FOCUSED REMEDIAL INVESTIGATION/FEASIBILITY STUDY WORK PLAN

Northeast Solite Corporation/ Industrial Environmental Systems, Inc
New York Facility
962 Kings Highway
Mount Marion, New York

Order on Consent Index # W3-0881-01-02
NYSDEC Site Code #3-56-005

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HRP Associates, Inc.

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1.0 Introduction

HRP Associates, Inc. (HRP) has developed this Focused Remedial Investigation/Feasibility Study (FRI/FS) Work Plan (Work Plan) for Northeast Solite Corporation (NES) to complete a focused investigation of the NES facility located at 962 Kings Highway in Mount Marion (Town of Saugerties), Ulster County, New York (Site #3-56-005, referred to herein as the site). The investigation will be conducted pursuant to the New York State Department of Environmental Conservation's (NYSDEC's) Order on Consent #W3-00881-01-02, which was executed on March 26, 2001 between the NYSDEC and NES/Industrial Environmental Systems, Inc. (IES), both respondents to the Consent Order (See Appendix A for Consent Order).

1.1 Purpose

The purpose of developing and implementing this work plan is to properly address the NYSDEC's concerns regarding the site's current environmental status. Currently, the subject site is included on the NYSDEC's registry of Inactive Hazardous Waste Disposal Sites (IHWDS) as a Classification 2 site (i.e., significant threat to the public health or the environment, action required). In addition, this FRI/FS will confirm extensive remedial efforts performed at the site to date.

1.2 Components

This work plan has five basic components: 1) General Scope of Work Tasks/Objectives; 2) Sampling and Analysis Plan (SAP); 3) Quality Assurance Project Plan (QAPP); 4) Health and Safety Plan (HASP); and 5) Citizen's Participation Plan (CPP).

In particular, each component addresses the following:

- the Scope of Work addresses the tasks and objectives of the site investigation, and the logistics and resources required to achieve those tasks and objectives;
- The SAP discusses procedures how the data acquired during the project will be properly obtained and utilized;

- The QAPP will discuss quality assurance/quality control (QA/QC) methods during the investigation and will determined the usability of the data;
- The HASP (See Appendix B) addresses the health and safety of both individuals involved with the project and the public; and,
- The CPP (See Appendix C) addresses community involvement aspects of the work outlined herein and an anticipated project schedule.

1.3 Goal

The goal of developing and implementing this work plan is to update the environmental data regarding the site's historical areas of concern (AOCs). To accomplish this goal, a FRI/FS will be implemented in the vicinity of the site's historical areas of concern.

It is HRP's intent to achieve this goal by implementing the NYSDEC's recommended scope of work, outlined in Exhibit B of the Consent Order. Specifically, the scope of work tasks will address the following:

1.3.1 Determine the existence and condition of the on-site monitoring well network;
1.3.2 Groundwater samples will be collected during a Geoprobe® investigation and from pre-existing site monitoring wells;
1.3.3 Conduct a groundwater investigation in the downgradient area of the site;
1.3.4 If necessary, conduct a soil gas survey to determine the locations for any new monitoring wells or the location for the Geoprobe® investigation;
1.3.5 Conduct a Geoprobe® investigation based on information from previous investigations;
1.3.6 Conduct an off-site groundwater investigation; and
1.3.7 Investigate the two (2) sources of contamination, based on previous investigations, including the tank farm area, and the settling pond area.

During a May 13, 2003 meeting with the NYSDEC, it was agreed that the following tasks will be completed:

- The installation of thirteen (14) soil borings using a Geoprobe to collect grab groundwater samples at selected locations;

- The collection of groundwater samples from monitoring wells BR-3, DFT-4, DFT-11, DSP-3, DSP-4, DSP-5, and the on-site production well, which is located at the western end of the site;

- The collection of a sample from the bedrock seep;

- The collection of one (1) surface water sample and one sediment sample from the northern stormwater pond; and,

- if necessary, conducting a soil gas survey in the vicinity of any boring which exhibit contamination during field screening activities.

1.4 General Information

Site Name:	Northeast Solite Corporation
Site Address:	962 Kings Highway Mt. Marion, New York
Site Owner:	Northeast Solite Corporation
Site Contact:	Mr. Albert Galliano
Contact Address:	4801 Hermitage Road, Suite 105 Richmond, Virginia 23227
Phone Number:	(804)-262-2434
Work Dates:	April-May 2004
NYSDEC Site #:	3-56-005

2.0 Site Setting

The following section discusses the site's description, the surrounding areas, the environmental history, and the geologic/hydrogeologic setting.

2.1 Site Description and Current Use

The 300±-acre site is located in Mount Marion, Ulster County, New York (See Figure 1, NYSDOT Topographic map, Saugerties Quadrangle for site location). The site is situated along Kings Highway (County Route 33) approximately two miles south of the Village of Saugerties, between the Esopus Creek to the east, and CSX Railroad tracks to the west (See Figure **2** for site plan).

Currently, the site is utilized by NES for the mining and manufacturing of lightweight aggregate, known as Solite®. Essentially, shale is mined on-site, and subsequently conveyed through a rotary kiln, where it is heated, and expanded. After leaving the kilns, the material is crushed, screened, and sized for various applications.

2.1.1 Topography

Based on HRP's review of the latest NYSDOT topographic map of the site area (Saugerties Quadrangle), the subject site is located on land which slopes to the northwest. According to the topographic map, site elevation ranges from **270** ft mean sea level (MSL) at the southeastern part of the site, to **170** ft MSL at the northwestern part of the site.

2.1.2 Surface Water Bodies

The site abuts the Esopus Creek to the east, which flows north. In addition, seven (7) ponds are located on-site, including three (3) settling or scrubber ponds, two (**2**) stormwater ponds, and two (2) recharge ponds.

2.2 Surrounding Land Uses

The surrounding areas are utilized for the following:

North:	Rural-Residential, and commercial/light industrial
South:	Rural-Residential, and commercial/light industrial
East:	Rural-Residential
West:	Consolidated Railroad property, then Kings Highway, then agricultural, light industrial, and commercial

2.3 Environmental History

2.3.1 Background

Based on HRP's review of the available documents, a 0.8±-acre portion of the site was utilized by Industrial Environmental Systems, Inc. (IES) for the storage and blending of industrial waste solvents (see Figure 2 for location of former IES site). These solvents were then used as a fuel in rotary kilns at the adjacent NES site from 1976 to the early 1980's. Reportedly, the IES site utilized nine (9) storage tanks to blend, isolate, and transfer the solvent fuel to the NES rotary kilns via aboveground and underground piping. Solvents at the facility were tested and then off-loaded from tankers into one of two (2) receiving tanks. The receiving tanks were used to blend the solvents and segregate solid materials. Periodically, the receiving tanks were cleaned out and the solid material was drummed. Reportedly, the drums were temporarily stored on-site, then transported off-site for disposal at an approved facility.

The NYSDEC determined that the facility's storage of spent solvents constituted the operation of a hazardous waste storage site requiring a permit (pursuant to Section 360.8(a)(17) of 6 NYCRR. Therefore IES signed an Order on Consent in 1981. As a result of signing the consent order, IES ceased its hazardous waste storage operations. The order also required NES/IES to submit a waste analysis plan (to test materials prior to incineration, ensuring that the materials are included on the permit) and conduct a subsurface investigation.

It should be noted that NES/IES followed an approved closure plan for its hazardous waste operations. A professional engineer's closure certification was submitted and subsequently approved by the NYSDEC on July 6, 1988. Since the 1980's, the site has continued to operate as a lightweight aggregate manufacturing facility, utilizing fossil fuels, such as coal, to operate the kilns.

2.3.2. Previous Investigations

Several subsurface investigations have been completed at the site to date. Figure 3 presents the locations of each soil boring/monitoring well/test pit completed on-site to date. In preparing this work plan, HRP reviewed the following reports regarding previous investigations at the subject site. Each report is summarized in the following subsections:

Evaluation of the Geologic and Hydrogeologic Conditions in the Areas of the Settling and Polishing ponds and the Scrubber fines Storage Area, prepared by Dunn Geoscience Corporation (DGC), dated May 21, 1981

DGC conducted a subsurface investigation at the settling and Polishing ponds and the scrubber fines storage area of the site in 1981. DCG's investigation included the installation of 15 test borings in the study area, and the collection of a surface water sample from the polishing pond and a sludge sample from the storage piles for laboratory analysis. The surface water sample from the polishing pond and the scrubber fines sample was analyzed for the toxics listed in Table 1 of 40 CFR 261.24, as well as aluminum, zinc, nickel, EP TOX, and phenols.

Evaluation of the Geologic and Hydrogeologic Conditions in the Areas of the Fuel Storage Area, prepared by Dunn Geoscience Corporation (DGC), dated June 3, 1981

DGC also performed a subsurface investigation in the fuel storage area on-site. DGC's investigation included the installation of seven (7) test borings in the study area, converting two of the borings (B-19 and B-20A) into observation wells. Based on HRP's review of this report, no samples for laboratory analysis were submitted.

Fuel Tank Storage Area, Monitoring Well Installations and Groundwater Quality Analysis, prepared by Dunn Geoscience Corporation (DGC), dated December 1, 1983

DGC also performed an additional subsurface investigation in the fuel storage area on-site. DGC's investigation included the installation of three test pits (TP-8-83-1, TP-8-83-2, and TP-8-83-3), the installation of three monitoring wells (UFT-1, DFT-1, and DFT-2), and the sampling and analysis of groundwater samples collected from the three wells and two bedrock seeps (designated yellow and clear).

Based on HRP's review of the laboratory results from this investigation, PCBs (Aroclor 1260) was detected in DFT-2 at 0.22 µg/l (PPB), and phenols were detected within all three wells above NYSDEC's water quality standards (6 NYCRR Parts 700-705). In addition, chlorinated and non-chlorinated VOCs were detected within the seep samples. DGC attributed the detections within the seep samples to constituents of the kiln fuel.

A summary of the Closure and Remedial Activities Performed for Industrial Environmental Systems, Inc., prepared by NES and Air Resources Group (ARG), dated June 1999

ARG prepared a summary of the closure/remedial activities at the subject site. Based on HRP's review of this summary, remedial activities occurred on-site from 1983 to 1986, including excavation, and the removal of underground pipelines. The summary also stated that a closure plan was submitted and approved by the NYSDEC in 1988. ARG also stated that "IES fully cooperated with the NYSDEC to adequately investigate the site. Numerous monitoring wells were installed and an extensive monitoring program covering approximately five years indicated low level organic contamination and improving conditions at the facility."

2.3.3. Remedial Actions to Date

The documents indicated that from 1983 to 1987, significant remedial investigations/actions occurred on-site, including the following:

- The removal of all underground piping;
- The cleaning and decommissioning of all storage tanks;
- The excavation and removal of contaminated soil, then the subsequent installation of a four-inch thick, weather-sealed macadam cover in the excavated area. This area was reportedly in the vicinity of fuel tanks, fuel lines, and the bedrock seep (on the IES site);
- The installation and periodic sampling of groundwater monitoring wells; and,
- The monitoring, treatment, and collection of water from the bedrock seep.

2.4 Geologic Setting

2.4.1 Surficial Geology

Based on HRP's review of available documents, the uppermost unconsolidated deposits is comprised of granular fill material, consisting of medium to fine gravel and shale chips. Reportedly, underlying the fill is glaciolacustrine silt and clay, which are described as varved, with medium plasticity.

2.4.2 Bedrock Geology

According to available information, the bedrock underlying the site

is classified as belonging to the Middle Devonian-aged, Onondaga Limestone (Dou) which includes two of the formation's members, the Schoharie Formation and the Esopus Shale. The formations are described below as they are identified on-site:

Western Area (NES Product Storage Area)
The western portion of the site is reportedly underlain by the Onondaga Limestone, a Middle-Devonian aged, medium to light grey, medium to coarse-grained limestone. Reportedly, the Onondaga outcrops approximately 2,000 feet north of the kilns.

Eastern Area (Includes IES site)
The eastern portion of the site is said to be underlain by the Schoharie Formation, and the Esopus Shale. The Schoharie Formation, the younger member, is described as a grey, argillaceous (i.e., clay mineral rich) limestone. The Schoharie is reportedly observed in outcrops south of the tank farm area, and forms a low ridge which extends underneath the kilns and outcrops again north of the kilns. The Schoharie beds strike N20°E and dip 35° to the west.

Underlying the Schoharie is the Esopus Shale, which is described as a thick (250-300 feet), gritty siltstone. Reportedly, the Esopus outcrops on a hill east of the tank farm and forms a series of ridges further east and northeast. The Esopus is the source rock for the lightweight aggregate mining operations on-site.

2.4.3 Hydrogeology

According to the available information, the site's historical monitoring wells were installed in two (2) separate water-bearing zones (i.e., overburden and bedrock). Overburden monitoring wells were installed within a granular fill overlying the lacustrine deposits, while the bedrock wells were installed within the Onondaga Formation. Reportedly, a lacustrine clay aquitard separates the site's underlying water bearing zones, and varies in thickness from approximately three feet in BR-4, to over 200 feet in BR-2.

Western Area (NES Product Storage Area)
Reportedly, groundwater in the fill is very limited. Saturated thickness are generally less than two feet. Historical water level information indicates that water levels are below the fill/lacustrine contact, suggesting that fill is dry at these locations. As reported by DGC (February 1984), overburden groundwater flow direction overburden aquifer is principally west and northwest (See Figure 4).

Eastern Area (Includes IES site)

Groundwater in the eastern end of the site (vicinity of historical IES site) is reported to exist under perched conditions above a relatively impervious layer of either lacustrine materials or bedrock. Reportedly, in the area that extends from the vertical tanks to the kilns, the granular fill lies directly above a buried bedrock ridge. Water that infiltrates the fill reportedly collects in bedrock depressions or troughs. Based on HRP's review of DGC's 1981 report, ground water flow in the underlying bedrock was not established.

3.0 Project Organization

3.1 Project Manager

Mr. Jeffrey R. Sotek, P.E., C.S.P., will serve as the Project Manager. As Project Manager, Mr. Sotek is responsible for the proper implementation of this Work Plan, the management of staff involved with the project, and for the project's overall technical content. As a Certified Safety Professional, Mr. Sotek also has overall responsibility for health and safety of HRP's New York Offices. Mr. Sotek's resume is included in Appendix D.

3.2 Health & Safety Officer/General Supervisor

Mr. Christopher J. Bablin, Senior Project Geologist, will serve as the Health & Safety Officer for the project. In addition, Mr. Bablin will act as general supervisor and direct all site operations during the implementation of this Work Plan. As Health & Safety Officer, Mr. Bablin will have the responsibility and authority to implement the site Health & Safety Plan and verify compliance. Mr. Bablin will report any non-compliance issues to the Project Manager. The Health & Safety Officer will also have stop-work authorization. The Health & Safety Officer or an alternate will be on-site at all times when work is progressing. All on-site personnel involved with this project will be the responsibility of the Health & Safety Officer. Mr. Bablin's resume is included in Appendix D.

3.3 Quality Assurance Officer

Ms. Caroline E. Benedict, Project Geologist, will serve as the Quality Assurance Officer. The Quality Assurance Officer will have the responsibility of assuring that quality measures are implemented throughout the project, such as equipment calibrations, collecting proper field duplicates and equipment blanks. Ms. Benedict's resume is included in Appendix D.

3.4 Contract Laboratory

Adirondack Environmental Services (AES) of Albany, New York will be the contract laboratory for this project. AES is a laboratory certified by the New York State Department of Health's Contract Laboratory protocols (CLP) and Environmental Laboratory Approval Program (ELAP), as required by NYSDEC protocols.

3.5 Data Validation

AES will also provide Category B deliverable packages for the analyses, which will be used by Dataval, Inc., an independent data validator for

completion of a Data Usability Summary Report (DUSR). The DUSR will be prepared to verify that the laboratory data is usable. The resume of the individual responsible for preparing the DUSR, Mr. James Baldwin (President of Dataval, Inc.) is included in Appendix D.

3.6 Subcontractors

HRP will retain Zebra Environmental (Zebra) to install the soil borings using a Geoprobe. In addition, Specialized Environmental Monitoring (SEM) will assist in groundwater sampling, the elevation survey and the soil gas survey, if the survey is deemed necessary. The resume of the individual responsible for conducting the soil gas survey, Mr. James Scerra (Manager of SEM) is included in Appendix D.

3.7 Field Team Members

HRP will utilize several experienced and qualified individual to perform the field work/tasks outlined in this work plan. These field team members include, but are not limited: Mr. Jesse Zahn, Senior Project Scientist (HRP-NY); Mr. Jason Beach, Project Geologist (HRP-CT); and Ms. Robin Iacovo, Project Geologist (HRP-CT). The resumes of these individuals are included in Appendix D.

4.0 General Scope of Work and Objectives

4.1 Proposed Work Plan Tasks

HRP proposes to complete the following Six (6) Tasks during the implementation of this Work Plan:

Task One	Installation of Geoprobe® Borings/Collection of soil and groundwater samples from Geoprobe Borings
Task Two	Conduct Groundwater Sampling/Survey of Existing Monitoring Wells
Task Three	Sampling of on-site stormwater pond (surface water and sediment)
Task Four	Sampling of Seep Face Water
Task Five	Off-site Groundwater Investigation
Task Six	Soil Gas Survey (If necessary)

In general, the investigation tasks described in this work plan will utilize the NYSDEC's *Draft DER-10 (DER-10), Technical Guidance for Site Investigation and Remediation, dated December 25, 2002* for guidance. Each of the tasks will be conducted by HRP or under the direction of HRP, and are detailed below.

4.2 Objectives and Methods

4.2.1 *Task One: Installation of Additional Geoprobe® Soil Borings to Collect Groundwater Samples*

Based on discussions with the NYSDEC, an additional groundwater investigation is required at the site. The groundwater investigation will be accomplished by installing 14 soil borings using a Geoprobe® (i.e., direct push) unit. The proposed Geoprobe® boring locations are presented in Figure 5.

Geoprobe® Installation

The Geoprobe® borings will be installed by Zebra Environmental (Zebra) under the supervision of a qualified HRP geologist. Geoprobe® borings and their justification are proposed in the following areas, as approved by the NYSDEC:

Location of Geoprobe® Borings	Number of borings Proposed	Justification
Western boundary of site, adjacent to railroad tracks	3	Evaluate groundwater conditions at site's western boundary, downgradient of former IESI site
Vicinity of Former Monitoring Well UFT-1A	1	Evaluate groundwater upgradient of former tank farm at these historical sampling locations
Seep Face	1	Evaluate shallow groundwater downgradient of seep
Former Tank Farm	3	Evaluate groundwater downgradient of former tank farm
Vicinity of former Monitoring wells DFT-1 and DFT-2	2	Evaluate groundwater at these historical sampling locations
Settling ponds/former lagoon Areas	3	Evaluate groundwater at two (2) downgradient and one (1) upgradient locations of settling ponds/former lagoons
East of Coal Pile/Storage Building	1	Background Sample

Soil Sampling/Field Screening

During the boring installations, a continuous macrocore soil sample will be collected every four (4) feet at each proposed location to a total depth of 16 feet or approximately 10 feet into the observed groundwater. Each soil sample will be obtained in new, acetate liners and divided into two (2), two-foot segments. Each segment will be examined in the field for physical evidence of contamination (i.e., odor, staining). HRP personnel will maintain a detailed log of each boring, and record all pertinent field information on the logs, including boring designation, date, location, sample interval, recovery, and geologic descriptions utilizing the Burmister soil classification system.

A portion of each soil segment will be placed into a sealable (i.e., Ziploc®) bag, labeled, and subjected to a headspace analysis for gross volatile organics via a photoionization detector (PID) equipped with a 10.2 eV bulb. Decontamination procedures (i.e., wash with soap and water, rinse with methanol, dilute nitric acid, and deionized water) will be performed between samplings to prevent cross-contamination.

Grab Groundwater Sample Collection

At the conclusion of each Geoprobe boring, HRP will collect a grab groundwater sample directly from the boring using an SP15 groundwater sampler. Essentially, the SP15 is a stainless steel screen sheathed within a macrocore sampler. The SP15 is driven to depth, and an expandable point is pushed through the sampler. The sheath is then retracted to expose the screen. The screen on the SP15 sampler will be exposed to collect a groundwater sample from the top five feet of the water table. HRP will allow groundwater to collect into the boring, and subsequently collect a sample using a pump and disposable polyethylene tubing. Samples will be collected in laboratory-provided containers, labeled, and placed in an iced cooler for shipment to the laboratory. The SP15 will be decontaminated between samplings to prevent cross contamination.

