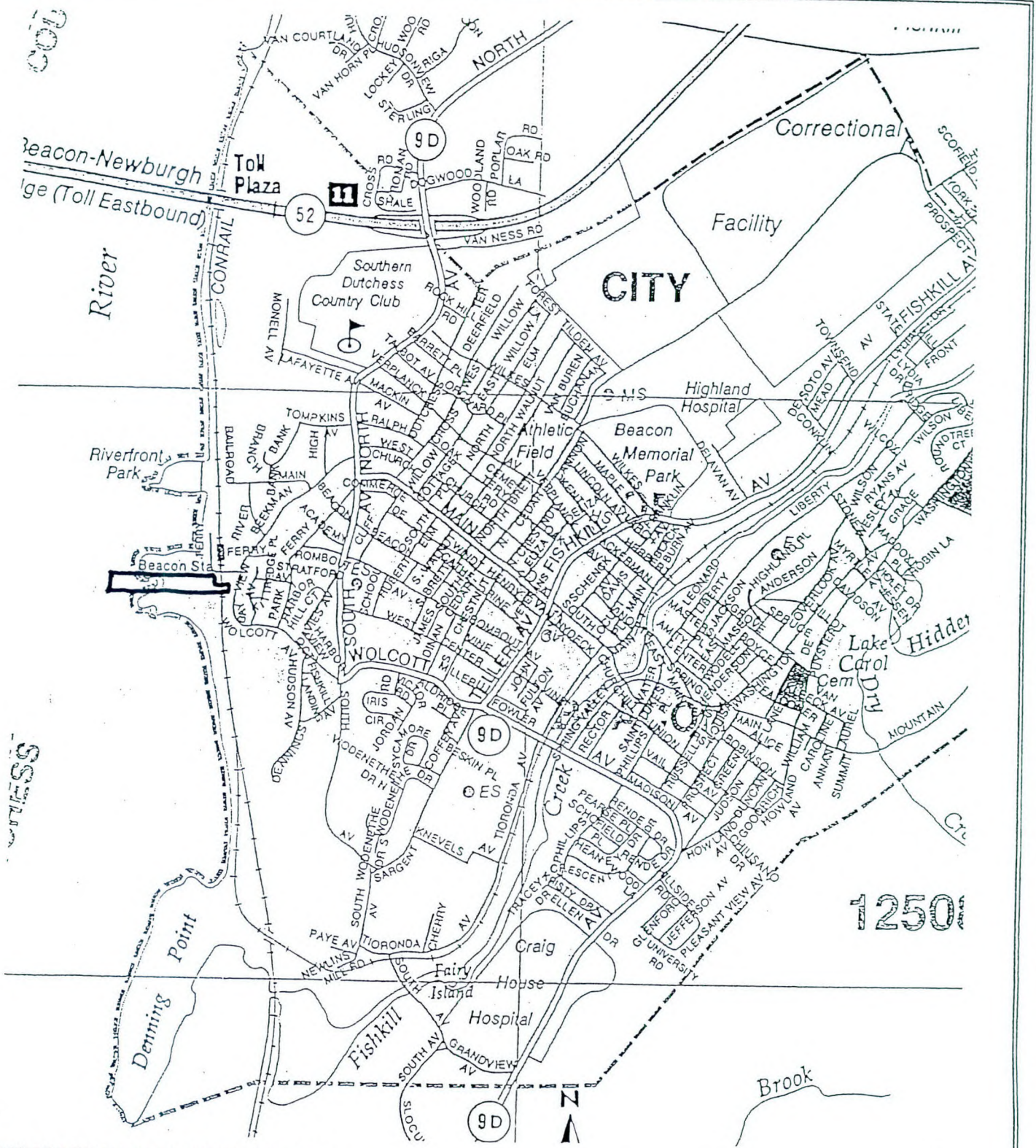
- The NYSDEC will review the submitted Report and either "Close" the active spill file or provide, in writing, specific reasons for maintaining an "Active" file.