Soil Sampling

HRP will also select certain soil samples for laboratory analysis based on the results of the field screening and observations. Also, In the event that appreciable groundwater is not encountered, a soil sample will be analyzed from that particular boring. In addition, at this time, HRP proposes the following soil sample schedule:

Location/Number of Samples	Analytical Methods	Justification
Settling/Scrubber ponds (0-0.5 ft)/ 1	RCRA Metals	Evaluate surficial soils in vicinity of settling ponds for metals
Proposed Boring near Former UFT-1A/1	VOCs, SVOCs, PCBs	Evaluate subsurface conditions upgradient of former tank farm
Proposed Boring near DFT-2/1	VOCs, SVOCs, PCBs	Evaluate subsurface conditions in vicinity of tank farm
Settling/Scrubber ponds (3-5 ft above groundwater)/1	VOCs, SVOCs, PCBs, RCRA Metals	Evaluate soil conditions in vicinity of settling ponds
West of Coal Pile/Storage Building/1	VOCs, SVOCs, PCBs, RCRA Metals	Background Sample

Sample Analysis

Soil/Groundwater samples will be analyzed for the Target Compound List (TCL) of volatile organic compounds (VOCs) via EPA Method 8260. In addition, samples will be analyzed for semi-volitiles (SVOCS) via EPA Method 8270, and Polychlorinated Biphenyls (PCBs) via EPA Method 8082. Also, grab groundwater collected in the vicinity of the settling ponds will also be analyzed for the eight (8) RCRA metals (i.e., As, Ba, Cd, Cr, Pb, Hg, Se, and Ag). The proposed grab groundwater sampling schedule is listed in the table below:

Sample Type/location/number of Samples	Analytical Methods	Justification
Grab GW (9 locations including tank farm, upgradient/ downgradient of tank farm, and western property boundary)/9	VOCs, SVOCs, PCBs	Evaluate groundwater conditions in vicinity of tank farm, and upgradient /downgradient of tank farm
Grab GW (4 locations upgradient and downgradient of settling ponds/former lagoons)/4	VOCs, SVOCs, PCBs, Metals	Evaluate groundwater conditions in vicinity of settling ponds, and upgradient /downgradient of settling ponds

Temporary Well Installations

In addition, HRP will install a temporary monitoring well within select Geoprobe borings. The proposed locations for the temporary wells are also included on Figure 5. The purpose of the temporary wells will be for use as data points for the groundwater elevation survey (see Section 4.2.2). When the boring has reached the total depth, the macrocore sampler will be removed and a new length of 1-inch diameter PVC well screen will be lowered into the borehole. The well screen will be attached to a length of solid, 1-inch PVC riser pipe. A measuring point (black mark on PVC riser) will be surveyed during the groundwater elevation survey.

Each soil boring will be backfilled with sand and sealed at the surface with a cement/grout slurry. A wooden stake will be placed next to the boring, flagged with fluorescent tape and labeled with the boring's designation and the date of installation.

All soil cuttings, and Investigation Derived Materials (IDMs), including gloves, tubing, and spent acetate liners will be drummed in DOT-approved 55-gallon steel, open top drums. In addition, groundwater purged from each Geoprobe boring will also be drummed. Drums will be properly labeled with the following information: contents, start date, and end date, and staged at an appropriate on-site location. These wastes will be evaluated and, if necessary, they will be disposed off-site at an approved facility.

4.2.2 *Task Two: Groundwater Sampling/Elevation Survey of Existing Monitoring Well Network*

Groundwater Sampling

To assist in updating the site's environmental data and to meet the goals of the FRI/FS, some of the existing monitoring wells in the site's well network will be sampled. Based on HRP's discussions with the NYSDEC and HRP's May 13, 2003 site visit, the following wells in the existing network have been selected for sampling:

Well Designation/location	eported Total)epth (grade)	Justification
Production Well/near railroad tracks, western border of property	600 ft	Evaluate groundwater quality of on-site production well (in bedrock)
BR-3/ IES site, southwest area	32.9 ft	Evaluate groundwater quality of bedrock in upgradient vicinity of tank farm
DFT-4/northwest area of site	7.5 ft	Evaluate shallow groundwater quality at downgradient location
DFT-11/adjacent to crusher	8 ft	Evaluate shallow groundwater quality at downgradient location of tank farm
DSP-3/north of polishing ponds	39 ft	Evaluate groundwater quality at downgradient location of settling ponds/former lagoons
DSP-4/west of polishing ponds	77 ft	Evaluate groundwater quality at downgradient location of settling ponds/former lagoons
DSP-5/northwest of settling ponds	8.7 ft	Evaluate groundwater quality at downgradient location of settling ponds/former lagoons

The logs for these wells are included as Appendix E. A team of HRP technicians will review the integrity of these wells, and measure the depth to liquid and depth to bottom in each well from a measuring point (i.e., top of casing). Also, a PID will be used to measure the VOC concentrations subsequent to removing the well cap. The team will then purge each well by removing a minimum of six (6) well volumes of groundwater or until the well goes dry, using either a dedicated polyethylene bailer or a low flow pump. In the case of the production well, HRP will document that the well has been pumping for a minimum of 30 minutes prior to collecting samples.

Prior to commencing with the development/sampling activities, HRP will check each monitoring well for both Dense and Light Non-Aqueous Phase Liquids (DNAPLs and LNAPLs) by carefully lowering a clear bailer into the liquid column until the bailer is full. The bailer will then be raised and the liquids will be visually examined for evidence of DNAPL and LNAPL.

Sample Collection

At the conclusion of purging, each well will be sampled using the dedicated bailer. Samples will be collected in laboratory-provided containers, labeled, and placed in an iced cooler for shipment to the laboratory.

Sample Analysis

Groundwater samples will be analyzed for the Target Compound List (TCL) of volatile organic compounds (VOCs) via EPA Method 8260. In addition, samples will be analyzed for semi-volitiles (SVOCS) via EPA Method 8270, and Polychlorinated Biphenyls (PCBs) via EPA Method 8082. Also, groundwater collected in the vicinity of the settling ponds (i.e., Monitoring wells DSP-3, DSP-4, and DSP-5) will also be analyzed for the eight (8) RCRA metals (i.e., As, Ba, Cd, Cr, Pb, Hg, Se, and Ag). The proposed groundwater sampling schedule and justifications is listed in the table below:

Well Designation/Number of Samples	Analytical Methods
Production Well/1	VOCs, SVOCs, PCBs
DSP-3, DSP-4, DSP-5/3	VOCs, SVOCs, PCBs, Metals
BR-3/1	VOCs, SVOCs, PCBs
DFT-4/1	VOCs, SVOCs, PCBs
DFT-11/1	VOCs, SVOCs, PCBs

Groundwater Elevation Survey

HRP will utilize a Berger SAL-1 auto level mounted to a tripod to conduct a relative groundwater elevation survey across the site. The elevation of an on-site benchmark (stationary flat surface) will be arbitrarily established as 100 ft in elevation. Each monitoring well's measuring point (black mark on casing) will then be surveyed relative to the benchmark to establish the measuring point's elevation. The acquired groundwater levels, which are measured from the measuring point, will be subtracted from each measuring point's elevation to obtain the groundwater elevation at the monitoring well. The groundwater elevations will be used to construct a groundwater contour map. HRP proposes collecting at least two rounds of water levels during the project to verify groundwater contours and flow direction.

4.2.3 *Task Three: Sampling of On-Site Pond*

HRP will collect surface water and sediment samples from the northernmost stormwater pond (See Figure 5 for proposed sampling location). Since the stormwater pond is hydraulically downgradient from the settling/scrubber ponds, and metals have historically been detected in this area, the purpose of collecting surface water and sediment samples from the stormwater pond is to determine if the stormwater pond has been impacted.

HRP will select an undisturbed location on the pond's northern shore to collect surface water using a polyethylene dipper bottle, obtained from the laboratory. The dipper will be used to fill the

sample containers. The containers will be labeled and placed in an iced cooler for preservation until transport to the laboratory.

In addition, one sediment sample will be collected from the pond using a stainless steel trowel. The sediment sample will be collected at approximately the same location on shore as where the surface water sample will be collected. Sediment will be transferred into the sample containers using the trowel. The containers will be labeled and placed in an iced cooler for preservation until transport to the laboratory.

The surface water and sediment samples obtained from the northern stormwater pond will be analyzed for the Target Compound List (TCL) of volatile organic compounds (VOCs) via EPA Method 8260, semi-volitiles (SVOCS) via EPA Method 8270, Polychlorinated Biphenyls (PCBs) via EPA Method 8082, and the eight (8) RCRA metals. In addition, the surface water sample will also be analyzed for pH (EPA Method 150.1), total phenols (EPA Method 420.1), chloride (EPA Method 9096), sulfate (EPA Method 9096), and turbidity (EPA Method 180.1).

4.2.4 *Task Four: Sampling of Seep Face Water*

HRP proposes to sample the seep face, located south of the kilns and west of monitoring well BR-1 (See Figure 5 for location). The seep will be sampled by placing an unpreserved sample container under the flowing seep. The container will be used to transfer seep water into the various sample containers until they are filled. The containers will be labeled and placed in an iced cooler for preservation until transport to the laboratory.

HRP proposes to analyze the seep sample for TCL VOCs via EPA Method 8260, SVOCS via EPA Method 8270, and PCBs via EPA Method 8082.

4.2.5 *Task Five: Off-site Groundwater Investigation*

At the request of the NYSDEC, HRP will conduct an off-site groundwater investigation at a location downgradient of the settling/scrubber ponds. HRP will conduct the investigation by evaluating the integrity of off-site monitoring well DFT-3 (see Figure 5 for location), and subsequently sampling this well.

HRP proposes to analyze the off-site groundwater sample for TCL VOCs via EPA Method 8260, SVOCS via EPA Method 8270, PCBs via EPA Method 8082, and the eight (8) RCRA metals.

4.2.6 *Task Six: Soil Gas Survey (if Necessary)*

If VOCs are detected above background concentrations or above applicable standards, criteria and guidance (SCGs) within any of the soil or groundwater samples proposed in Tasks 1 or 2, then HRP will conduct a soil gas survey in the vicinity of the boring where the detection occurred.

At this time, soil gas points will be installed in a radial pattern to assist in determining a possible source of VOCs in the vicinity. HRP will utilize a Geoprobe to install soil gas points to a depth of five feet, or one foot above the observed water table. Each point will be installed by advancing a drive point adaptor with stainless steel rods and tubing connectors. When the point reaches the desired depth, the rods will be retracted 3-4 inches to create a void space in the soil, which cannot reach ambient air. Clean, polyethylene tubing will be connected to the rods and an air pump, which is used to collect an air sample into a new Tedlar bag. An inert materials (i.e., bentonite) will be used to "pack off" the annular space between the rods and the ground surface.

A portable, Photovac Gas Chromatograph (GC) will be utilized on-site to analyze each soil gas sample for VOCs. HRP proposes conducting the soil gas survey for one-day on-site, in which case approximately 15-20 soil gas points will be installed, sampled and analyzed.

The soil samples collected during the soil gas survey will be archived, similarly to collecting a soil sample (discussed in Section 4.2.1). At the conclusion of the soil gas survey, a minimum of 20% (at least four soil samples) from the soil gas survey samples will be submitted to the laboratory for analysis of VOCs.

5.0 Sampling and Analysis Plan

The following Sampling and Analysis Plan (SAP) will be utilized during the proposed FRI/FS. The specific sampling and analytical methods, organized by task, are discussed in detail below. Table 1 discusses the sample analytical methods for each task, while Table 2 is a discussion of the sample container requirements, holding times, and sample preservation requirements.

5.1 Task 1, Installation of Additional Geoprobe® Soil Borings to Collect Groundwater Samples

An additional groundwater investigation will be accomplished by installing 14 soil borings using a Geoprobe® (i.e., direct push) unit.

5.1.1 Sampling Procedures

Soil

During soil boring installation activities, a representative soil sample will be collected at each two-foot interval (i.e., eight samples per boring if boring continues to 16 feet total depth). The samples will be collected by the attending HRP geologist wearing disposable, nitrile gloves. The soil samples will be placed in laboratory-provided, 4-ounce (oz.) clear glass jars (for VOCs), and 6-ounce clear glass jars (for SVOCs, PCBs, and metals) labeled, and preserved on ice in a cooler. Each sample will be reviewed for physical evidence of contamination (i.e., odor, staining). In addition, a small portion (1-2 oz.) will be placed in a polyethylene bag, allowed to attain ambient temperature, and then subjected to a headspace analysis via a photoionization detector (PID).

Groundwater

HRP will collect a grab groundwater sample either directly from each Geoprobe boring using an SP15 groundwater sampler, or from a temporary well installed in the borehole. Essentially, the SP15 is a stainless steel screen sheathed within a macrocore sampler. The SP15 is driven to depth, and an expandable point is pushed through the sampler. The sheath is then retracted to expose the screen. The screen on the SP15 sampler will be exposed to collect a groundwater sample from the top five feet of the water table. HRP will allow groundwater to collect into the boring, and subsequently collect a sample using a pump and disposable polyethylene tubing. Samples will be collected in laboratory-provided containers, labeled, and placed in an iced cooler for shipment to the laboratory. The SP15 will be decontaminated between samplings to prevent cross contamination. A rinseate blank will be collected after each

decontamination event. A minimum of one (1) blank will be analyzed per 20 samples collected, and analyzed for VOCs.

5.1.2 *Analysis*

Groundwater samples will be analyzed for the Target Compound List (TCL) of volatile organic compounds (VOCs) via EPA Method 8260. In addition, samples will be analyzed for semi-volitiles (SVOCS) via EPA Method 8270, and Polychlorinated Biphenyls (PCBs) via EPA Method 8082. Also, grab groundwater collected in the vicinity of the settling ponds will also be analyzed for the eight (8) RCRA metals (i.e., As, Ba, Cd, Cr, Pb, Hg, Se, and Ag). The proposed grab groundwater sampling schedule is listed in the table below:

Sample Type/location/Number of Samples	Analytical Methods	Justification
Grab GW (9 locations including tank farm, upgradient/ downgradient of tank farm, and western property boundary)/9	VOCs, SVOCs, PCBs	Evaluate groundwater conditions in vicinity of tank farm, and upgradient /downgradient of tank farm
Grab GW (4 locations upgradient and downgradient of settling ponds/former lagoons)/9	VOCs, SVOCs, PCBs, Metals	Evaluate groundwater conditions in vicinity of settling ponds, and upgradient /downgradient of settling ponds

At this time, HRP will select certain soil samples for laboratory analysis based on the results of the field screening and observations. Also, In the event that appreciable groundwater is not encountered, a soil sample will be analyzed from that particular boring. The soil samples will be analyzed for the same parameters indicated in Section 5.1.2 above. Presently, HRP anticipates the following soil sample schedule:

Location/Number of Samples	Analytical Methods	Justification
Settling/Scrubber ponds (0-0.5 ft)/1	RCRA Metals	Evaluate surficial soils in vicinity of settling ponds for metals
Proposed Boring near Former UFT-1A/1	VOCs, SVOCs, PCBs	Evaluate subsurface conditions upgradient of former tank farm
Proposed Boring near DFT-2/1	VOCs, SVOCs, PCBs	Evaluate subsurface conditions in vicinity of tank farm
Settling/Scrubber pond borings (3-5 ft above groundwater)/1	VOCs, SVOCs, PCBs, RCRA Metals	Evaluate soil conditions in vicinity of settling ponds

5.2 Task 2, Groundwater Sampling of Existing Wells

Based on HRP's discussions with the NYSDEC and HRP's May 13, 2003 site visit, the following wells in the existing network have been selected for sampling:

Well Designation/location	Reported Total Depth (grade)	Justification
Production Well/near railroad tracks, western border of property	600 ft	Evaluate groundwater quality of on-site production well (in bedrock)
BR-3/ IES site, southwest area	32.9 ft	Evaluate groundwater quality of bedrock in upgradient vicinity of tank farm
DFT-4/northwest area of site	7.5 ft	Evaluate shallow groundwater quality at downgradient location
DFT-11/adjacent to crusher	8 ft	Evaluate shallow groundwater quality at downgradient location of tank farm
DSP-3/north of polishing ponds	39 ft	Evaluate groundwater quality at downgradient location of settling ponds/former lagoons
DSP-4/west of polishing ponds	77 ft	Evaluate groundwater quality at downgradient location of settling ponds/former lagoons
DSP-5/northwest of settling ponds	8.7 ft	Evaluate groundwater quality at downgradient location of settling ponds/former lagoons

5.2.1 *Monitoring Well Development*

Groundwater sampling will involve a two-step process, including well development (or purging) and sampling. ASTM Designation D5092-90 "Standard Practice for Design and Installation of Groundwater Monitoring Wells in Aquifers" will be used as a guideline for well development procedures at the site.

Monitoring well development is the process of removing (purging) groundwater and fine-grained materials to achieve a better hydraulic interconnection between the monitoring well and the surrounding water-bearing formation. Each existing monitoring well will be developed using a new, clean, dedicated polyethylene micro (0.70") bailer or a peristaltic pump and new Tygon® tubing. Development will continue until the turbidity of the discharge water is substantially reduced. However, based on HRP's prior experience with collecting groundwater samples, it may be difficult to achieve low turbidity results. Regardless, high turbidity will not preclude sample collection.

Prior to development activities, water levels and the total well depth will be determined with the use of a water level indicator and

weighted tape, respectively. Each measurement using a water level indicator will occur from the surveyed notch (i.e., black mark) on the well casing. The depth to water and the well's total depth will be recorded to the nearest 0.01 foot. This information will be used to calculate the volume of water in the well. A bucket of known volume will be used to collect and record the amount purged during development.

In addition, HRP will check each monitoring well for both Dense and Light Non- Aqueous Phase Liquids (DNAPLs and LNAPLs) by carefully lowering a clear bailer into the liquid column until the bailer is full. The bailer will then be raised and the liquids will be visually examined for evidence of DNAPL and LNAPL.

It should be noted that a minimum of six well volumes of groundwater would be purged prior to sampling. However, in the event that the well is purged dry prior to collecting six volumes of groundwater, development will cease and the well will be allowed sufficient time to recharge before samples are collected. In the case of the deep production well, HRP will document that the well pump has been operating for a minimum of 30 minutes prior to sample collection.

Water generated during monitoring well purging will be containerized in labeled, 55-gallon, open-topped drums and staged on-site.

5.2.2 ***Monitoring Well Sampling***

At the conclusion of purging, each well will be sampled using the dedicated bailer. In the case of the production well, a sample will be collected directly from the well tap nearest the wellhead. Samples will be collected in laboratory-provided containers, labeled, and placed in an iced cooler for shipment to the laboratory.

Samples will be collected in the following manner:

1. A new, dedicated bailer and a spool of polypropylene rope or equivalent bailer cord will be obtained. New rope will be used for every sampling point. New, disposable nitrile gloves will be donned when touching the rope, the bailer, and during sample collection. If the peristaltic pump is to be used, then a new length of Tygon® tubing sufficient to reach the bottom of the well will be cut, lowered into the well and attached to the pump.

2. Use a clean plastic sheet to wrap the base of the well and cover the ground surrounding the well. The plastic sheet should be of sufficient size to prevent bailer, bailer rope, or tubing from contacting the ground. Care also should be taken to prevent the bailer lanyard from coming into contact with the plastic sheeting.

3. Remove the plastic wrapping from the bailer and place the bailer inside the well to verify that an adequate annulus is present between the bailer and the well casing to allow free movement.

4. During well bailing, lower the bailer carefully into the well casing taking care not to agitate the water in the well. This will minimize sediment disturbance and evaporation of volatile organics.

5. Raise the bailer by grasping a section of cord used using each hand alternately. This bailer lift method will assure that the bailer cord will not come into contact with the ground or other potentially contaminated surfaces.

6. Bailed groundwater will be poured from the bailer into a bucket to measure the purged water volume. Care will be taken to prevent the bailer from contacting the bucket.

7. During sample collection, bailers will be slowly lowered to allow for sample collection from the top of the water column and withdrawn slowly to avoid disturbing the bottom of the well.

8. Samples collected by bailing will be poured directly into sample containers, starting with the 40 ml vials for the VOCs. The sample should be poured slowly to minimize air entrapment in the sample bottle. During sample collection, bailers will not be allowed to contact the sample containers. If a peristaltic pump is to be used, samples will be collected directly from the end of the tubing.