Within two years of execution of Voluntary Clean-up Agreement:

- Installation of a cover will be determined by site development; and
- A written Report summarizing the completion of said task will be provided to the NYSDEC, inclusive of supporting laboratory data sheets, manifests and other documents.

Attachment A

Site Location Maps



MAP FROM HAGSTROM MAP COMPANY, INC. (1990)

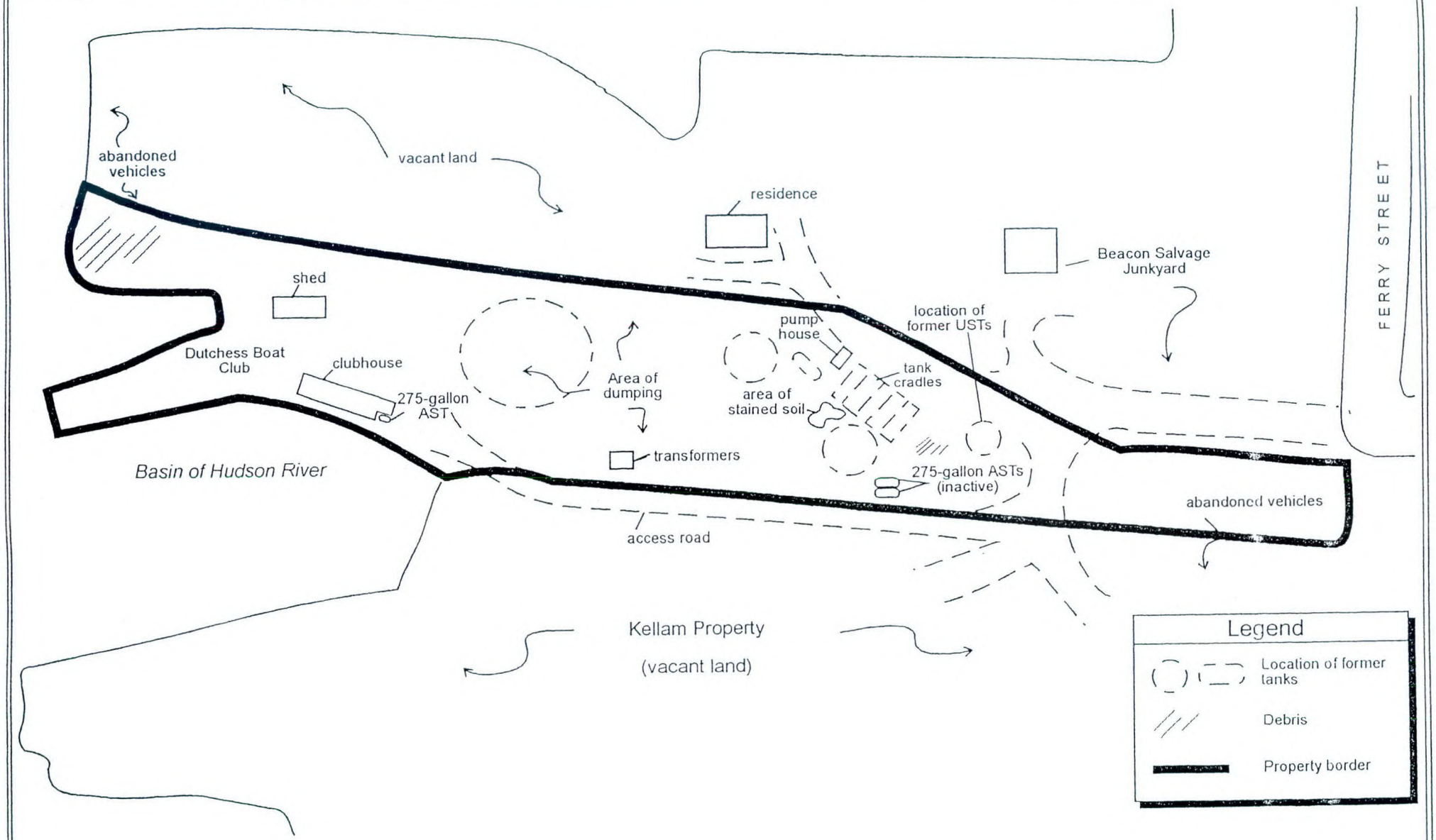
Site Location Map

FORMER GARRET-STORM, INC. MOSF SITE
City of Beacon, Dutchess County, New York

N

ESI File Number: SG96152.20

January 1997



Note: Western property border in Hudson River

Selected Site Features Map

Former Garret - Storm, Inc. MOSF Site
City of Beacon, Dutchess County, New York

N

ESI File Number: SG96152.20
January 1997
Not to Scale

Attachment B

Investigation 1989-1998

Attachment B

Table 1

Soil Data

Table 1: Summary of Analytical Data from Soil Samples at Groundwater Interface
(All results are in ppb. All results in **BOLD** exceed action levels)

Compound	Sample Identification										
	RD-1	RD-2[2]	RD-3	RD-4	RD-5[2]	RD-6[2]	RD-7	RD-8	RD-10	RD-11	Action Level[1]
Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	*250*	1000
Acenaphthene	ND	ND	ND	*150*	ND	ND	ND	ND	ND	ND	400
1-Methylnaphthalene	ND	**65,000**	ND	ND	**52,000**	ND	ND	ND	ND	ND	1000
2-Methylnapthalene	ND	**95,000**	ND	*140*	**65,000**	ND	ND	ND	ND	*650*	1000
Phenanthrene	ND	ND	*140*	ND	ND	ND	ND	ND	ND	**1400**	1000
Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	*140*	1000
Benzo (a) Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.04
Benzo (a) Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.04
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	200
Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1000
Fluorene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1000
Chrysene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.04
Benzo (b) Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.04
Benzo (k) Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.04

Notes:
1. Source: NYSDEC STARS Memo #1: Petroleum Contaminated Soil Guidance Policy, August 1992.
2. Due to matrix interference, detection limits for this sample were between 25,000 and 125,000 ppb

Attachment C

Compound List

PASL C.

SEMI-VOLATILE ORGANIC COMPOUNDS

COMPOUNDS	PCB & Pesticides 8080	ABNs 625/ 8270	Phenols only (8270)	PAHs only (8270)	Appendix IX List	Target Compnd. List	Priority Pollutant List
ACID EXTRACTABLES:							
Benzoic Acid					•	•	
2-sec-Butyl-4,6-Dinitrophenol			•				
para-Chloro-meta-Cresol (see 4-Chloro-3-Methylphenol)							
4-Chloro-3-Methylphenol		•	•		•	•	•
2-Chlorophenol		•	•		•	•	•
ortho-Cresol (see 2-Methylphenol)							
meta-Cresol (see 3-Methylphenol)							
para-Cresol (see 4-Methylphenol)							
2-Cyclohexyl-4,6-Dinitrophenol			•				
2,4-Dichlorophenol		•	•		•	•	•
2,6-Dichlorophenol			•		•		
2,4-Dimethylphenol		•	•		•	•	•
4,6-Dinitro-2-Methylphenol		•	•		•	•	•
2,4-Dinitrophenol		•	•		•	•	•
4,6-Dinitro-ortho-Cresol (see 4,6-Dinitro-2-Methylphenol)							
Dinex (see 2-Cyclohexyl-4,6-Dinitrophenol)							
Dinoseb (see 2-sec-Butyl-4,6-Dinitrophenol)							
2-Methylphenol			•		•	•	
3-Methylphenol			•		•		
4-Methylphenol			•		•	•	
2-Nitrophenol		•	•		•	•	•
4-Nitrophenol		•	•		•	•	•
Pentachlorophenol		•	•		•	•	•
Phenol		•	•		•	•	•
2,3,4,6-Tetrachlorophenol			•		•		
2,3,5,6-Tetrachlorophenol			•				
2,3,4-Trichlorophenol			•				
2,3,5-Trichlorophenol			•				