5.2.3 Sample Analysis

Groundwater samples will be analyzed for the Target Compound List (TCL) of volatile organic compounds (VOCs) via EPA Method 8260. In addition, samples will be analyzed for semi-volitiles (SVOCS) via EPA Method 8270, and Polychlorinated Biphenyls (PCBs) via EPA Method 8082. Also, groundwater collected in the vicinity of the settling ponds (i.e., Monitoring wells DSP-3, DSP-4,

and DSP-5) will also be analyzed for the eight (8) RCRA metals (i.e., As, Ba, Cd, Cr, Pb, Hg, Se, and Ag). The proposed groundwater sampling schedule and justifications is listed in the table below:

Well Designation	Analytical Methods
Production Well	VOCs, SVOCs, PCBs
DSP-3, DSP-4, DSP-5	VOCs, SVOCs, PCBs, Metals
BR-3	VOCs, SVOCs, PCBs
DFT-4	VOCs, SVOCs, PCBs
DFT-11	VOCs, SVOCs, PCBs

5.3 Task 3, Surface Water/Sediment Sampling of Stormwater Pond

HRP will collect surface water and sediment samples from the northernmost stormwater pond. The surface water/sediment sampling will be conducted generally in accordance with Section 3.9c of DER-10.

5.3.1 Surface Water

HRP will select an undisturbed location on the pond's northern shore to collect surface water using a polyethylene dipper bottle, obtained from the laboratory. The dipper will be used to fill the sample containers. The containers will be labeled and placed in an iced cooler for preservation until transport to the laboratory.

5.3.2 Sediment

In addition, one sediment sample will be collected from the pond using a stainless steel trowel. The sediment sample will be collected at approximately the same location on shore as where the surface water sample will be collected. Initially, any organics (twigs, roots, etc.) will be removed from the area to expose the sediment. Sediment will be transferred into the sample containers using the trowel. The containers will be labeled and placed in an iced cooler for preservation until transport to the laboratory.

5.3.3 Analysis

The surface water and sediment samples obtained from the northern stormwater pond will be analyzed for the Target Compound List (TCL) of volatile organic compounds (VOCs) via EPA Method 8260, semi-volitiles (SVOCS) via EPA Method 8270, Polychlorinated Biphenyls (PCBs) via EPA Method 8082, and the eight (8) RCRA metals. In addition,

the surface water sample will also be analyzed for pH (EPA Method 150.1), total phenols (EPA Method 420.1), chloride (EPA Method 9096), sulfate (EPA Method 9096), and turbidity (EPA Method 180.1).

5.4 Task 4: Sampling of Seep Face Water

HRP proposes to sample the seep face, located south of the kilns and west of monitoring well BR-1.

5.4.1 Collection Method

The seep will be sampled by placing an unpreserved sample container under the flowing seep. The container will be used to transfer seep water into the various sample containers, starting with the VOC containers, until they are filled. The containers will be labeled and placed in an iced cooler for preservation until transport to the laboratory.

5.4.2 Analysis

HRP proposes to analyze the seep sample for TCL VOCs via EPA Method 8260, SVOCS via EPA Method 8270, and PCBs via EPA Method 8082.

5.5 Task 5: Off-site Groundwater Investigation

HRP will conduct an off-site groundwater investigation downgradient of the settling/scrubber ponds. Assuming authorization is granted, HRP will conduct the investigation by evaluating the integrity of off-site monitoring well DFT-3, located immediately northwest of the site and north of Tissal Road, and subsequently sampling this well.

5.5.1 Sample Collection

HRP will then collect a grab groundwater sample from this location utilizing a micro-bailer utilizing the methods described in Section 5.2.2.

5.5.2 Analysis

HRP proposes to analyze the off-site groundwater sample for TCL VOCs via EPA Method 8260, and the eight (8) RCRA metals.

5.6 Task 6: Soil Gas Survey (If Necessary)

If VOCs are detected above background concentrations or above applicable standards, criteria and guidance (SCGs) within any of the soil or groundwater samples proposed in Tasks 1 or 2, then HRP will conduct a soil gas survey in the vicinity of the boring where the detection occurred. A minimum of 20% of the soil gas survey samples will be sent to the laboratory for analysis.

5.6.1 Sample Collection

At this time, soil gas points will be installed in a radial pattern to assist in determining a possible source of VOCs in the vicinity. HRP will utilize a Geoprobe to install soil gas points to a depth of five feet, or one foot above the observed water table. Each point will be installed by advancing a drive point adaptor with stainless steel rods and tubing connectors. When the point reaches the desired depth, the rods will be retracted 3-4 inches to create a void space in the soil, which cannot reach ambient air. Clean, polyethylene tubing will be connected to the rods and an air pump, which is used to collect an air sample into a new Tedlar bag. An inert materials (i.e., bentonite) will be used to "pack off" the annular space between the rods and the ground surface.

5.6.2 Analysis

The Photo Vac 10S70 gas chromatograph (GC) equipped with a photoionization detector (PID) and an on-board computer, which is programmed to analyze samples for target volatile organic compounds. The main target compounds for this project are Tetrachloroethene (PCE), Trichloroethene (TCE), cis-1,2, & trans (DCE).

The Photo Vac GC is capable of generating quantitative data specific to each compound reported. After injection into the instrument, the gaseous sample passes through a chromatographic column prior to the PID. The various VOC's pass through this column at different rates and thus reach the detector at different times after the injection.

Prior to the start of field activities, the instrument is calibrated to recognize retention times and convert peak areas into concentrations for the target VOCs. The typical

standard used is Toluene, which is a compound that elutes between TCE and PCE. However, TCE and PCE standards will also be available for additional calibration. Other compounds can be re-calibrated to up-date retention times as needed. A multiple compound library is programmed into the instrument by sequentially analyzing each standard. A gas tight syringe is used to withdraw 250 micro liters (uL) of headspace from the sample vial and this volume is injected into the instrument for analysis. A peak is detected for the standard and recognized, but not identified or quantitated by the instrument; the peak is simply recognized as having a certain retention time and peak area. The analyst enters both the identity and concentration of the standard and repeats this process for each of the remaining target VOC's. At the end of the initial calibration, the portable GC can identify/ quantitate peaks associated with the target VOC.

Other peaks which are recognized during the analysis may remain unidentified and a retention time and peak area are reported rather than a compound and concentration. The retention time and detector response is influenced by other conditions such as the internal temperature of the instrument and the rate of carrier gas flow through the column. Although regulated, some variations in these conditions occur and act to shift the retention times and response factors of the target VOCs. Thus continuing calibration may be routinely performed.

The continuing calibration is performed by injecting a standard, such as TCE into the portable GC for analysis. Using a keyboard command, the analyst instructs the instrument to re-calibrate the library. After the peak is detected, the analyst enters both the identity and concentration. The retention times and response factors for all of the target VOCs in the library are then linearly adjusted relative to that calibration standard.

At a minimum, a continuing calibration is performed during fieldwork. However, since field conditions tend to change (i.e., temperature as the day progresses) the instrument may be re-calibrated throughout the day. The analyst will monitor the retention time for the shifts (caused by the temperature fluctuations) in excess of approximately 5%. Retention time shifts of this magnitude or greater may result in the inability of the instrument to identify and quantitate peaks which were detected. A "dry run" or blank may be performed after any

sample that shows very significant peaks or periodically throughout the day to monitor any residual column contamination. A dry run is performed by starting the GC like a normal injection but without the insertion of the syringe. A blank sample of ultra zero grade air in a 125 ml glass sampling bulb will also be run to show any potential cross contamination from the syringe.

6.0 Quality Assurance Project Plan (QAPP)

Section 6.0 is the Quality Assurance Project Plan (QAPP), which is a discussion of the quality Assurance/Quality Control (QA/QC) procedures to be followed during this investigation. It is the policy of HRP that methods utilized to collect, analyze and evaluate field and laboratory data are consistent with the highest appropriate level of (QA/QC) procedures. The QA/QC program provisions ensure:

- Generation of high quality data;
- Use of sound QA/QC management practices;
- Documented field data collection methodologies which meet QA/QC standards;
- Field interpretations and analytical results which are valid;
- Sample identification and integrity are controlled by adherence to strict chain of custody protocols;
- Laboratory accuracy and precision of analyses are maintained by the specific laboratory identified; and,
- Calculations and evaluations are accurate and well documented.

Table 1 presents the proposed sampling analytical chart, including the number of samples for each matrix (arranged by task and location), while Table **2** is a summary of the sample analysis, including the total number of samples per matrix, the number of QA/QC samples, container requirements, preservatives, and holding times for the FRI/FS.

6.1 Laboratory Quality Assurance

As indicated in Section 3.4, Adirondack Environmental Services (AES) of Albany, New York will be the contract laboratory for this project. AES is a laboratory certified by the New York State Department of Health's Contract Laboratory protocols (CLP) and Environmental Laboratory Approval Program (ELAP), as required by NYSDEC protocols. AES will provide all the laboratory analysis for the project, including Analytical Services Protocol (ASP), Category B deliverables packages, sample containers, coolers, chemical fixatives, and chain of custody documents.

6.2 Quality Control

Quality Control measures will be in place during the entire project. This will include, but not be limited to, strict adherence to the following: sample handling, chain-of-custody procedures, equipment calibrations, maintenance, the collection of equipment blanks, field blanks, trip blanks, and decontamination.

6.2.1 *Sample Handling*

All samples collected as part of this project will be handled in strict accordance with Section 6.2.2 of this Work Plan. Any deviations will require an addendum, as authorized by the project manager.

Samples collected during field investigations will be transported by HRP field personnel in laboratory-provided coolers directly to the laboratory. Those samples that require a lower temperature for preservation will be placed inside an insulated cooler of wet ice. Prior to transport, the ice chest/cooler will be sealed with custody tape to ensure that the seal has not been inappropriately broken prior to receipt by the laboratory.

6.2.2 *Chain of Custody Procedures*

Chain of custody of procedures begin when clean sample bottles are picked up from the laboratory. Each sample container is identified by a unique number located on the sample label. Properly labeled samples remain in the custody of the HRP field sampling technician until they are relinquished for transport to the laboratory. A copy of the chain of custody will remain on file under each project number in the custody of the project manager.

The primary objective of sample chain of custody is to create an accurate written verified record, which can be used to trace the possession and handling of the sample containers from the moment of receipt until returned by the laboratory. Sample custody will be archived by approved field and laboratory documentation. A sample for this project is defined to be in someone's custody if:

1. It is in one's actual physical possession;
2. It is in one's view, after being in one's physical possession;
3. It is in one's physical possession and then locked or otherwise sealed so that tampering will be evident; or
4. It is kept in a secure area, restricted to authorized personnel only.

Field procedures will be designed to minimize sample handling and transfers. During sampling, the field crews will record the following information in field notebooks using ink:

1. The unique sample number as obtained from the sample label and parameters to be analyzed;
2. Source of sample (including designation, name, location, and matrix type);

3. Description of sampling points (i.e., monitor well, number, boring, key landmarks, etc.);
4. Date and time of sample collection;
5. Order of sample collection;
6. Preservatives used;
7. Name(s) of collector(s);
8. Field data (weather and other site conditions);
9. Sampling equipment (i.e., purge method, bailer type, etc.); and
10. Types of quality assurance samples collected (i.e., field blanks, equipment blanks, split, etc.).

HRP field personnel are responsible for **uniquely** identifying and labeling each sampling point. This identification should be logged onto all field forms, chain of custody, and into field logbooks. It will not be permissible to change the sampling point identification once it has been established. All sample collection activities will be traceable by field records, sample collector, chain of custody documents, and a database if available. **Errors made in original field documentation must be shown with a single line drawn though and initialed by the author of the documentation.**

6.2.3 *Equipment Calibrations*

During the implementation of the field sampling plan, several pieces of field equipment, which require calibration, will be utilized at the site. The proposed equipment to be used at the site will include, but not be limited to, the following:

- Photoionization Detector (PID);
- Particulate Meter

All field equipment will be calibrated immediately prior to use in the field. The calibration procedures will follow standard manufacturer's instructions or routine HRP procedures to assure that the equipment is functioning within tolerances established by the manufacturer and required by the project. Field personnel will document all instrument calibration in bound field notebooks and on calibration forms found at the end of the site specific Health and Safety Plan (HASP). All records generated will be maintained by field personnel and are subject to audit by the QA Manager.

The detailed calibration, operation, and maintenance procedures for field instrumentation routinely used by HRP personnel are specific to manufacturer's instructions.

All calibrations will be recorded in a field notebook and on calibration forms found in the HASP. These calibration records

become part of the individual project files as documentation of QA objectives.

6.2.4 *Maintenance*

HRP personnel routinely maintain field equipment for optimal results. All maintenance procedures are documented in control logbooks designated for each piece of equipment. The individual performing the adjustment of the equipment will record any field activities involving routine maintenance in field logbooks. Maintenance performed at an authorized repair service will be documented in the maintenance log, including service location, specific repair, and method of transport. Methods of routine maintenance depend on the instrument and manufacturer. Refer to the manufacturer's operations manual for these procedures.

In the event that the primary field equipment is inoperable as determined by calibration difficulties, back-up field instruments will be obtained from other sources. These instruments will be calibrated prior to recording data. In no event shall instruments be used to record data unless the performance of the equipment has been documented.

6.2.5 *Blanks*

To ensure the validity of the field sampling plan, equipment blanks will be collected at the site. In addition, trip blanks will be prepared at the laboratory and accompany the sample containers during the entire sampling event (i.e., from the laboratory, to the field, to the sample locations, and back to the laboratory). Trip blanks will be analyzed for VOCs via EPA Method 8260, while equipment blanks will be analyzed for VOCs via EPA Method 8260, semi-volatiles (SVOCS) via EPA Method 8270, Polychlorinated Biphenyls (PCBs) via EPA Method 8082, and the eight (8) RCRA metals (i.e., As, Ba, Cd, Cr, Pb, Hg, Se, and Ag).

Equipment, and trip blanks are slightly different from one another. For preparation of an equipment blank, an appropriate blank material (water) will be brought in contact with the sampling tools used for "real" samples. Equipment blanks will be collected by pouring laboratory grade deionized water over decontaminated equipment (stainless steel scoop, split spoon, etc.) and collecting the water in laboratory-supplied containers. Equipment blanks demonstrate whether the sampling equipment has been properly decontaminated.

Trip blanks are prepared at the laboratory and transported to the site in sealed containers. They evaluate whether airborne contamination is present at any point during the trip, and whether or not the gas chromatograph columns have been thoroughly purged between samples.

One equipment blank, and one trip blank will be collected and analyzed during the implementation of Tasks 1 and 2 (groundwater sampling) of the field sampling plan (See Table 2).

6.2.6 ***Duplicates***

As per ASP protocols, HRP proposes to collect one duplicate sample per matrix or one duplicate sample for every 20 analytical samples, at a minimum. The duplicates will be analyzed for VOCs via EPA Method 8260, SVOCS via EPA Method 8270, PCBs via EPA Method 8082, and the eight (8) RCRA metals.

6.2.7 ***Spikes***

As per ASP protocols, HRP proposes to collect one matrix spike/matrix spike duplicate (MS/MSD) sample per matrix or one MS/MSD for every 20 analytical samples, at a minimum. The duplicates will be analyzed for VOCs via EPA Method 8260, SVOCS via EPA Method 8270, PCBs via EPA Method 8082, and the eight (8) RCRA metals.

Decontamination Procedures

All non-disposable field equipment which comes into direct contact with sampling media will undergo decontamination procedures. This includes: Geoprobing equipment, stainless steel scoops, and any other necessary hand tools. Prior to the commencement of fieldwork, a decontamination area will be constructed on site, and will be designated for decontamination only.

Macro core samplers, SP-15 groundwater sampler, stainless steel scoops and other hand tools will be decontaminated after each sample is collected in the following manner:

- The equipment will be washed in laboratory detergent solution (Alconox) and water;
- The equipment will then be washed with a solution of methanol to remove trace organics;
- The equipment will then be washed with a solution of nitric acid to remove trace inorganics;

- The equipment will undergo a rinse of tap water;
- The equipment will undergo a final rinse using deionized water; and,
- The equipment will be wiped dry with a paper towel.

6.3 Data Usability Summary Report (DUSR)

AES will provide Category B deliverable packages for the analyses, which will be forwarded to Dataval, Inc., an independent data validator for completion of a Data Usability Summary Report (DUSR). The DUSR will be prepared to verify that the laboratory data is usable. The DUSR will examine the laboratory data provided in the deliverables packages and answer the following questions:

- Is the data package complete, as defined under the requirements of NYSDEC ASP Category B deliverables?
- Have all the holding times been met?
- Do ail the QC data (i.e., blanks, instrument tunings, calibration standards, verifications, surrogate recoveries, spike recoveries, replicate analyses (duplicates), laboratory controls, and sample data) fall within the protocol required limits and specifications?
- Have all the data been generated using established and agreed upon analytical protocols?
- Does an evaluation of the raw data confirm the results provided in the data summary sheets and quality control verification forms?
- Have all the correct data qualifiers been used?

7.0 Feasibility Study

At the conclusion of the FRI activities, HRP will conduct a Feasibility Study (FS). The goal of the FS will be to evaluate options for a remedial action, if necessary. The FS will emphasize data analysis and, in general, will be performed concurrently with the remedial investigation by using data gathered during the focused remedial investigation (FRI). The FRI data will be used to define the objectives of the program, to develop remedial action alternatives, and to undertake an initial screening and detailed analysis of the alternatives.

The FS will evaluate the data collected during this FRI/FS along with the historical site data to eliminate, to the extent practical, all significant health and environmental hazards and potential hazards at the site. The FS will be prepared by and have the signature and seal of a New York State Licensed Professional Engineer (P.E.), indicating that the FS was prepared in accordance with the Consent Order.

TABLE 1

SAMPLING ANALYTICAL CHART

Northeast Solite-Proposed FRI/FS
1133 Old Kings Highway
Mt. Marion, New York

Task/ Location	Matrix	No. of Sample Locations	No. of Samples Collected	Analyses	Reporting Limit
1/Various	Groundwater	9	9	TCL VOCs by EPA 8260 SVOCS by EPA 8270 PCBs by EPA 8082	5-10 ppb 10 ppb 0.065 ppb
1/Settling ponds	Groundwater	4	4	TCL VOCs by EPA 8260 SVOCS by EPA 8270 PCBs by EPA 8082 8 RCRA Metals	5-10 ppb 10 ppb 0.065 ppb various
1/Vicinity of DFT-2	Soil	1	1	TCL VOCs by EPA 8260 SVOCS by EPA 8270 PCBs by EPA 8082	5-10 ppb 330 ppb 33 ppb
1/Vicinity of UFT-1A	Soil	1	1	TCL VOCs by EPA 8260 SVOCS by EPA 8270 PCBs by EPA 8082	5-10 ppb 330 ppb 33 ppb
1/Settling Ponds	Soil	4	4	TCL VOCs by EPA 8260 SVOCS by EPA 8270 PCBs by EPA 8082	5-10 ppb 330 ppb 33 ppb
1/Settling ponds (surficial)	Soil	1	1	TCL VOCs by EPA 8260 SVOCS by EPA 8270 PCBs by EPA 8082 8 RCRA Metals	5-10 ppb 330 ppb 33 ppb various
2/Various	Groundwater	4	4	TCL VOCs by EPA 8260 SVOCS by EPA 8270 PCBs by EPA 8082	5-10 ppb 10 ppb 0.065 ppb
2/Settling Ponds	Groundwater	3	3	TCL VOCs by EPA 8260 SVOCS by EPA 8270 PCBs by EPA 8082 8 RCRA Metals	5-10 ppb 10 ppb 0.065 ppb various
3/N. Stormwater Pond	Surface Water	1	1	TCL VOCs by EPA 8260 SVOCS by EPA 8270 PCBs by EPA 8082 8 RCRA Metals pH by EPA 150.1 Total phenols by EPA 420.1 Chloride by EPA 9096 Sulfate by EPA 9096	5-10 ppb 10 ppb 0.065 ppb various NA 2 1 5

TABLE 1

SAMPLING ANALYTICAL CHART

Northeast Solite-Proposed FRI/FS
1133 Old Kings Highway
Mt. Marion, New York

3/N. Stormwater Pond	Sediment	1	1	TCL VOCs by EPA 8260 SVOCS by EPA 8270 PCBs by EPA 8082 8 RCRA Metals	5-10 ppb 330 ppb 33 ppb various
4/Seep	Groundwater	1	1	TCL VOCs by EPA 8260 SVOCS by EPA 8270 PCBs by EPA 8082	5-10 ppb 10 ppb 0.065 ppb
5/off-site well DFT-3	Groundwater	1	1	TCL VOCs by EPA 8260 SVOCS by EPA 8270 PCBs by EPA 8082 8 RCRA Metals	5-10 ppb 330 ppb 33 ppb Various
Blanks (Trips, Equipment)	Groundwater (DI water for trips)	1 Trip, 2 Equipment Blanks	2	TCL VOCs by EPA 8260 (Trip only) TCL VOCs by EPA 8260 SVOCS by EPA 8270 PCBs by EPA 8082 8 RCRA Metals	5-10 ppb 5-10 ppb 330 ppb 33 ppb Various
Duplicates	Groundwater, Soil	2	2	TCL VOCs by EPA 8260 SVOCS by EPA 8270 PCBs by EPA 8082 8 RCRA Metals	5-10 ppb 330 ppb 33 ppb Various
Spikes (MS/MSD)	Groundwater, Soil	2	2	TCL VOCs by EPA 8260 SVOCS by EPA 8270 PCBs by EPA 8082 8 RCRA Metals	5-10 ppb 330 ppb 33 ppb Various
Background	Groundwater, Soil	2	2	TCL VOCs by EPA 8260 SVOCS by EPA 8270 PCBs by EPA 8082 8 RCRA Metals	5-10 ppb 330 ppb 33 ppb Various

TABLE 2-SUMMARY OF SAMPLE ANALYSES

Sample Matrix	Analytical Methods	Number of Samples	Quality Control Samples	Sample Container Requirements	Sample Preservative	Sample Holding Times
Groundwater	TCL VOCs by EPA 8260 SVOCS by EPA 8270 PCBs by EPA 8082 8 RCRA Metals	20	*1 Duplicate *1 MS/MSD *1 Trip Blank *1 Equip. Blank	(2) 40 ml. clear glass VOA (VOCs) (1) 1 liter clear glass (SVOCs) (1) 1 liter amber glass (PCBs) (1) 16 oz plastic (metals)	Cool to 4°C 1:1 HCl to pH <2 (VOCs) HNO_3 to pH<2 (metals),	10 days (VOCs) 5 days SVOCs, PCBs) 180 days (metals except Hg) 26 days (Hg)
Soil	TCL VOCs by EPA 8260 SVOCS by EPA 8270 PCBs by EPA 8082 8 RCRA Metals	6	*1 Duplicate *1 MS/MSD *1 Equip. Blank	(1) 4 oz. Clear glass (VOCs) (1) 6 oz. Clear glass (SVOCs, PCBs, metals)	Cool to 4°C	10 days (VOCs, SVOCs, PCBs) 180 days (metals except Hg) 26 days (Hg)
Sediment /Surface Water	TCL VOCs by EPA 8260 SVOCS by EPA 8270 PCBs by EPA 8082 8 RCRA Metals **pH, phenols, chloride, sulfate and turbidity	2	0	(1) 4 oz. Clear glass (VOCs) (1) 6 oz. Clear glass (SVOCs, PCBs, metals) (1)** 32 oz. Plastic (pH, turbidity, chloride, sulfate) (1)** 32 oz. Glass (phenols)	Cool to 4°C 1:1 HCl to pH <2 (VOCs) HNO_3 to pH<2 (metals) H_2SO_4 (Phenols)	10 days (VOCs, SVOCs, PCBs) 180 days (metals except Hg) 26 days (Hg) ASAP (pH) 24 hrs (Turbidity) 26 days (Chloride, Sulfate, Phenols)
Seep (Groundwater)	TCL VOCs by EPA 8260 SVOCS by EPA 8270 PCBs by EPA 8082	1	0	(2) 40 ml. clear glass VOA (VOCs) (1) 1 liter clear glass (SVOCs) (1) 1 liter amber glass (PCBs)	Cool to 4°C 1:1 HCl to pH <2 (VOCs)	10 days (VOCs) 5 days (SVOCs, PCBs)

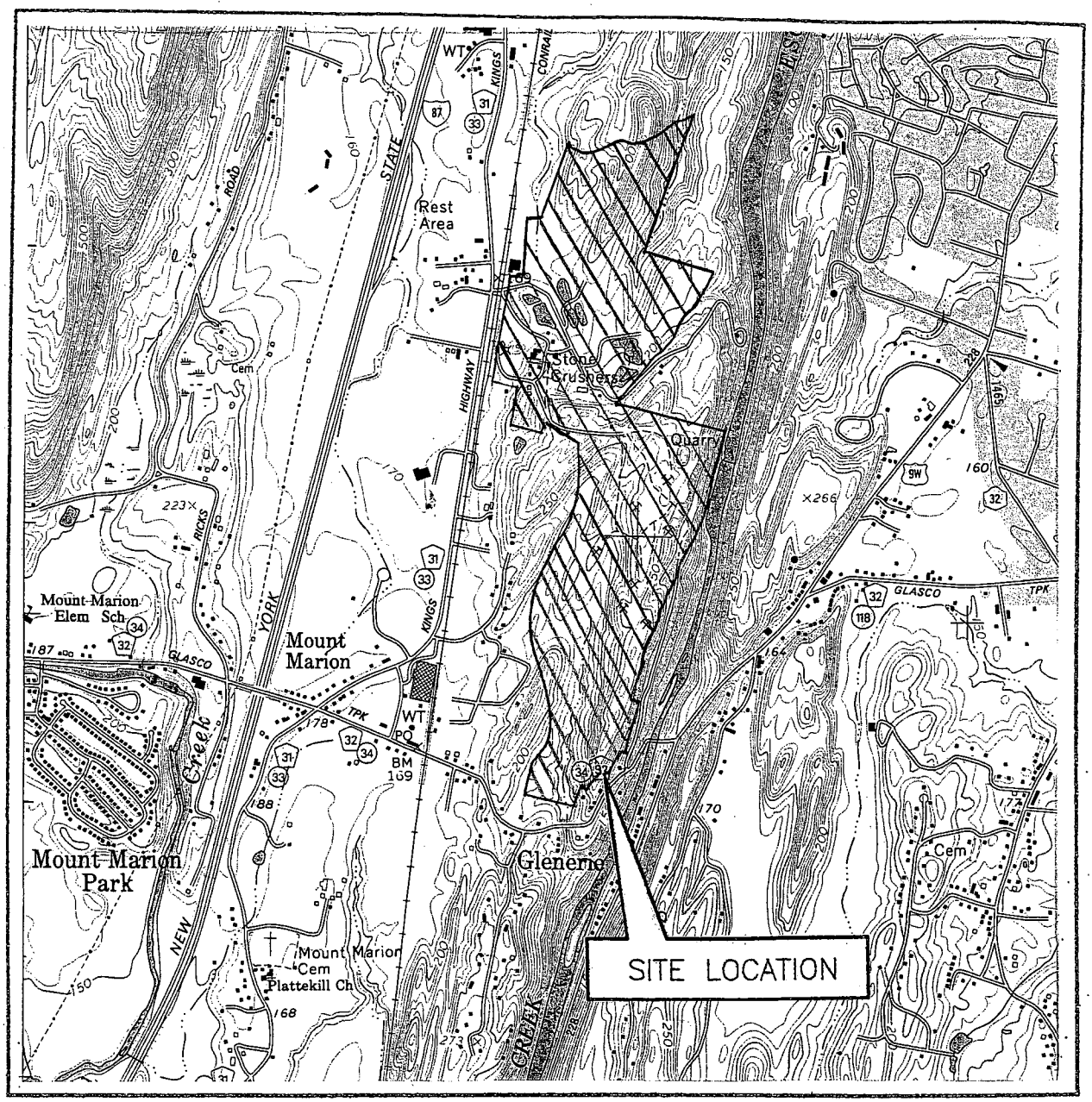
* Minimum number of samples
** Surface Water Only

TABLE 3

PERSONNEL ASSIGNMENTS

Project Manager	Health & Safety Officer (HSO)	Security Officer (SO) Record keeper	HSO/SO Designated Alternate	Field Team Members	Public Information Officer
Jeffrey R. Sotek, P.E., C.S.P.	Christopher J. Bablin	Caroline E. Benedict	Caroline E. Benedict	Christopher J. Bablin Caroline E. Benedict Geoprobe Operator (Zebra) and helper James Scerra Jason Beach Robin Iocova	Albert Galliano
PERSONNEL RESPONSIBILITIES					
• Project Manager	• Implementation of HASP/CWP • General Site Supervisor • Stop work if poor work practices or conditions endanger worker health & safety • Act as Emergency Coordinator if necessary • Provide pre-entry briefing	• Maintain site records • Enforce site control program	• Perform HSO/SO duties if so designated	• Perform site work tasks	• Provide public information as necessary

HRP Associates, Inc.



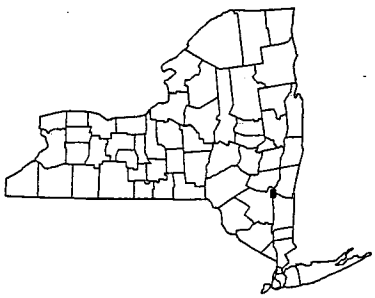
SCALE 1 : 24000

1 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

CONTOUR INTERVAL 10 FEET

N



QUADRANGLE LOCATION

FIGURE ONE
SITE LOCATION
NORTHEAST SOLITE
1133 KINGS HIGHWAY
MOUNT MARION, NEW YORK
HRP# NOR3700.P2

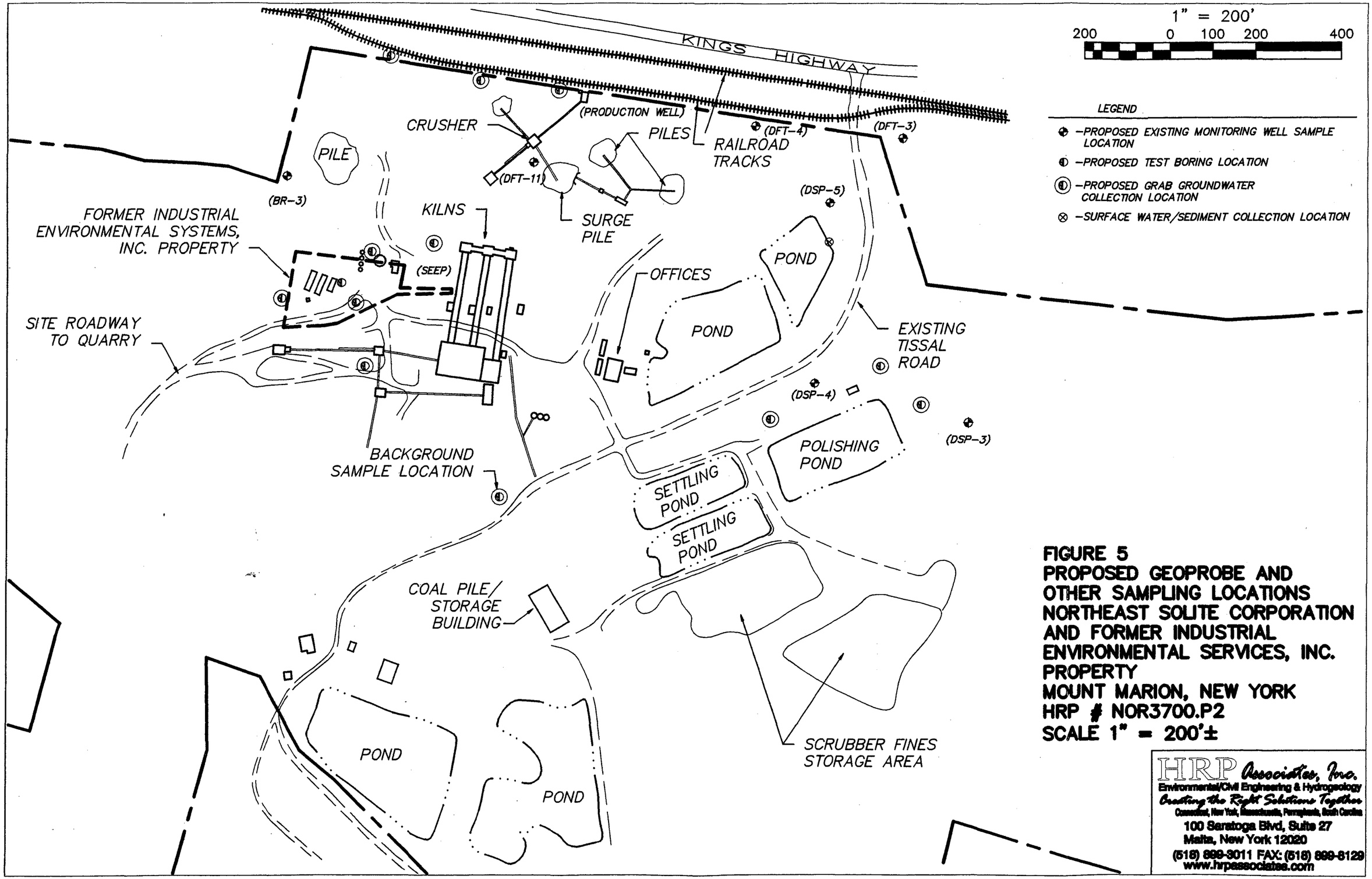


FIGURE 5
PROPOSED GEOPROBE AND OTHER SAMPLING LOCATIONS NORTHEAST SOLITE CORPORATION AND FORMER INDUSTRIAL ENVIRONMENTAL SERVICES, INC. PROPERTY
MOUNT MARION, NEW YORK
HRP # NOR3700.P2
SCALE 1" = 200'±

HRP Associates, Inc.
Environmental/Civil Engineering & Hydrogeology
Creating the Right Solutions Together
Connecticut, New York, Massachusetts, Pennsylvania, South Carolina
100 Saratoga Blvd, Suite 27
Malta, New York 12020
(518) 899-3011 FAX: (518) 899-8129
www.hrpassociates.com

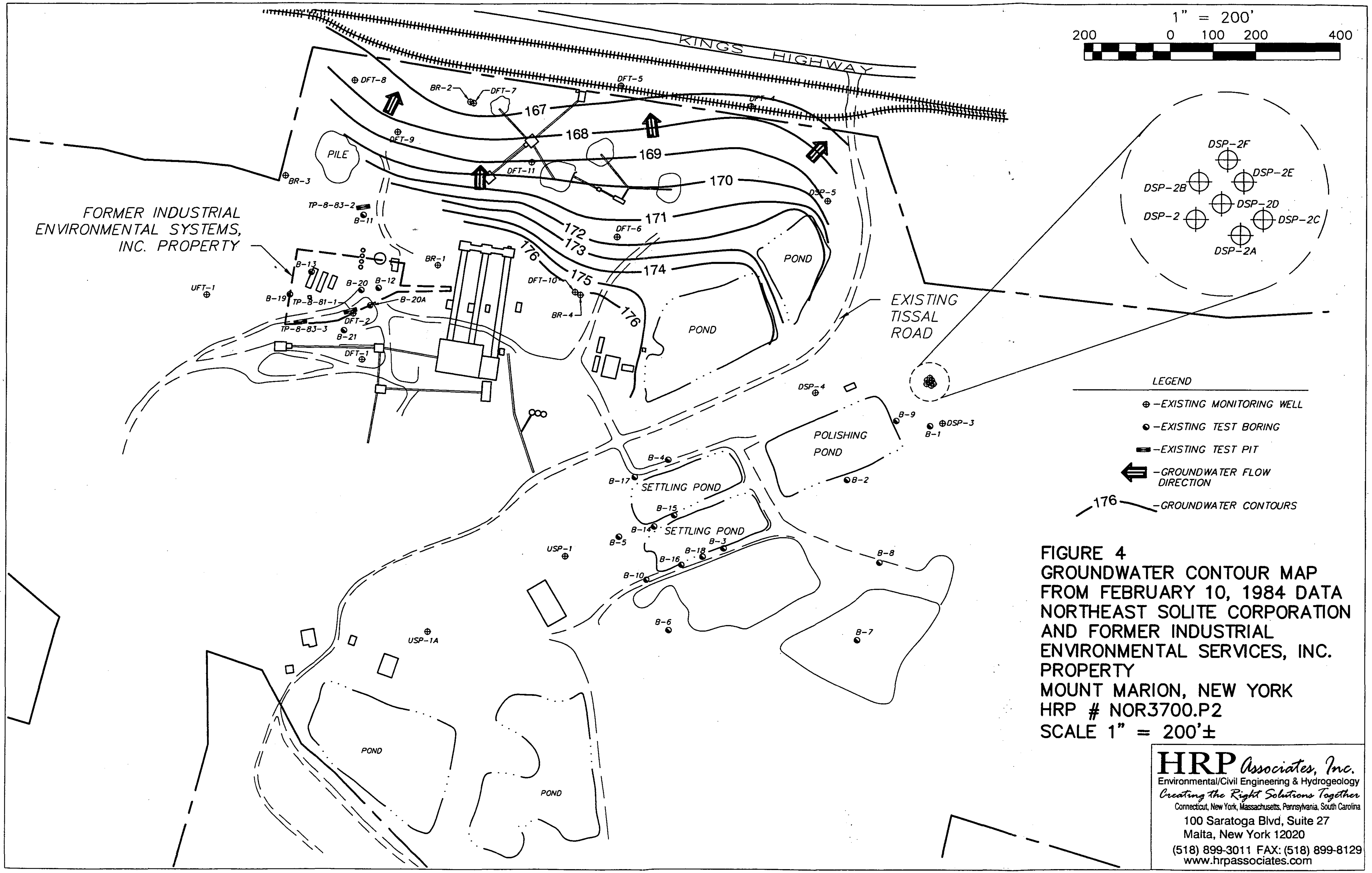


FIGURE 4
GROUNDWATER CONTOUR MAP
FROM FEBRUARY 10, 1984 DATA
NORTHEAST SOLITE CORPORATION
AND FORMER INDUSTRIAL
ENVIRONMENTAL SERVICES, INC.
PROPERTY
MOUNT MARION, NEW YORK
HRP # NOR3700.P2
SCALE 1" = 200'±

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NORTHEAST SOLITE CORPORATION\NORTHEAST SOLITE'S NY FACILITY, KINGS HIGHWAY, MT. MARION.
N:\NOR3700P2\CAD\FIG4-2-10-84 GW CONTOURS.dwg, 06/04/2003 03:48:19 PM