SEMI-VOLATILE ORGANIC COMPOUNDS

COMPOUNDS	PCB & Pesticides 8080	ABNs 625/ 8270	Phenols only (8270)	PAHs only (8270)	Appendix IX List	Target Compnd. List	Priority Pollutant List
2,3,6-Trichlorophenol			•				
2,4,5-Trichlorophenol			•		•	•	
2,4,6-Trichlorophenol		•	•		•	•	•
BASE/NEUTRAL EXTRACTABLES:							
Acenaphthene		•		•	•	•	•
Acenaphthylene		•		•	•	•	•
Acetophenone					•		
2-Acetylaminofluorene					•		
4-Aminobiphenyl					•		
Aniline					•		
Aldrin	•				•	•	•
Anthracene		•		•	•	•	•
Aramite					•		
Aroclor 1016	•				•	•	•
Aroclor 1221	•				•	•	•
Aroclor 1232	•				•	•	•
Aroclor 1242	•				•	•	•
Aroclor 1248	•				•	•	•
Aroclor 1254	•				•	•	•
Arochlor 1260	•				•	•	•
Azobenzene							•
Benzidene					•	•	•
Benzo (a) Anthracene		•		•	•	•	•
Benzo (a) Pyrene		•		•	•	•	•
Benzo (b) Fluoranthene		•		•	•	•	•
Benzo (j) Fluoranthene				•			
Benzo (k) Fluoranthene		•		•	•	•	•
Benzo (ghi) Perylene		•		•	•	•	•
Benzyl Alcohol					•	•	
3,4-Benzofluoranthene							•
alpha-BHC	•				•	•	•
beta-BHC	•				•	•	•
delta-BHC	•				•	•	•

SEMI-VOLATILE ORGANIC COMPOUNDS

COMPOUNDS	PCB & Pesticides 8080	ABNs 625/ 8270	Phenols only (8270)	PAHs only (8270)	Appendix IX List	Target Compnd. List	Priority Pollutant List
gamma-BHC	•				•	•	•
4-Bromophenyl Phenyl Ether		•			•	•	•
Butyl Benzylphthalate		•			•	•	•
Chlordane	•				•	•	•
4-Chloroaniline					•	•	
Chlorobenzilate					•		
bis (2-Chloroethoxy) Methane		•			•	•	•
bis (2-Chloroethyl) Ether		•			•	•	•
bis (2-Chloro-Isopropyl) Ether		•			•	•	•
bis (2-Chloro-1-Methylethyl) Ether					•		
2-Chloronaphthalene		•			•	•	•
4-Chlorophenyl Phenyl Ether		•			•	•	•
Chrysene		•		•	•	•	•
4,4'-DDD	•				•	•	•
4,4'-DDE	•				•	•	•
4,4'-DDT	•				•	•	•
Diallate					•		
Dibenzo (a,h) Acridine				•			
Dibenzo (a,j) Acridine				•			
Dibenzo (ah) Anthracene		•		•	•	•	•
7H-Dibenzo (c,g) Carbazole				•			
Dibenzo (a,e) Pyrene				•			
Dibenzo (a,h) Pyrene				•			
Dibenzo (a,i) Pyrene				•			
Dibenzofuran					•	•	
Di-n-butyl Phthalate		•			•	•	•
1,2-Dichlorobenzene (ortho)		•			•	•	•
1,3-Dichlorobenzene (meta)		•			•	•	•
1,4-Dichlorobenzene (para)		•			•	•	•
3,3'-Dichlorobenzidine		•			•	•	•
Dieldrin	•				•	•	•
Diethylphthalate		•			•	•	•
O,O-Diethyl-O,2-Pyrazinyl Phosphorothioate					•		