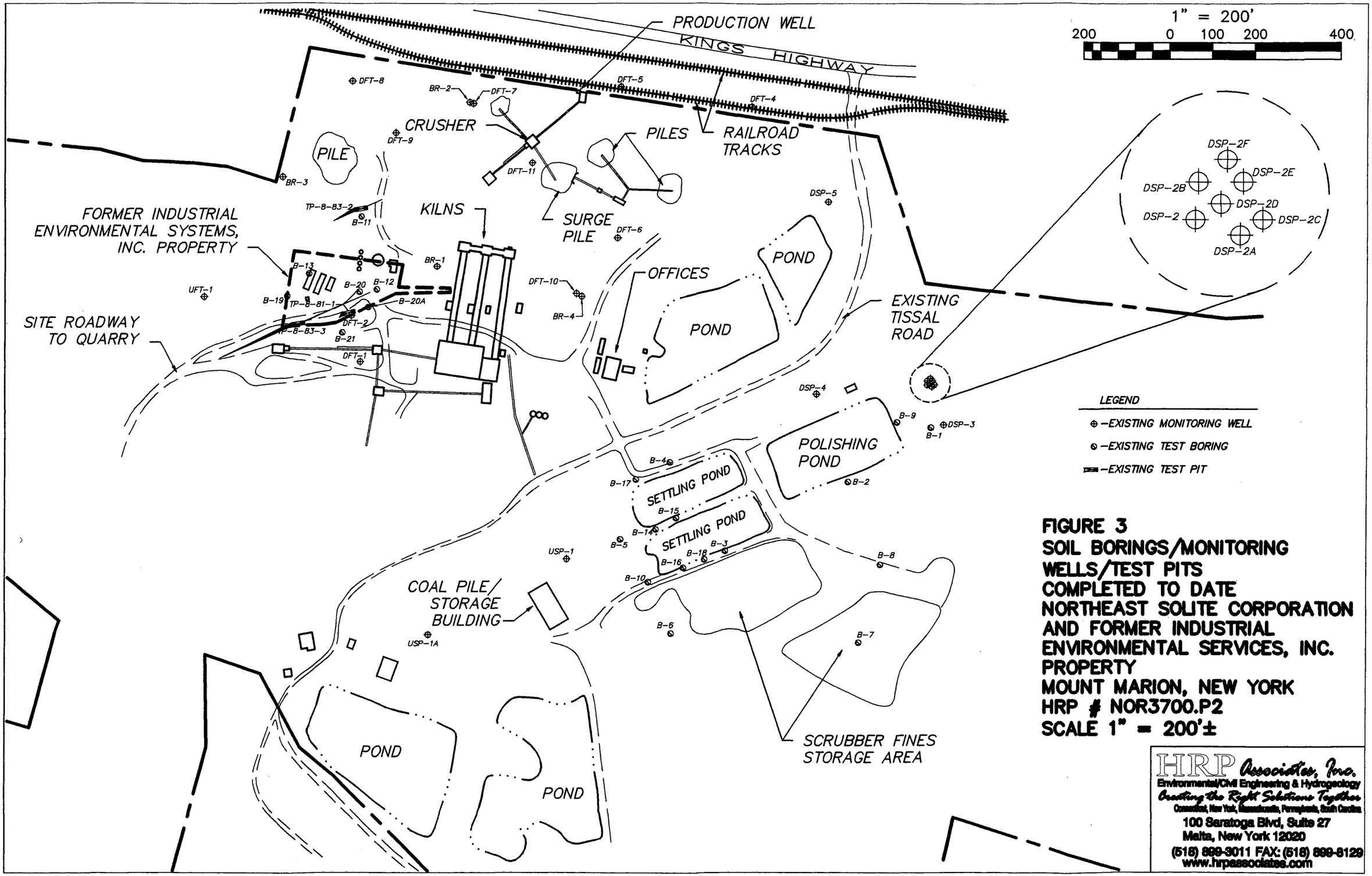

FIGURE 3
SOIL BORINGS/MONITORING WELLS/TEST PITS COMPLETED TO DATE
NORTHEAST SOLITE CORPORATION AND FORMER INDUSTRIAL ENVIRONMENTAL SERVICES, INC. PROPERTY
MOUNT MARION, NEW YORK
HRP # NOR3700.P2
SCALE 1" = 200'±

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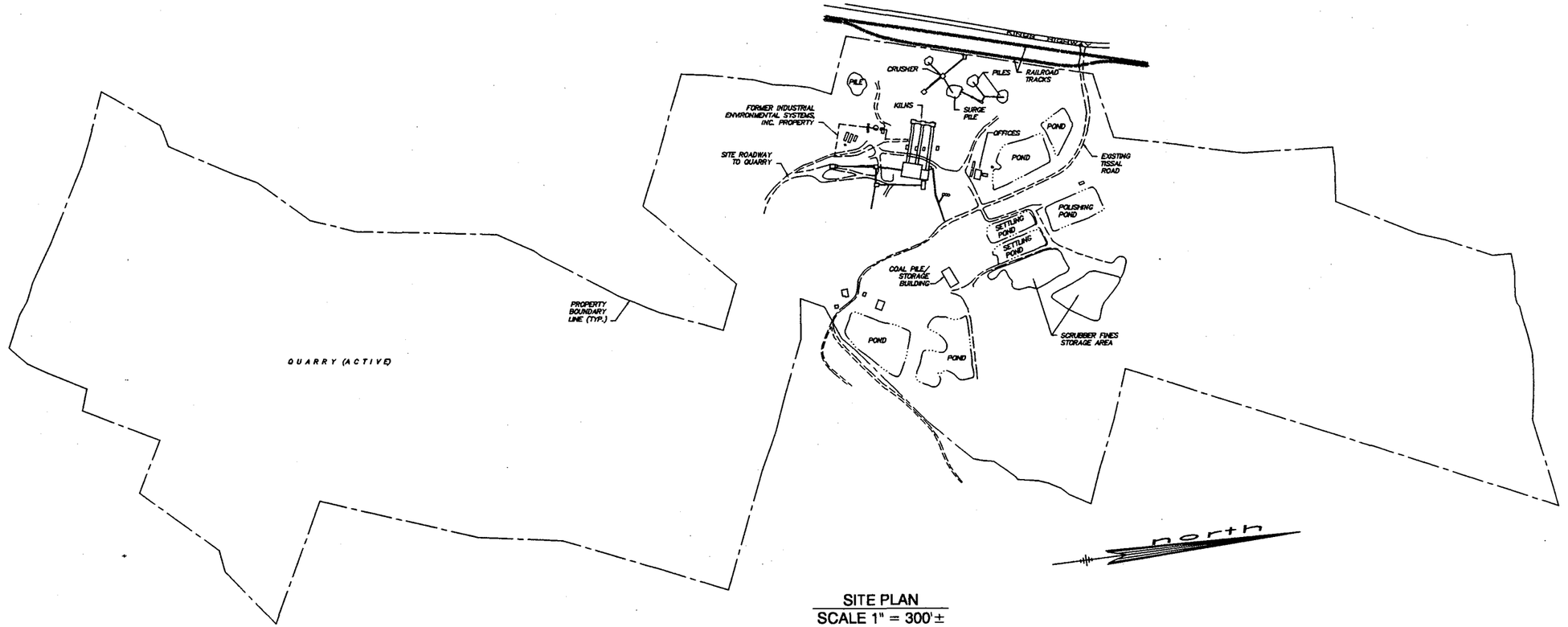
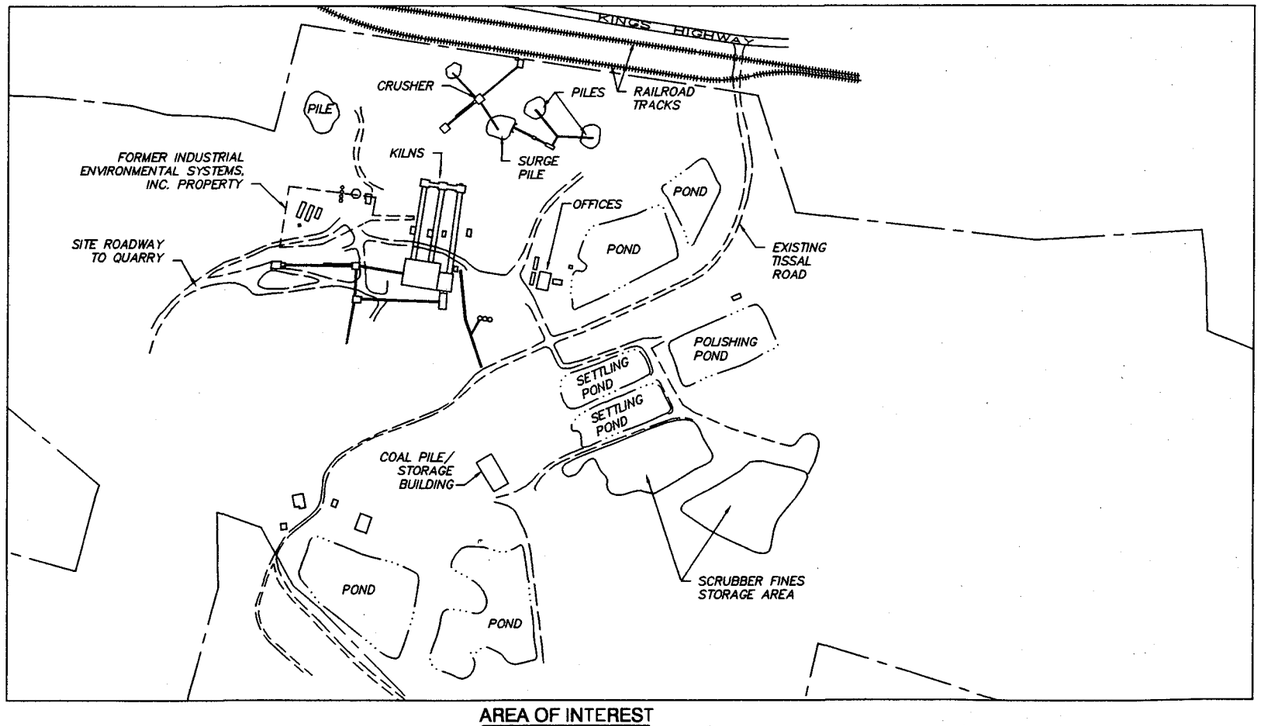


SITE PLAN
SCALE 1" = 300'±



AREA OF INTEREST
SCALE 1" = 200'±

1" = 200'
200 0 100 200 400

1" = 300'
300 200 100 0 150 300 600

APPROXIMATE SCALES IN FEET

REVISIONS

NO.	DATE	DESCRIPTION

SITE PLAN

NORTHEAST SOLITE CORPORATION AND FORMER INDUSTRIAL ENVIRONMENTAL SERVICES INC. PROPERTY
MOUNT MARION, NEW YORK

HRP Associates, Inc.
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FAX: (518) 899-8128
www.hrpassociates.com

CBB DESIGNED	JRS APPROVED	SCALE	AS NOTED
B.O.B. DRAWN	JUNE 4, 2003 DATE		FIG 2
CBB CHECKED	NOR3700.P2 PROJECT NO.		SHEET NO.

APPENDIX A

MARCH 26, 2001 ORDER ON CONSENT

STATE OF NEW YORK: DEPARTMENT OF ENVIRONMENTAL CONSERVATION

In the Matter of the
Development and Implementation
of a Focused Remedial Investigation/
Feasibility Study for an Inactive
Hazardous Waste Disposal Site,
Under Article 27, Title 13,
and Article 71, Title 27 of the
Environmental Conservation Law
of the State of New York by

ORDER
ON
CONSENT

INDEX # W3-0881-01-02

Northeast Solite Corporation
Industrial Environmental Systems, Inc.

Respondents

Site Code # 356005

WHEREAS,

1. The New York State Department of Environmental Conservation (the "Department") is responsible for enforcement of Article 27, Title 13 of the Environmental Conservation Law of the State of New York ("ECL"), entitled "Inactive Hazardous Waste Disposal Sites." This Order is issued pursuant to the Department's authority under, inter alia, ECL Article 27, Title 13 and ECL 3-0301.

2. The Parties listed below are hereinafter collectively referred to as Respondents. The alleged relationship to the Northeast Solite property located on Old Kings Highway, Saugerties, New York (hereinafter referred to as the "Site") for each of the Respondents, is described below. A map of the Site is attached to and incorporated into this Order as Exhibit "A."

(i) Northeast Solite Corporation ("NES"), a corporation existing under the laws of the State of Virginia, is the current owner and operator of a portion of the Site.

(ii) Industrial Environmental Systems, Inc. ("IESI"), a corporation existing under the laws of the State of Virginia, is the current owner and former operator of a portion of the Site.

3. Respondent NES performed certain remedial measures in accordance with a schedule of compliance contained in a Resource Conservation and Recovery Act ("RCRA")

Order on Consent signed by E.E. Martin, in his capacity as Vice-President of NES, on July 22, 1981, and executed by the commissioners designee on August 10, 1981.

4. Respondent IESI, performed certain remedial measures in accordance with a schedule of compliance contained in a Resource Conservation and Recovery Act ("RCRA") Order on Consent signed by E.E. Martin, in his capacity as Vice-President of IESI, on July 22, 1981, and executed by the commissioners designee on August 10, 1981. In addition, Respondent IESI conducted certain investigatory and remedial activities at a portion of the Site in connection with the closure of its facility subject to RCRA.

5. The Department maintains that the Site is an inactive hazardous waste disposal site, as that term is defined at ECL 27-1301.2, and presents a significant threat to the public health or environment. The Site has been listed in the Registry of Inactive Hazardous Waste Disposal Sites in New York State as Site Number 356005. The Department has classified the Site as a Classification "2" pursuant to ECL 27-1305.4.b.

6. A. Pursuant to ECL 27-1313.3.a, whenever the Commissioner of Environmental Conservation (the "Commissioner") "finds that hazardous wastes at an inactive hazardous waste disposal site constitute a significant threat to the environment, he may order the owner of such site and/or any person responsible for the disposal of hazardous wastes at such site (i) to develop an inactive hazardous waste disposal site remedial program, subject to the approval of the department, at such site, and (ii) to implement such program within reasonable time limits specified in the order."

B. Any person under order pursuant to ECL 27-1313.3.a has a duty imposed by ECL Article 27, Title 13 to carry out the remedial program committed to under order. ECL 71-2705 provides that any person who fails to perform any duty imposed by ECL Article 27, Title 13 shall be liable for civil, administrative and/or criminal sanctions.

C. The Department also has the power, inter alia, to provide for the prevention and abatement of all water, land, and air pollution. ECL 3-0301.1.i.

7. The Department and Respondents agree that the goals of this Order are for Respondents to (i) develop and implement a Focused Remedial Investigation/Feasibility Study ("FRI/FS") for the Site; and (ii) reimburse the State's administrative costs as provided for in Paragraph XI.

8. Respondents having waived Respondents' right to a hearing herein as provided by law, and having consented to the issuance and entry of this Order, agrees to be bound by its terms. Respondents consent to and agree not to contest the authority or jurisdiction of the Department to issue or enforce this Order, and agree not to contest the validity of this Order

or its terms.

9. Notwithstanding Respondents' consent to the issuance of this Order and their undertaking obligations under this Order, Respondents do not admit or acknowledge any liability, fault or wrongdoing or violation of the law, regulation or permit of any kind whatsoever in any way related to the Site. Moreover, Respondents' consent to this Order should not be interpreted as agreeing to or consenting to the Department's assertion or interpretation of law.

NOW, having considered this matter and being duly advised, IT IS ORDERED THAT:

I. Initial Submittal

Within 45 days after the effective date of this Order, Respondents shall submit to the Department all data within Respondents' possession or control regarding environmental conditions on-Site and off-Site, and other information described below, unless the Department informs Respondents that such data have previously been provided to the Department. The data and other information shall include:

A. A brief history and description of the Site, including the types, quantities, physical state, location, and dates of disposal of hazardous waste including methods of disposal and spillage of such wastes;

B. A concise summary of information held by Respondents and Respondents' attorneys and consultants with respect to all persons responsible for such disposal of hazardous wastes, including but not limited to names, addresses, dates of disposal and any proof linking each such person responsible with hazardous wastes identified pursuant to Subparagraph I.A; and

C. A comprehensive list and copies of all existing relevant reports with titles, authors, and subject matter, as well as a description of the results of all previous investigations of the Site and areas in the vicinity of the Site, including copies of all available topographic and property surveys, engineering studies and aerial photographs.

II. Focused RI/FS Work Plan Contents and Submittals

A. Within 30 days after the effective date of this Order, Respondents shall submit to the Department a detailed work plan based upon the Scope of Work attached to this Order as Exhibit "B", describing the methods and procedures to be implemented in performing a FRI/FS for the Site ("FRI/FS Work Plan").

B. (1) The FRI/FS Work Plan shall include, but not be limited to, the following:

a. A chronological description of the anticipated FRI/FS activities together with a schedule for the performance of these activities.

b. A Sampling and Analysis Plan that shall include:

(i) A quality assurance project plan that describes the quality assurance and quality control protocols necessary to achieve the initial data quality objectives. This plan shall designate a data validation expert and must describe such individual's qualifications and experience.

(ii) A field sampling plan that defines sampling and data gathering methods in a manner consistent with the "Field Methods Compendium," OSWER Directive 9285.2-11 (draft June 1993), as supplemented by the Department.

c. A health and safety plan to protect persons at and in the vicinity of the Site during the performance of the FRI/FS which shall be prepared in accordance with 29 CFR 1910 and all other applicable standards by a certified health and safety professional. Respondents shall add supplemental items to this plan necessary to ensure the health and safety of all persons at or in the vicinity of the Site during the performance of any work pursuant to this Order.

d. A citizen participation plan that is, at a minimum, consistent with the Department's publication, "Citizen Participation in New York's Hazardous Waste Site Remediation Program: A Guidebook," dated June 1998, and any subsequent revisions thereto, and 6 NYCRR Part 375.

(2) The FRI/FS Work Plan shall incorporate all elements of a RI/FS as set forth in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA") [42 USC 9601 et seq.], as amended, the National Contingency Plan ("NCP") of March 8, 1990 [40 CFR Part 300], the USEPA guidance document entitled "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA," dated October 1988, and any subsequent revisions to that guidance document in effect at the time the FRI/FS Work Plan is submitted, and appropriate USEPA and Department technical and administrative guidance documents.

III. Performance and Reporting of Focused Remedial Investigation

A. Respondents shall commence the Focused Remedial Investigation in

accordance with the schedule contained in the Department-approved FRI/FS Work Plan.

B. Respondents shall perform the Focused Remedial Investigation in accordance with the Department-approved FRI/FS Work Plan.

C. During the performance of the Focused Remedial Investigation field work, Respondents shall have on-Site a full-time representative who is qualified to supervise the work done.

D. Within the time frame set forth in the Department-approved FRI/FS Work Plan, Respondents shall prepare a Focused Remedial Investigation Report that shall:

(1) include all data generated and all other information obtained during the Focused Remedial Investigation:

(2) provide all of the assessments and evaluations set forth in CERCLA, the NCP, and the guidance documents identified in Subparagraph II.B.2;

(3) identify any additional data that must be collected; and

(4) include a certification by the individual or firm with primary responsibility for the day to day performance of the Focused Remedial Investigation that all activities that comprised the Focused Remedial Investigation were performed in full accordance with the Department-approved FRI/FS Work Plan.

IV. Feasibility Study

A. In accordance with the schedule contained in the Department-approved FRI/FS Work Plan, Respondents shall submit a complete Feasibility Study evaluating on-Site and off-Site remedial actions to eliminate, to the maximum extent practicable, all significant health and environmental hazards and potential hazards at the Site. The Feasibility Study shall be prepared by and have the signature and seal of a professional engineer who shall certify that the Feasibility Study was prepared in accordance with this Order.

B. Respondents shall perform and prepare the Feasibility Study in accordance with the Department-approved FRI/FS Work Plan and in a manner consistent with CERCLA, the NCP, and the guidance documents identified in Subparagraph II.B.2.

C. After the Department's approval of the Feasibility Study, Respondents shall cooperate and assist the Department in soliciting public comment on the FRI/FS and on the

proposed remedial action plan, in accordance with CERCLA, the NCP, the guidance documents identified in Subparagraph II.B.2, and with any Department policy and guidance documents in effect at the time the public comment period is initiated. After the close of the public comment period, the Department shall select a final remedial alternative for the site in a Record of Decision ("ROD").

V. Interim Remedial Measure

A. 1. Respondents may propose one or more IRMs for the Site.

2. In proposing each IRM, Respondents shall submit to the Department a work plan that includes a chronological description of the anticipated IRM activities together with a schedule for performance of those activities (an "IRM Work Plan" for the Site).

3. Upon the Department's determination that the proposal is an appropriate IRM and upon the Department's approval of such work plan, the IRM Work Plan shall be incorporated into and become an enforceable part of this Order; and Respondents shall submit to the Department for its review and (as appropriate) approval, in accordance with the schedule contained in the Department-approved IRM Work Plan, detailed documents and specifications prepared, signed, and sealed by a professional engineer to implement the Department-approved IRM. Such documents shall include a health and safety plan, contingency plan, and (if the Department requires such) a citizen participation plan that incorporates appropriate activities outlined in the Department's publication, "Citizen Participation in New York's Hazardous Waste Site Remediation Program: A Guidebook," dated June 1998, and any subsequent revisions thereto, and 6 NYCRR Part 375. Respondents shall then carry out such IRM in accordance with the requirements of the approved IRM Work Plan, detailed documents and specifications, and this Order. Respondents shall notify the Department of any significant difficulties that may be encountered in implementing the Department-approved work plan, detailed documents, or specifications and shall not modify any obligation unless first approved by the Department.

4. During implementation of all construction activities identified in the Department-approved IRM Work Plan, Respondents shall have on-Site a full-time representative who is qualified to supervise the work done.

5. Within the schedule contained in the Department-approved IRM Work Plan, Respondents shall submit to the Department a final engineering report prepared by a professional engineer that includes a certification by that individual that all activities that comprised the Department-approved IRM were completed in accordance with the Department-approved IRM Work Plan and this Order.

a. If the performance of the Department-approved IRM encompassed construction activities, the final engineering report also shall include a detailed post-remedial operation and maintenance plan ("IRM O&M Plan"); "as-built" drawings and a final engineering report (each including all changes made to the Remedial Design during construction); and a certification by a professional engineer that the IRM was implemented and all construction activities were completed in accordance with the Department-approved detailed documents and specifications for the IRM and all such activities were personally witnessed by him or her or by a person under his or her direct supervision. The IRM O&M Plan, "as built" drawings, final engineering report, and certification must be prepared, signed, and sealed by a professional engineer.

b. Upon the Department's approval of the IRM O&M Plan, Respondents shall implement the IRM O&M Plan in accordance with the requirements of the Department-approved IRM O&M Plan.

6. After receipt of the final engineering report and certification, the Department shall notify Respondents in writing whether the Department is satisfied that the IRM was completed in compliance with the Department-approved IRM Work Plan and design.

VI. Progress Reports

Respondents shall submit to the parties identified in Subparagraph XV.B in the numbers specified therein copies of written monthly progress reports that:

A. describe the actions which have been taken toward achieving compliance with this Order during the previous month;

B. include all results of sampling and tests and all other data received or generated by Respondents or Respondents' contractors or agents in the previous month, including quality assurance/quality control information, whether conducted pursuant to this Order or conducted independently by Respondents;

C. identify all work plans, reports, and other deliverables required by this Order that were completed and submitted during the previous month;

D. describe all actions, including, but not limited to, data collection and implementation of work plans, that are scheduled for the next month and provide other information relating to the progress at the Site;

E. include information regarding percentage of completion, unresolved delays

encountered or anticipated that may affect the future schedule for implementation of Respondents' obligations under the Order, and efforts made to mitigate those delays or anticipated delays;

F. include any modifications to any work plans that Respondents have proposed to the Department or that the Department has approved; and

G. describe all activities undertaken in support of the Citizen Participation Plan during the previous month and those to be undertaken in the next month. Respondents shall submit these progress reports to the Department by the tenth day of every month following the effective date of this Order.

Respondents also shall allow the Department to attend, and shall provide the Department at least seven days advance notice of, any of the following: prebid meetings, job progress meetings, substantial completion meeting and inspection, and final inspection and meeting.

VII. Review of Submittals

A. 1. The Department shall review each of the submittals Respondents make pursuant to this Order to determine whether it was prepared, and whether the work done to generate the data and other information in the submittal was done, in accordance with this Order and generally accepted technical and scientific principles. The Department shall notify Respondents in writing of its approval or disapproval of the submittal. All Department-approved submittals shall be incorporated into and become an enforceable part of this Order.

2. a. If the Department disapproves a submittal, it shall so notify Respondents in writing and shall specify the reasons for its disapproval. Within 30 days after receiving written notice that Respondents' submittal has been disapproved, Respondents shall make a revised submittal to the Department that addresses and resolves all of the Department's stated reasons for disapproving the first submittal.

b. After receipt of the revised submittal, the Department shall notify Respondents in writing of its approval or disapproval. If the Department disapproves the revised submittal then, unless the Respondents invoke the Dispute Resolution provision in Paragraph VIII in which event the provisions of Paragraph VIII shall control, Respondents shall be in violation of this Order and the Department may take any action or pursue whatever rights it has pursuant to any provision of statutory or common law. If the Department approves the revised submittal, it shall be incorporated into and become an enforceable part of this Order.

B. Respondents shall modify and/or amplify and expand a submittal upon the Department's direction to do so if the Department determines, as a result of reviewing data generated by an activity required under this Order or as a result of reviewing any other data or facts, that further work is necessary.

VIII. Dispute Resolution

A. This Paragraph sets forth the procedures for disputes arising under Paragraph VII and Paragraph XI of this Order. Nothing in this Order shall be construed to allow the consideration or resolution of any dispute regarding the ROD or any of its provisions.

B. 1. Respondents shall be in violation of this Order and the ECL, if the Department determines that Respondents have failed to comply with requirements of this Order set forth in Subparagraph VII.A(2)(b) unless within ten (10) business days of receipt of the Department's notice of disapproval, Respondents serve on the Department a request for Dispute Resolution by the Division of Environmental Remediation's Assistant Division Director ("ADD"), and a written statement of the issues in dispute, the relevant facts upon which the dispute is based, and factual data, analysis or opinion supporting its position, and all supporting documentation on which Respondents rely (hereinafter called the "Statement of Position"). The Department shall provide its Statement of Position, including supporting documentation no later than ten business (10) days after receipt of Respondents' Statement of Position. Respondents shall have five (5) business days after receipt of the Department's Statement of Position within which to provide the Department a reply to the Department's Statement of Position, and in the event Respondents provide such a reply, the Department shall have five (5) business days after receipt of Respondents' reply to the Department's Statement of Position within which to provide Respondents the Department's reply to Respondents' reply to the Department's Statement of Position. In the event that the periods for exchange of Statements of Position and replies may cause a delay in the work being performed under this Order, the time periods may be shortened upon and in accordance with notice by the Department as agreed to by Respondents.

2. The Department shall maintain an administrative record of any dispute under this Paragraph. The record shall include the Statement of Position of each party served pursuant to the preceding subparagraph, and any relevant information. The record shall be available for review of all parties and the public.

3. The ADD shall issue a final decision resolving the dispute. Respondents shall revise the submittal in accordance with the Department's specific comments, as may be modified by the ADD and except for those which have been withdrawn by the ADD, and shall submit a revised submittal. The period of time within

which the submittal must be revised shall be fourteen (14) days after receipt of the ADD's final decision resolving the dispute or as specified by the Department in its notice of disapproval, whichever is later, or another time frame specified by the ADD.

4. After receipt of the revised submittal, the Department shall notify Respondents in writing of its approval or disapproval of the revised submittal. If the revised submittal fails to address the Department's specific comments, as may be modified by the ADD, and the Department disapproves the revised submittal for this reason, Respondents shall be in violation of this Order and the ECL. In review by the ADD of any dispute pursued under this Paragraph, Respondents shall have the burden of proving that there is no rational basis for the Department's decision.

5. The invocation of the procedures stated in this Paragraph shall not extend, postpone or modify Respondents' obligations under this Order with respect to any disputed items, unless and until the Department agrees or a court determines otherwise. The invocation of the procedures stated in this Paragraph shall constitute an election of remedies by Respondents, and such election of this remedy shall constitute a waiver of any and all other remedies which may otherwise be available to that party regarding the issue in dispute provided, however, that review of the ADD's decision may be had in a proceeding pursuant to Article 78 of the CPLR commenced no later than 30 days after the ADD's decision. The commencement of such a proceeding stated in this paragraph shall not extend, postpone or modify any obligation of the Respondents under this Order, other than those obligations directly subject to judicial review under the Article 78 proceeding.

C. 1. The dispute resolution procedures of this Subparagraph, which pertain to Paragraph XI (Payment of State Costs), can only be invoked relative to a dispute on the following grounds: (1) the cost documentation contains clerical errors; or (2) the costs are not related to the Department's activities concerning the Site; or (3) the costs are not reasonably related to the project.

2. Respondents shall be in violation of this Order, unless within thirty (30) days following Respondents' receipt of an itemized invoice from the Department, Respondents pay same or request to meet with the Director of the Division of Environmental Remediation's Bureau of Program Management (the "Director") in order to discuss Respondents' basis for its refusal to pay said itemized invoice, and the Respondents are available to meet within ten (10) business days thereafter. At this meeting, Respondents shall be given an opportunity to present their objections to the payment of said itemized invoice, and the Director shall have the authority to modify and/or withdraw said itemized invoice. If Respondents subsequently fail to pay said itemized invoice in the amount and within the time period for payment determined by the Director, then Respondents shall be in violation of this Order.

3. In the event of a dispute regarding costs, the Respondents shall pay all costs not disputed within 30 days as provided for under Paragraph XI.

4. The invocation of the formal dispute resolution procedures under this Subparagraph shall not of itself extend, postpone or affect in any way any of Respondents' obligations under this Order. The invocation of the procedures stated in this Subparagraph shall constitute an election of remedies by Respondents, and such election of this remedy shall constitute a waiver of any and all other remedies which may otherwise be available to Respondents regarding the issue in dispute, provided that Respondents' rights granted pursuant to Article 78 of the CPLR are unaffected by the provisions of this Subparagraph.

IX. Penalties

A. 1. Respondents' failure to comply with any term of this Order constitutes a violation of this Order and the ECL.

2. Respondents shall be liable for payment to the Department of the sums set forth below as stipulated penalties for each day or part thereof that Respondents are in violation of the terms of this Order. All penalties begin to accrue on the first day Respondent are in violation of the terms of this Order and continue to accrue through the final day of correction of any violation. Such sums shall be due and payable within 15 days after receipt of notification from the Department assessing the penalties. If such payment is not received within 15 days after Respondents receive such notification from the Department, interest shall be payable at the annual rate of nine per cent on the overdue amount from the day on which it was due through, and including, date of payment. Penalties shall be paid by certified check or money order, made payable to "New York State Department of Environmental Conservation" and shall be delivered personally or by certified mail, return receipt requested, to the Director, Division of Environmental Enforcement, N.Y.S.D.E.C., 50 Wolf Road, Albany, New York 12233-5500. Payment of the penalties shall not in any way alter Respondents' obligation to complete performance under the terms of this Order. Stipulated penalties shall be due and payable under Subparagraph IX.A.2 pursuant to the following schedule:

Period of Non-Compliance	Penalty Per Day
First through 15th day	$ 1,000
16th through 30th day	$ 2,000
31st day and thereafter	$ 3,500

B. Respondents shall not suffer any penalty under this Order or be subject to any proceeding or action if it cannot comply with any requirement hereof because of war, riot, an unforeseeable disaster arising exclusively from natural causes which the exercise of ordinary

human prudence could not have prevented, or because of any event beyond the control of Respondents or their agents carrying out Respondents' obligations under this Order. Respondents shall, within five days of when it obtains knowledge of any such condition, notify the Department in writing. Respondents shall include in such notice the measures taken and to be taken by Respondents to prevent or minimize any delays and shall request an appropriate extension or modification of this Order. Failure to give such notice within such five-day period constitutes a waiver of any claim that a delay is not subject to penalties. Respondents shall have the burden of proving that an event is a defense to compliance with this Order pursuant to Subparagraph IX.B.

Increased costs or expenses of any work to be performed under this Order, the financial inability of Respondents to perform such work, the failure of Respondents to make complete and timely application for any required approval or permit, and nonattainment of the goals, standards and requirements of this Order do not constitute conditions or events warranting the relief set forth in Subparagraph IX.B.

X. Entry upon Site

Respondents hereby consent to the entry upon the Site or areas in the vicinity of the Site which may be under the control of Respondents by any duly designated employee, consultant, contractor, or agent of the Department or any State agency for purposes of inspection, sampling, and testing and to ensure Respondents' compliance with this Order. Respondents shall provide the Department with suitable office space at the Site, if required, including access to a telephone, and shall permit the Department full access to all records relating to matters addressed by this Order and job meetings.

XI. Payment of State Costs

A. Within 30 days after receipt of an itemized invoice from the Department, Respondents shall pay to the Department a sum of money which shall represent reimbursement for the State's expenses including, but not limited to, direct labor, fringe benefits, indirect costs, travel, analytical costs, and contractor costs incurred by the State of New York for work related to the Site to the effective date of this Order, as well as for reviewing and revising submittals made pursuant to this Order, overseeing activities conducted pursuant to this Order, collecting and analyzing samples, and administrative costs associated with this Order.

B. Personal service costs shall be documented by reports of Direct Personal Service, which shall identify the employee name, title, biweekly salary, and time spent (in hours) on the project during the billing period, as identified by an assigned time and activity code. Approved agency fringe benefit and indirect cost rates shall be applied. Non-personal

service costs shall be summarized by category of expense (e.g., supplies, materials, travel, contractual) and shall be documented by expenditure reports.

C. Such invoice shall be sent to the Respondents at the following address:

Northeast Solite Corporation
c/o Stoneridge Farms Incorporated
P.O. Box 297
Greencove Spring, Florida 32043

D. Such payment shall be made by certified check payable to the Department of Environmental Conservation and shall be sent to: Bureau of Program Management, Division of Environmental Remediation, New York State Department of Environmental Conservation, 50 Wolf Road, Albany, NY 12233-7010.

E. Each party shall notify the other within 90 days of any change in the foregoing addresses.

XII. Department Reservation of Rights

A. Nothing contained in this Order shall be construed as barring, diminishing, adjudicating, or in any way affecting any of the Department's civil, criminal, or administrative rights (including, but not limited to, nor exemplified by, the right to recover natural resource damages) or authorities.

B. Nothing contained in this Order shall be construed to prohibit the Commissioner or his duly authorized representative from exercising any summary abatement powers.

XIII. Indemnification

Respondents shall indemnify and hold the Department, the State of New York, and their representatives and employees harmless for all claims, suits, actions, damages, and costs of every name and description arising out of or resulting from the fulfillment or attempted fulfillment of this Order by Respondents and/or any of Respondents' directors, officers, employees, servants, agents, successors, and assigns. However, Respondents shall not be required to indemnify the Department, the State of New York, and/or their representatives and employees regarding any liability arising from willful, wanton or malicious acts or acts constituting gross negligence by the Department, the State of New York, and/or their representatives and employees during the course of any activities conducted pursuant to this Order.

XIV. Public Notice

A. Within 30 days after the effective date of this Order, Respondents shall file a Declaration of Covenants and Restrictions with the Clerk of the County wherein the Site is located to give all parties who may acquire any interest in the Site notice of this Order.

B. If Respondents propose to convey the whole or any part of Respondents' ownership interest in the Site, Respondents shall, not fewer than 60 days before the date of conveyance, notify the Department in writing of the identity of the transferee and of the nature and proposed date of the conveyance and shall notify the transferee in writing, with a copy to the Department, of the applicability of this Order.

XV. Communications

All written communications required by this Order shall be transmitted by United States Postal Service, by private courier service, or hand delivered as follows:

1. Communication from Respondents shall be sent to:

Alali M. Tamuno, Esq.
Senior Attorney
New York State Department of Environmental Conservation
Division of Environmental Enforcement
200 White Plains Road, 5th Floor
Tarrytown, NY 10591-5805

with copies to:

Michael Komoroske
Division of Environmental Remediation
New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233-7010

Gary Litwin
Bureau of Environmental Exposure Investigation
New York State Department of Health
547 River Street
Flanigan Square
Troy, New York 12180-2216

Marc Moran, Regional Director
New York State Department of Environmental Conservation
21 Putt Corners Road
New Paltz, NY 12561-1696

2. Communication to be made from the Department to Respondents shall be sent to:

Thomas S. West, Esq.
LeBoeuf, Lamb, Greene & MacRae, LLP
One Commerce Plaza, Suite 2020
99 Washington Avenue
Albany, NY 12210-2820

Albert Galliano
Northeast Solite Corporation
c/o Stoneridge Farms Incorporated
P.O. Box 297
Greencove Spring, Florida 32043

Sander I. Bonvell
Air Resources Group, L.L.C.
596 New London Road
Latham, New York 12110

B. Copies of work plans and reports shall be submitted as follows:

Four copies (one unbound) to:

Michael Komoroske
Bureau of Eastern Remedial Action
Division of Environmental Remediation
New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233-7010

Two copies to:

Gary Litwin
Bureau of Environmental Exposure Investigation
New York State Department of Health

547 River Street
Flanigan Square
Troy, New York 12180-2216

One copy to:

Ramanand Pergadia, P.E
Division of Environmental Remediation
New York State Department of Environmental Conservation
21 Putt Corners Road
New Paltz, NY 12561-1696

C. 1. Within 30 days of the Department's approval of any report submitted pursuant to this Order, Respondents shall submit to Director, Division of Environmental Remediation, a computer readable magnetic media copy of the approved report in American Standard Code for Information Interchange (ASCII) format.

2. Within 30 days after the Department's approval of the FRI/FS, Respondents shall submit one microfilm copy of the FRI/FS to Director, Division of Environmental Remediation.

D. The Department and Respondents reserve the right to designate additional or different addressees for communication or written notice to the other.

XVI. Miscellaneous

A. All activities and submittals required by this Order shall address on-Site and off-Site contamination resulting from the disposal of hazardous wastes at the Site.

B. Respondents shall retain professional consultants, contractors, laboratories, quality assurance/quality control personnel, and third party data validators acceptable to the Department to perform the technical, engineering, and analytical obligations required by this Order. The experience, capabilities, and qualifications of the firms or individuals selected by Respondents shall be submitted to the Department within 10 days after the effective date of this Order. The Department's approval of these firms or individuals shall be obtained before the start of any activities for which Respondents and such firms or individuals will be responsible. The responsibility for the performance of the professionals retained by Respondents shall rest solely with Respondents.

C. The Department shall have the right to obtain split samples, duplicate samples, or both, of all substances and materials sampled by Respondents, and the

Department also shall have the right to take its own samples. Respondents shall make available to the Department the results of all sampling and/or tests or other data generated by Respondents with respect to implementation of this Order and shall submit these results in the progress reports required by this Order.

D. Respondents shall notify the Department at least 10 working days in advance of any field activities to be conducted pursuant to this Order.

E. Respondents shall obtain all permits, easements, rights-of-way, rights-of-entry, approvals, or authorizations necessary to perform Respondents' obligations under this Order.

F. Respondents and Respondents' officers, directors, agents, servants, employees, successors, and assigns shall be bound by this Order. Any change in ownership or corporate status of Respondents including, but not limited to, any transfer of assets or real or personal property shall in no way alter Respondents' responsibilities under this Order. Respondents' officers, directors, employees, servants, and agents shall be obliged by Respondents to comply with the relevant provisions of this Order in the performance of their designated duties on behalf of Respondents.

G. Respondents shall provide a copy of this Order to each contractor hired to perform work required by this Order and to each person representing Respondents with respect to the Site and shall condition all contracts entered into in order to carry out the obligations identified in this Order upon performance in conformity with the terms of this Order. Respondents or Respondents' contractors shall provide written notice of this Order to all subcontractors hired to perform any portion of the work required by this Order. Respondents shall nonetheless be responsible for ensuring that Respondents' contractors and subcontractors perform the work in satisfaction of the requirements of this Order.

H. All references to "professional engineer" in this Order are to an individual registered as a professional engineer in accordance with Article 145 of the New York State Education Law. If such individual is a member of a firm, that firm must be authorized to offer professional engineering services in the State of New York in accordance with Article 145 of the New York State Education Law.

I. All references to "days" in this Order are to calendar days unless otherwise specified.

J. The paragraph headings set forth in this Order are included for convenience of reference only and shall be disregarded in the construction and interpretation of any of the provisions of this Order.

K. 1. No term, condition, understanding, or agreement purporting to modify or vary any term of this Order shall be binding unless made in writing and subscribed by the party to be bound. No informal advice, guidance, suggestion, or comment by the Department regarding any report, proposal, plan, specification, schedule, or any other submittal shall be construed as relieving Respondents of Respondents' obligation to obtain such formal approvals as may be required by this Order.

2. If Respondents desire that any provision of this Order be changed, Respondents shall make timely written application, signed by Respondents, to the Commissioner setting forth reasonable grounds for the relief sought. Copies of such written application shall be delivered or mailed to Alali M. Tamuno and to Michael Komoroske.

L. The obligations of Respondents to finance and perform obligations under this Order and to pay amounts owed the Department under this Order are joint and several.

M. The effective date of this Order is the date the Commissioner or her designee signs it.

DATED:

ERIN CROTTY,
ACTING COMMISSIONER
New York State Department
of Environmental Conservation

By:

_____
Erin Crotty

CONSENT BY RESPONDENT

Respondent hereby consents to the issuing and entering of this Order, waives Respondent's right to a hearing herein as provided by law, and agrees to be bound by this Order.

Northeast Solite Corporation

By: _____

Title: PRESIDENT

Date: 3-26-01

STATE OF VIRGINIA)
) ss.:
COUNTY OF Henrico)

On this 26th day of March, ~~XX~~2001 before me personally came Philip M. Nesmith to me known, who being duly sworn, did depose and say that he resides in Richmond, Virginia; that he is the President of Northeast Solite Corporation, the corporation described in and which executed the foregoing instrument; that he knew the seal of said corporation; that the seal affixed to said instrument was such corporate seal; that it was so affixed by the order of the Board of Directors of said corporation and that he signed his name thereto by like order.