SEMI-VOLATILE ORGANIC COMPOUNDS

COMPOUNDS	PCB & Pesticides 8080	ABNs 625/ 8270	Phenols only (8270)	PAHs only (8270)	Appendix IX List	Target Compnd. List	Priority Pollutant List
Dimethylphthalate		•			•	•	•
2,4-Dinitrotoluene		•			•	•	•
2,6-Dinitrotoluene		•			•	•	•
di-n-Octylphthalate		•			•	•	•
1,2-Diphenylhydrazine (see Azobenzene)							
Endosulfan I	•				•	•	•
Endosulfan II	•				•	•	•
Endosulfan Sulfate	•				•	•	•
Endrin	•				•	•	•
Endrin Aldehyde	•				•	•	•
bis (2-Ethylhexyl) Phthalate		•			•	•	•
Fluoranthene		•		•	•	•	•
Fluorene		•		•	•	•	•
Heptachlor	•				•	•	•
Heptachlor Epoxide	•				•	•	•
Hexachlorobenzene		•			•	•	•
Hexachlorobutadiene		•			•	•	•
Hexachlorocyclopentadiene					•	•	•
Hexachloroethane		•			•	•	•
Hexachlorophene					•		
Hexachloropropene					•		
Indeno (1,2,3-cd) Pyrene		•		•	•	•	•
Isodrin					•		
Isophorone		•			•	•	•
Isosafrole					•		
Kepone					•		
Lindane (see gamma-BHC)							
Methapyrilene					•		
Methoxychlor	•				•	•	•
3-Methylcholanthrene				•	•		
Methyl Methanesulfonate					•		
1-Methyl Naphthalene		•		•	•	•	•

SEMI-VOLATILE ORGANIC COMPOUNDS

COMPOUNDS	PCB & Pesticides 8080	ABNs 625/ 8270	Phenols only (8270)	PAHs only (8270)	Appendix IX List	Target Compnd. List	Priority Pollutant List
2-Methyl Naphthalene		•		•	•	•	•
Methyl Parathion					•		
Naphthalene		•		•	•	•	•
1,4-Naphthoquinone					•		
1-Naphthylamine					•		
2-Naphthylamine					•		
2-Nitroaniline					•	•	
3-Nitroaniline					•	•	
4-Nitroaniline					•	•	
Nitrobenzene		•			•	•	•
n-Nitrosodimethylamine							•
n-Nitrosodiphenylamine					•	•	•
n-Nitrosodipropylamine		•			•	•	•
Phenanthrene		•		•	•	•	•
Pyrene		•		•	•	•	•
Toxaphene	•				•	•	•
1,2,4-Trichlorobenzene		•			•	•	•
Total Number of Compounds	26	64	23	29	117	93	86

SEMI-VOLATILE ORGANIC COMPOUNDS

COMPOUNDS	PCB & Pesticides 8080	ABNs 625/ 8270	Phenols only (8270)	PAHs only (8270)	Appendix IX List	Target Compnd. List	Priority Pollutant List
2-Methyl Naphthalene		•		•	•	•	•
Methyl Parathion					•		
Naphthalene		•		•	•	•	•
1,4-Naphthoquinone					•		
1-Naphthylamine					•		
2-Naphthylamine					•		
2-Nitroaniline					•	•	
3-Nitroaniline					•	•	
4-Nitroaniline					•	•	
Nitrobenzene		•			•	•	•
n-Nitrosodimethylamine							•
n-Nitrosodiphenylamine					•	•	•
n-Nitrosodipropylamine		•			•	•	•
Phenanthrene		•		•	•	•	•
Pyrene		•		•	•	•	•
Toxaphene	•				•	•	•
1,2,4-Trichlorobenzene		•			•	•	•
Total Number of Compounds	26	64	23	26	117	93	86