Tina Leah Parsons
Notary Public
Tina Leah Parsons

Commission Expires: 10-31-02

CONSENT BY RESPONDENT

Respondent hereby consents to the issuing and entering of this Order, waives Respondent's right to a hearing herein as provided by law, and agrees to be bound by this Order.

Industrial Environmental Systems, Inc.

By: _____

Title: PRESIDENT

Date: 3-26-01

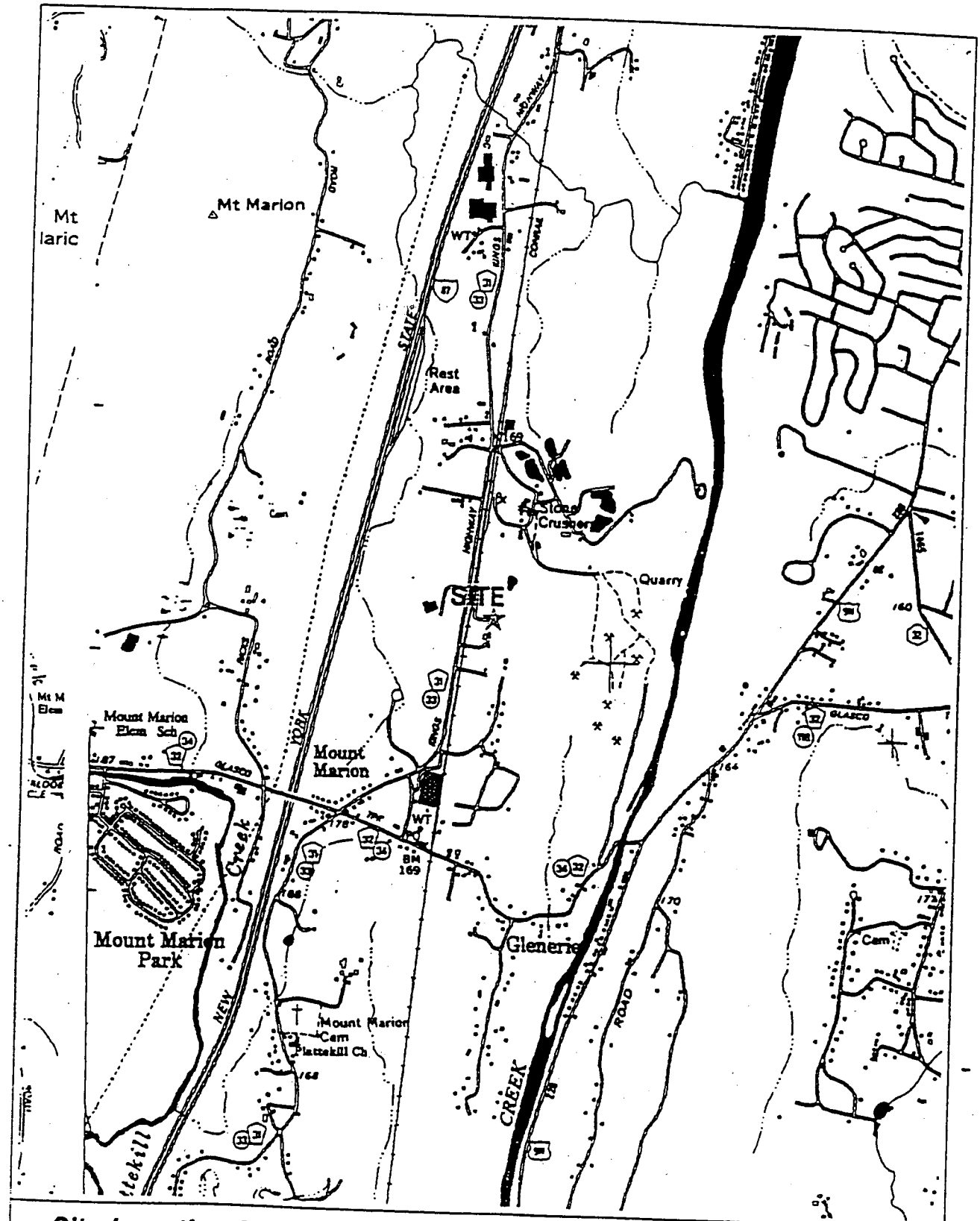
STATE OF VIRGINIA)
) ss.:
COUNTY OF Henrico)

On this 26th day of March, 2001 before me personally came Philip M. Nesmith to me known, who being duly sworn, did depose and say that he resides in Richmond, Virginia; that he is the President of Industrial Environmental Systems, Inc., the corporation described in and which executed the foregoing instrument; that he knew the seal of said corporation; that the seal affixed to said instrument was such corporate seal; that it was so affixed by the order of the Board of Directors of said corporation and that he signed his name thereto by like order.

_____
Notary Public
Tina Leah Parsons

Commission Expires: 10-31-02

EXHIBIT A



Site Location Map

356005 Northeast Solite

EXHIBIT B

Scope of Work

1. Determine the existence and condition of the on-Site monitoring wells. Sample all monitoring wells and analyze for VOCs, PCBs, and metals. 19 wells had been used in previous investigations; 15 overburden wells and 4 bedrock wells. Many of these wells are destroyed.

2. A determination is needed to either replace all damaged monitoring wells or use a Geoprobe Investigation in the area of the damaged overburden monitoring wells. All of the overburden monitoring wells had a depth less than 12ft. And a Geoprobe Investigation could be used to collect the needed samples. A number of monitoring wells would be required to determine a groundwater flow and for any future monitoring program. Permanent monitoring wells are needed in the tank farm area, downgradient from the seeps, and downgradient edge of the Site.

3. Groundwater information is needed on the downgradient area of the Site which is directly adjacent to residential wells.

4. Conduct a Soil Gas Survey to determine locations for any new monitoring wells or the location for the Geoprobe Investigation.

5. Conduct a Geoprobe Investigation based on the information from previous investigations and Soil Gas Survey. Both soil and groundwater samples should be collected and analyzed for VOCs, PCBs, and metals.

6. Conduct groundwater sampling of the nearby residential wells and analyze for VOCs, PCBs, and metals.

7. The three sources of the contamination according to the previous investigations are the tank farm area, lagoon area, and the settling pond area. The above tasks should include these areas. The tank farm area was the source of petroleum, chlorinated solvents, and PCBs contamination. The settling pond area and lagoon area had accepted wastewater contaminated with heavy metals.

8. In Maruicio Roma's 6/30/92 memo, he stated that monitoring wells DFT-2 and UFT-1 need to be replaced. From the review of the most recent information, this task was not conducted. These are the monitoring wells referred to in Michael O'Toole's petition denial letter to the PRP.

APPENDIX B

HEALTH AND SAFETY PLAN

FOCUSED REMEDIAL INVESTIGATION/FEASIBILITY STUDY HEALTH AND SAFETY PLAN

Northeast Solite Corporation/ Industrial Environmental Systems, Inc.
New York Facility
962 Kings Highway
Mount Marion, New York

Order on Consent Index # W3-0881-01-02
NYSDEC Site Code #3-56-005

PREPARED BY:

HRP ASSOCIATES, INC.
100 SARATOGA VILLAGE BOULEVARD, SUITE 27
MALTA, NEW YORK 12020

Christopher J. Bablin
Senior Project Geologist

Jeffrey R. Sotek, P.E., C.S.P.
Senior Project Manager

Submitted: June 9, 2003
Revised: November 24, 2003

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1 Route to Hospital ..... (Follows Text)
2 Evacuation Route ..... (Follows Text)

LIST OF TABLES

1 Personnel Assignments and Responsibilities ..... (Follows Text)
2 Health and Safety Hazard Analysis (Physical) ..... (Follows Text)
3 Health and Safety Hazard Analysis (Environmental) ..... (Follows Text)
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7 Air Monitoring Program ..... (Follows Text)

HEALTH AND SAFETY PLAN (HASP)

1.0 Purpose and Scope

This Health and Safety Plan (HASP) and has been developed in accordance with HRP's Corporate Health and Safety Program as required by OSHA's hazardous waste operations standard (29 CFR 1910.120). In order to fully evaluate the potential risks identified in this document, site characterization and analysis in conformance with 1910.120(c) was performed. The elements of the HASP identify the methods and objectives of the site work tasks, determine personnel requirements, and establish minimum standards to protect worker health and safety during the performance of the work tasks.

The HASP is organized into written and tabulated summaries. The following written sections describe standard operations and procedures for site security, decontamination, emergency procedures, and control of site releases.

HASP Applicability and Personnel Training Requirements	Section 3.0
Site Control Measures	Section 4.0
Decontamination Procedures	Section 5.0
Emergency Action Plan	Section 6.0
Confined Space Entry	Section 7.0
Spill Containment Program	Section 8.0

HASP approval and field team signatory pages are provided in Sections 9 and 10, respectively.

The tabulated summaries describe the site-specific risks and potential chemicals that may be encountered on-site. Description of monitoring programs and personal protective equipment that will be utilized to minimize potential physical and chemical hazards are also described. Tabulated summaries include the following:

Personnel Assignments and Responsibilities	Table 1
Health and Safety Hazard Analysis	Tables 2, 3, and 4
Chemical Hazard Analysis	Table 5
Personal Protective Equipment	Table 6
Air Monitoring Program	Table 7

2.0 Site Location And Emergency Telephone Numbers

Site Name:	Northeast Solite Corporation
Address:	962 Old Kings Highway
City, State:	Mount Marion, New York
Site Contact:	Mr. Gary Green, Plant Manager
Phone:	(845)-246-2177
Fire Department, Ambulance, Police Department	911
State Police Barracks, Troop F – Ulster, NY	(845)-338-1702
Ulster County Sheriffs Department	(845) 338-3640
Mt. Marion Fire Department	(845)-338-1600
Poison Control Center	(800) 343-2722
National Response Center	(800) 424-8802
U.S. EPA, Region 2 (general number)	(212) 637-3000
NYSDEC Spill Hotline	(800) 457-7362
NYSDEC, Region 3, New Paltz, NY	(845)-256-3000
Local Hospital:	Kingston Hospital
Address:	396 Broadway
City, State	Kingston, New York 12401
Telephone No.:	(845) 331-3131

Approximate Travel: 15 Minutes from site
(For Directions to Hospital, See Figure 1):

3.0 HASP Applicability And Personnel Training Requirements

This HASP applies to all HRP employees and approved subcontractors completing work tasks discussed in Section 4. All workers performing or completing these work tasks must satisfy the follow medical and training requirements.

1. Off-site and on-site training.

   a. Workers engaged in activities that expose or potentially expose them to hazardous substances and health hazards must have completed 40 hours training outlined in 29 CFR 1910.120(c) and a minimum of 3 days actual field experience (29 CFR 1910.120(e)(3)(i).

   b. Workers on-site to perform limited tasks (ground water monitoring, land surveying, geophysical surveys, etc.) who are unlikely to be exposed over PELs or published exposure limits must have completed 24 hour training and a minimum of one day of actual field experience (29 CFR 1910.120(e)(3)(ii).

2. Successful completion of 8 hour refresher training within the last 12 months if 40 hour (or 24 hour) training was received more than one year ago (29 CFR 1910.120(e)(8)).

3. Physical examination and medical clearances in accordance with 29 CFR 1910.120(f) within the past 12 months.

The contents of this HASP will be reviewed with all workers during a pre-entry briefing prior to initiating any site activity and at other appropriate times during the scheduled work tasks.

4.0 Site Control Measures

The site control program establishes work zones in order to regulate potential worker exposure and site communications during working and emergency conditions. The Health and Safety Officer (HSO) will establish boundaries of the work zones (exclusion, contamination reduction, staging, and support zones) prior to commencement of the work activity (See Figure 7). Entry into the contaminant reduction and exclusion zones is restricted to authorized personnel who meet the training and medical requirements provided in Section 7.3. Prior to entry into these work zones all personnel must be briefed regarding the scope and objectives of the work tasks as well as the potential chemical and health hazards. All workers entering these work zones must review and sign this HASP. **No workers shall enter these work zones without the use of** a **"buddy system".**

Routine site communication over close distances will be established using vocal communication and/or hand signals. **Audible signaling of an emergency condition will be accomplished with an air horn.**

5.0 Decontamination Procedures

All personnel and equipment leaving a contaminated area will be cleaned and decontaminated in the contaminant reduction zone. Personnel decontamination will include:

1. Removal of dedicated, disposable equipment (sampling gloves, etc.).
2. Washing of reusable PPE using soapy water and clean water rinse.
3. Washing of hands and face using soap and water.

All field instruments shall be wiped clean with a moistened paper towel. Instrument probes will be cleaned in accordance with manufacturer's recommendations.

6.0 Emergency Action Plan

In the event of an emergency that threatens worker health and safety, the following actions will be followed:

1. If the emergency originates in the designated work areas, the HSO, acting as the emergency coordinator, will determine the appropriate emergency response including evacuation. **An air horn will be used to signal a work related emergency.**

2. If the emergency is not work related, the HSO will account for all workers and report to the site contact.

3. All workers will follow evacuation routes shown on Figure 7 and shall meet at the designated rally point.

4. The Plant Manager (Mr. Gary Green) will be notified.

5. Site workers are not permitted to participate in handling emergency response operations.

6. All incidents will be recorded on Supervisor's Investigation Report Forms (See attached following Section 7).

Emergency decontamination procedures are as follows:

1. Exposure to toxic or corrosive materials:

   Rinse with copious amounts of water.

2. Heat related incidents:

   Immediate removal of protective clothing and seek location away from heat source or shielded from sun.

3. Cold related incidents:

   Personnel will be transported to warm, dry area (field vehicle, nearby building).

If immediate medical attention is required, the victim will be decontaminated after medically stabilized. The victim should be wrapped with available items (uncontaminated coveralls, etc.) to reduce potential contamination of other personnel or medical equipment (if possible).

7.0 Spill Containment Program

In the event of a release of a hazardous material, an experienced commercial spill clean-up firm should be contacted. Site workers should

not participate in the emergency response unless, in the judgment of the HSO, the actions will not expose workers to dangerous levels of hazardous substances and they are necessary to preserve site or property. In addition, the HSO or Project Manager must advise the site contact concerning State and Federal reporting requirements.

In the event of a release, the following emergency responses contractors may be contacted:

Environmental Products and Services	(800) The-Tank
Marcor Remediation, Inc.	(315) 451-6047

8.0 APPROVALS

By their signature, the undersigned certify that this HASP is approved and will be utilized at the Northeast Solite site.

Health and Safety Officer — Date: 11/24/03

Project Manager — Date: 11/24/03

Health and Safety Manager — Date: 11/24/03

ADDITIONAL APPROVALS (OR RE-APPROVALS)	
NAME	DATE

9.0 FIELD TEAM REVIEW

Each field team member shall sign this section after reading the HASP, completing the pre-entry briefing and before entering the exclusion zone.

"I have read and understand this site specific Health and Safety Plan and have attended the pre-entry briefing. I will comply with the provisions set forth therein."

Printed Name	Signature	Date

10.0 STANDARD OPERATING PROCEDURES

Listed below are the Standard Operating Procedures (SOPs) which are effective or expected to be used on-site. The actual written procedures are contained in Section 7.0 of HRP's Corporate Safety and Health Program. Site personnel should familiarize themselves with all SOPs prior to the commencement of site work.

1. The "buddy system" will be used at all times. A worker will not be left alone in the exclusion zone for any reason.

2. All injuries, no matter how small, must be reported by the employee involved using HRP's incident report form. "Near misses" will also be reported. An injury report form is appended to this plan.

3. Engineering controls and work practices will be used as the preferred means to reduce and maintain employee exposure below the permissible exposure limits (PELs) to the maximum extent practicable for substances listed in 29 CFR 1910, Subpart G and Z.

4. There will be no eating, drinking, chewing gum, or any other activities which may increase the probability of hand to mouth transfer and ingestion of potentially contaminated soil allowed in the exclusion zone. The wearing of contact lenses is also forbidden in the exclusion zone or in conjunction with respiratory equipment.

5. Steel toe safety boots, hard hats, and safety glasses are required to be worn at all times while working at this site.

6. All site workers should defer questions from outside parties to the Health and Safety Officer.

7. All waste generated at the site will be the responsibility of the site owner/operator. Used personnel protection equipment will be placed in plastic bags and disposed of in a dumpster or specially designated container such as a 55-gallon steel drum for proper disposal.

8. No worker without having completed a 40-hour OSHA training course (i.e., HAZWOPER) and having had the appropriate 8-hour refresher course will be allowed to enter the exclusion zone.

EQUIPMENT CALIBRATION LOG

Instrument	Calibration Date	Calibrated By

HRP ASSOCIATES, INC.
SUPERVISOR'S INVESTIGATION REPORT FORM

<table>
<tr><td>Name</td><td>Age</td><td>Time</td><td>Date</td></tr>
<tr><td>Department/Project Manager</td><td colspan="3">Site Name/Location</td></tr>
<tr><td>WHAT HAPPENED?</td><td colspan="3">Describe what took place or what caused you o make this investigation.</td></tr>
<tr><td>WHY DID IT HAPPEN?</td><td colspan="3">Get all the facts by studying the job and situation involved.
Question by use of
WHY – WHAT – WHERE – WHEN – WHO- HOW</td></tr>
<tr><td rowspan="2">WHAT SHOULD BE DONE?</td><td colspan="3">Determine which of the 12 items under EMP require additional attention.</td></tr>
<tr><td><u>Equipment</u>
Select
Arrange
Use
Maintain</td><td><u>Material</u>
Select
Place
Handle
Process</td><td><u>People</u>
Select
Place
Train
Lead</td></tr>
<tr><td>WHAT HAVE YOU DONE THUS FAR?</td><td colspan="3">Take or recommend action, depending upon your authority.
Follow up – was action effective?</td></tr>
<tr><td>HOW WILL THIS IMPROVE OPERATIONS?</td><td colspan="3">OBJECTIVE
Eliminate job hindrances</td></tr>
<tr><td>Investigated by:</td><td>Date</td><td>Reviewed By</td><td>Date</td></tr>
</table>

HRP Associates, Inc.

11.0 Community Air Monitoring Program

During the implementation of this FRI/FS, HRP will conduct real-time air monitoring for volatile organic compounds using a PID. In addition, HRP will conduct real-time particulate monitoring with a particulate monitor. VOCs and particulate measurements will be collected continuously at downwind locations of each proposed soil boring. The monitoring equipment used will be capable of calculating 15-minute running average concentrations for both VOCs and particulates. The 15-minute running average VOC and particulate concentrations will be recorded on real time VOC/Particulate monitoring logs (see next page).

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be conducted during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) will be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a **continuous** basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- 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 for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) 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 for the 15-minute average.

- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities will be shutdown.

All 15-minute readings will 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.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations will be monitored **continuously** at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. 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 excedence of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/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 150 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 150 mcg/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 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

All readings will be recorded and be available for State (DEC and DOH) personnel to review.

REAL TIME VOC/PARTICULATE MONITORING LOG			
Date/Time	**Measurement**	**Instrument**	**Recorded by**

TABLE 1

PERSONNEL ASSIGNMENTS

Project Manager	Health & Safety Officer (HSO)	Security Officer (SO) Record keeper	HSO/SO Designated Alternate	Field Team Members	Public Information Officer
Jeffrey R. Sotek, P.E., C.S.P.	Christopher J. Bablin	Caroline E. Benedict	Caroline E. Benedict	Christopher J. Bablin Caroline E. Benedict Geoprobe Operator (Zebra) and helper Jesse Zahn James Scerra Jason Beach Robin Iocova	Albert Galliano
PERSONNEL RESPONSIBILITIES					
• Project Manager	• Implementation of HASP/CWP • General Site Supervisor • Stop work if poor work practices or conditions endanger worker health & safety • Act as Emergency Coordinator if necessary • Provide pre-entry briefing	• Maintain site records • Enforce site control program	• Perform HSO/SO duties if so designated	• Perform site work tasks	• Provide public information as necessary

TABLE 2
HEALTH AND SAFETY HAZARD ANALYSIS

Description of Hazard	Methods to Identify and Minimize	Potential for Occurrence of Hazard	Potentially Affected Tasks
Potential Physical Hazards			
1. Slippery conditions on pavement during wet conditions	• Determine weather conditions prior to arrival on-site, delaying site work if necessary • Minimize vehicular transportation in potentially dangerous areas (use established, maintained routes) • Identify and utilize alternate routes to work areas that avoid slippery areas • Wear appropriate footwear to increase traction when possible	High	• All tasks
2. Soft soil conditions	• Minimize foot and vehicular travel on soft soil	Moderate	• All tasks
3. Dusty Conditions	• Wear appropriate eyewear (contact lenses are prohibited)	High	• All tasks
4. Sharps and potentially exposed waste	• Avoid areas of exposed materials • Close examination of access routes • Wear appropriate footwear	Low	• All tasks
5. Lifting heavy equipment	• Utilize proper lifting procedures • Request assistance to mobilize heavy equipment • Minimize transport distance	Moderate	• Ali tasks

TABLE 2
HEALTH AND SAFETY HAZARD ANALYSIS

Description of Hazard	Methods to identify and Minimize	Potential for Occurrence of Hazard	Potentially Affected Tasks
6. Overhead utility lines	• Check overhead prior to moving or operating heavy equipment	Low	• All tasks
7. Subsurface utilities	• Complete a utility markout three days prior to the work start date	Low	• All tasks
8. Working adjacent to heavy equipment (excavator, Geoprobe)	• Maintain appropriate distance during equipment operations • Wear appropriate head and foot wear	High	• All tasks

TABLE 3
HEALTH AND SAFETY HAZARD ANALYSIS

Description of Hazard	Methods to Identify and Minimize	Potential for Occurrence of Hazard	Potentially Affected Tasks
Potential Environmental Hazards			
1. Inclement weather	• Determine probable weather conditions prior to arrival at site • Avoid working during blizzards, persistent heavy rain or snow, close thunderstorms	Moderate	• All tasks
2. Heat Stress, stroke or exhaustion	• Determine probable weather conditions prior to arrival at site • Monitoring of yourself and team mates • Drink plenty of fluids • Utilize work breaks as often as necessary	Moderate	• All tasks
3. Cold stress, hypothermia or frostbite	• Determine probable weather conditions • Wear proper clothing • Monitor yourself and team mates • Drink plenty of fluids • Utilize work breaks when necessary • Avoid working in extreme cold conditions	Low (tasks proposed for August 2003)	• NA

TABLE 4

HEALTH AND SAFETY HAZARD ANALYSIS

Description of Hazard	Methods to Identify and Minimize	Potential for Occurrence of Hazard	Potentially Affected Tasks
Potential Chemical/Biological Hazards			
1. Skin contact with elevated fecal coliform levels	• Wear appropriate protective clothing • Follow proper decontamination procedures	Low	• All tasks
2. Skin contact with elevated levels of volatile organic compounds	• Wear appropriate protective clothing • Follow proper decontamination procedures • Report potential exposure symptoms immediately	High	• All tasks

TABLE 5
CHEMICAL HAZARDS KNOWN OR SUSPECTED ON-SITE

CONTAMINANT	ODOR THRESHOLD	OSHA PEL[1]	TLV (ACGIH)	OSHA CEILING[2] /STEL	IDLH CONC.	ROUTES OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE[3]
1,1,1-Trichloroethane	20 ppm	350 ppm		---		Inh, Ing, Con	Head, Lass, CNS, Derm
1,1,2,2-Tetrachloroethane		5 mg/m^3		1 mg/m^3	100 mg/m^3	Inh, Abs, Ing, Con	Nau, Vomit, Abdom Pain, Tremor Fingers; Jaun, Hepatitis, Liver, Tend, Derm, Monocy; Kidney Damage (care)
1,1,2-Trichloroethane	---	10 ppm	10 ppm	---	100 ppm	Inh, Ing, Abs, Con	Eyes, Nose Irr, Resp Irr, CNS, Liver, Kidney Damage, Derm
1,1-Dichloroethane	150 ppm	100 ppm	100 ppm	---	3,000 ppm	Inh, Ing, Con	CNS Depres, Skin Irr, Liver, Lung and Kidney Damage
1,1-Dichloroethylene	35 ppm		5 ppm			Inh, Con	CNS depress, Resp
1,2,4-Trimethylbenzo 1,3,5-Trimethylbenzene		25 mg/m^3		25 mg/m^3	ND	Inh, Ing, Con	Irrit Eyes, Skin, Nose, Throat, Resp Sys, Bron, Hypochronic Anemia, Head, Drow, Ftg, Dizz, Nau, Inco, Vomit, Conf, Chemical Pneu (aspir lig)
1,2-Dichlorobenzene	30 ppm		50 ppm	50 ppm	200 ppm	Inh, Ing, Abs, Con	Irr, Resp
1,2-Dichloroethane		10 mg/m^3		1 mg/m^3	50 mg/m^3	Inh, Abs, Ing, Con	Irrit Eyes, Corn Opac, CNS, Depres, Nau, Vomit, Derm, Liver & Kidney Damage, CVS, (care)
1,2-Dichloroethylene	26-87 ppm	200 ppm	200 ppm	---	1,000 ppm	Inh, Ing, Con	Vomit, Irrit Eyes, Resp Sys; CNS Depres
1,3-Dichlorobenzene		---		---		---	---
1,3-Dichloropropene		1 mg/m^3		2 mg/m^3	ND	Inh, Abs, Ing, Con	Irrit Eyes, Skin, Resp Sys, Skin, Burns, Lac, Head, Dizz; In Animals: Liver, Kidney Damage (care)
1,4-Dichlorobenzene	20 ppm	75 ppm		---	[150]	Inh, Ing	---

TABLE 5
CHEMICAL HAZARDS KNOWN OR SUSPECTED ON-SITE

CONTAMINANT	ODOR THRESHOLD	OSHA PEL[1]	TLV (ACGIH)	OSHA CEILING[2] /STEL	IDLH CONC.	ROUTES OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE[3]
2,4-D		10 mg/m^3		10 mg/m^3	100 mg/m^3	Inh, Abs, Ing, Con	Weak, Stupor, Hyperflexia, Musc Twitch, Convuls, Derm; In Animals: Liver, Kidney Injury
2-Hexanone		5 mg/m^3		10 mg/m^3	1600 mg/m^3	Inh, Abs, Ing, Con	Irrit Eyes, Nose, Perineur, Weak, Pares, Derm, Head, Drow
4-methyl-2-pentanone (MIBK)		50 mg/m^3		75 mg/m^3	500 mg/m^3	Inh, Ing, Con	Irrit Eyes, Skin, Muc Memb, Head, Naro, Coma, Derm; In animals: Liver, Kidney Damage
Acetone	300 ppb	1,000 ppm	500 ppm		2,500 ppm	Ing, Inh, Con	Head, Dizz, Irr Eyes, Nose, Throat, Derm, CNS, Depress, Derm
Aluminum		10 mg/m^3		15 mg/m^3	ND	Inh, Con	Irrit Eyes, Skin, Rsp Sys
Ammonia		50		35	300	Inh, Con	Irrit Eyes, Nose, Throat; Dysp Bronspas, Chest Pain, Pulm Edema, Pink Forthy Sputum, Skin Burns, Vesil; Liq; Frostbite
Antimony		0.5 mg/m^3		0.5 mg/m^3	50 mg/m^3	Inh, Ing, Con	Irrit Eyes, Skin, Nose, Throat, Mouth, Cough, Dizz, Head, Nau, Vomit, Diarr, Stomach Cramps, Insom, Anor, Unable to smell properly
Arsenic	---	0.5 mg/m^3	0.01 mg/m^3	---	[5 mg/m^3]	Abs, Inh, Con, Ing	Derm, GI, Resp Irr, ulceration of nasal septum, Resp, Irr, Hyper Pig of Skin
Barium	---	0.5 mg/m^3	0.5 mg/m^3		50 mg/m^3	Inh, Ing, Con	Resp, Irr, GI, Muscle Spasm, Eye Irr, Slow Pulse, skin burns
Benzene	200 ppb	10 ppm	0.5 ppm	25 ppm	[500] ppm	Inh, Ing, Abs, Con	Irr Eyes, Nose, Throat, Head, Nau, Derm, Fig, Anor, Lass

Associates, Inc.

TABLE 5
CHEMICAL HAZARDS KNOWN OR SUSPECTED ON-SITE

CONTAMINANT	ODOR THRESHOLD	OSHA PEL[1]	TLV (ACGIH)	OSHA CEILING[2] /STEL	IDLH CONC.	ROUTES OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE[3]
Beryllium		0.0002 mg/m^3		0.0005 mg/m^3	4 mg/m^3	Inh, Con	Berylliosis, Anor, Low Wgt, Weak, Chest Pain, Cough, Clubbing of fingers, Cyan, Plum Insufficiency, Irrit Eyes, Derm, (care)
Bromomethane		1 mg/m^3			250 mg/m^3	Inh, Abs (liq), Con (liq)	Irrit Eyes, Skin, Resp Sys; Musc Weak, Inco, Vis Dist, Verti, Nau, Vomit, Head, Mal, Hand Tremor, Convuls, Dysp, Skin Vesic; Liq Frostbite
Cadmium (dust)		0.005 mg/m^3	Lowest concentration feasible 0.01 mg/m^3	—	[9 mg/m^3]	Inh, Ing	CNS, Resp, Irr, Vomit, Cough, Head, Chills, Nau, Diarr, Pulm Edema, Dysp, Chest Tight
Carbon Tetrachloride	9 ppm	10 ppm	5 ppm [60 min]	25 ppm	[200] ppm	Inh, Abs, Con, Ing	CNS Depres, Nau, Vomit, Irr, Irr Eyes, Skin, Drow, Dizz
Chlordane [skin]		0.5 mg/m^3	0.5 mg/m^3		[100 mg/m^3]	Inh, Abs, Ing, Con	Blurred vision, confusion, delirium, cough; abdominal plan, nausea, vomiting diarrhea; irritability, tremor, convulsions
Chlorobenzene	90 ppb	75 ppm	10 ppm	—	1,000 ppm	Inh, Ing, Con	Irr, Drow, CNS, Depres, Eyes, Skin, Nose, inco.
Chloroethane		100 mg/m^3			3800 mg/m^3	Inh, Abs (liq), Ing (liq), Con	Inco, Inebri, Abdom Cramps, Card Arrrest, Liver, Kidney Damage
Chloroform	133 ppm	50 ppm	10 ppm (60 min)	50 ppm	[500] ppm	Inh, Ing, Con, Abs	Dizz, Dullness, Nau, Head, Ftg, Irr Eyes, Skin, Conf

TABLE 5
CHEMICAL HAZARDS KNOWN OR SUSPECTED ON-SITE

CONTAMINANT	ODOR THRESHOLD	OSHA PEL[1]	TLV (ACGIH)	OSHA CEILING[2] /STEL	IDLH CONC.	ROUTES OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE[3]
Chloromethane		50 mg/m^3		100 mg/m^3	200 mg/m^3	Inh, Con (liq)	Dizz, Nau, Vomit, Visdist, Stagger, Slurred Speech, Convuls, Coma, Liver, Kidney Damage, Liq; Frotbite, Repro Etrato effects (care)
Chromium	---	1 mg/m^3	0.5 mg/m^3	---	No evidence	Inh, Ing, Con	Irrit Eyes, Sens Derm
Chromium, Hexavalent		0.1 mg/m^3		0.001 mg/m^3		Inh, Ing, Con	Irrit Eyes, Skin; Lung Fib (histologic)
Copper (dusts and mists) (fumes)		1 mg/m^3 0.1 mg/m^3	1 mg/m^3 0.2 mg/m^3	----	100 mg/m^3	Inh, Ing, Con	Vomit, Derm, CNS, Irr, Derm, Nau, Taste (metallic)
Cyanide	3 mg/m^3	5 mg/m^3	5 mg/m^3 (10 min)	5 mg/m^3	50 mg/m^3	inh, Ing, Abs, Con	Weak, Head, Nau, Conf, Cyan
Dichlorodifluoromethane		1000 mg/m^3		1000 mg/m^3	15,000 mg/m^3	Inh, Con (liq)	Dizz, Tremor, Asphy, Uncon, Card Arrhy, Card Arrest, Liq: Frostbite
Ethyl Benzene	870 ppm	100 ppm	100 ppm	125 ppm	800 ppm	Inh, Abs, Con	Head. Irr, Derm, Narc., Irrit Eyes, Skin; Coma
Fluoride		2/5 mg/m^3					
Hexachlorobutadiene		0.02 mg/m^3		>0.02 mg/m^3	ND	Inh, Abs, Ing, Con	In Animals: Irrit Eyes, Skin, Resp Sys, Kidney Damage (care)
Hydrogen Sulfide LEL 4% 40,000 ppm UEL 44% 440,000 ppm		20 ppm		50 ppm	100 ppm	Inh, Cont	Irrit Eyes, Resp Sys, Apnea Coma, Convuls, Conj Eye Pain, Lac, Phto, Corn Vesic, Dizz, Head, Ftg, Irrity, Insom, GI Dist
Iron (as iron oxide)	---	10 mg/m^3		---	2,500 mg/m^3	Inh	Benign Pneumoconiosis
Isopropyl Benzene				50 mg/m^3	900 mg/m^3	Inh, Abs, Ing, Con	Irrit Eyes, Skin, Muc Memb, Derm, Head, Narco, Coma

TABLE 5
CHEMICAL HAZARDS KNOWN OR SUSPECTED ON-SITE

CONTAMINANT	ODOR THRESHOLD	OSHA PEL[1]	TLV (ACGIH)	OSHA CEILING[2] /STEL	IDLH CONC.	ROUTES OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE[3]
Lead (inorganic forms and dust as Pb)		0.05 mg/m^3	0.05 mg/m^3		100 mg/m^3	Inh, Ing, Con	Irr, Cns, Vomit, Narco, Weak, Pall, Insom, Lass, Abdom, Constip
Manganese, Elemental	---	5 mg/m^3	0.2 mg/m^3	5 mg/m^3	500 mg/m^3	Inh, Ing	Mental Conf., Dry Throat, Cough, Tight Chest, Insom, Weak, Dysp
Mercury (vapor)	----	0.1 mg/m^3	0.025 mg/m^3	0.1 mg/m^3	28 mg/m^3	Inh, Abs, Ing, Con	Irr Eyes, Skin; Cough & Chest Pain, Bron Pneatis, Tremor, Insom, Irrty, Indecision, Head, Ftg, Weak, Stomatitis, Salv, GI Dist, Anor, Low-wgt, Ataxia
Methane	200 ppm	----	----	Note: Asphyxiant, burns without noise in air with more than 14% methane LEL – 50,000 ppm (5%) UEL – 150,000 ppm (15%)			
Methyl Ether	----	----		----		Inh	Poison
Methyl Ethyl Ketone (2-Butanone)	1 ppm	200 ppm	200 ppm		3,000 ppm	Inh, Con, Ing	Irr, Head, Dizz, Vomit, Cough, Diarr, Eyes, Skin, Nose, Throat, Blisters, Derm
Naphthalene		10 ppm	10 ppm		250 ppm	Inh, Abs, Ing, Con	Eye irritation; headache; confusion; excitement; malaise (vague feeling of ill-being); nausea; vomiting; abdominal pain; irritated bladder; profuse sweating; renal shutdown; dermatitis
Nickel (metal)	---	1 mg/m^3	1.5 mg/m^3	---	10 mg/m^3	Inh, Ing, Con	Head, Vert, Nau, Vomit, Pain, Cough, Weak, Convuls, Delirium, Pheuitis, Hyperpneo
PCBs 42% chlorine	Ca	1 mg/m^3 (skin) 0.001 mg/m3	1 mg/m^3	---	5 mg/m^3	Inh, Abs, Ing, Con	Irr, Eyes, Chloracne, Liver Damage [carc]

IR Associates, Inc.

TABLE 5
CHEMICAL HAZARDS KNOWN OR SUSPECTED ON-SITE

CONTAMINANT	ODOR THRESHOLD	OSHA PEL[1]	TLV (ACGIH)	OSHA CEILING[2] /STEL	IDLH CONC.	ROUTES OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE[3]
PCBs 54% chlorine	Ca	0.5 mg/m^3 (skin) 0.001 mg/m^3	0.5 mg/m^3	---	[5 mg/m^3]	Inh, Abs, Ing, Con	Irr Eyes, Chloracne, Liver Damage, [carc]
Phosphorus		0.1 mg/m^3		0.1 mg/m^3	5 mg/m^3	Inh, Ing. Cont	Irrit Eyes, Rsp Tract; Eye, Skin, Burns, Abdom Pain, Nau, Jaun, Anemia, Cochexia, Dental Pain, Salv, Jaw Pain, Swell
Selenium	N/A	0.2 mg/m^3	0.2 mg/m^3	Unknown	1 mg/m^3	Inh, Ing, Con	Irrit, Head, Fever, Chills, Skin/Eye Burns, Metallic Taste, GI, Dysp, Bron
Silica		10 mg/m^3		6 mg/m^3	3000 mg/m^3	Inh	In animals: Pulm Irrit, Edema
Silver (metal and soluble compounds as Ag)	----	0.01 mg/m^3	Metal = 0.1 mg/m^3 Soluble 0.01 mg/m^3		10 mg/m^3	Inh, Ing, Con	Blue-gray Eyes, Nasal Septum, Throat, Skin; Irr, Ulcer, Skin, GI Dist
Sulfide	N/A	N/A		N/A		Ing, inh	N/A
Tetrachloroethylene (a.k.a. perchloroethylene)	36 ppm	100 ppm	25 ppm	200 ppm	[150] ppm	Inh, Ing, Con, Abs	Irr, Nau, Nose, Throat, Vert, Dizz, Head, Inco
Thallium		0.1 mg/m^3		0.1 mg/m^3	15 mg/m^3	Inh, Abs, Ing, Con	Nau, Dioarr, Abdom Pain, Vomit, Ptosis, Strabismus, Peri Neuritis, Tremor; Rester Tight; Chest Pain, Pulm Edema, Sez, Chorea Psychosis; Liver, Kidney Damage; Alopecia; Pares legs
[illegible]	N/A	2 mg/m^3	2 mg/m^3	1500 mg/m^3	100 mg/m^3	Inh, Con	Irrit, Weak, Vomit, Cough, Eyes, Skin, Resp Sys

ERP Associates, Inc.

TABLE 5
CHEMICAL HAZARDS KNOWN OR SUSPECTED ON-SITE

CONTAMINANT	ODOR THRESHOLD	OSHA PEL[1]	TLV (ACGIH)	OSHA CEILING[2] /STEL	IDLH CONC.	ROUTES OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE[3]
Toluene	150 ppm	200 ppm	50 ppm	300 ppm	500 ppm	Inh, Abs, Ins, Con	Resp, Irr, Ftg, Weak, Conf, Dizz, Head, Derm, Euph, Head, Dilated Pupils, Lac, Ner, Musc FTs, Insom, Pares, Derm
Trichloroethylene	10 ppm	100 ppm	50 ppm	200 ppm	[1,000] ppm	Inh, Con, Abs, Ing	Head, Vert, Nau, Vomit, Derm, Vis Dist, Tremors, Som, Nau, Irrit Eyes, Skin, Card Acc, Ftg
Vanadium (pentoxide) dust or fume	N/A	0.05 mg/m^3	0.05 mg/m^3	70 mg/m^3	35 mg/m^3	Inh, Ing, Con	Irrit Eyes, Skin Throat; Metallic Taste; Wheeze; Green Tongue, Cough, Eczema, Bron, Dysp
Vinyl Chloride	10-20 ppm	1 ppm	1 ppm	5 ppm		Inh, Con	Weak, Abdom Pain, GI Bleeding, Hepatomegaly, Pallor or Cyan of Extremities, Liq: Frotbite, carc
Xylene	20 ppm	100 ppm	100 ppm	150 ppm	900 ppm	Inh, Ing, Abs, Con	Dizz, Drow, Irr, Excite, Nau, Vomit, Eyes, Skin, Nose, Throat

NOTES

Suspected chemical hazards highlighted

[1]PEL = Permissible Exposure Limit. If no PEL is available, then the NIOSH Threshold Limit Value (TLV) should be used, if available.

[2]Ceiling limit or Short Term Exposure Limit (STEL), if available. Again, the NIOSH TLV may be used if no OSHA standard exists.

[3]Abbreviations are contained on the next page

Modified level D personal protective equipment is suitable to protect against the anticipated hazards at this site. This equipment is listed below. ***Prior to entry and periodically throughout the duration of the project, the HSO must confirm that this level of protection is appropriate through air monitoring and evaluation of identified hazards.***

TABLE 6 – Personal Protective Equipment

WORK TASK	MINIMUM PROTECTIVE EQUIPMENT											
	Work Clothes	Steel Toe Shoes	Work Gloves	Chem. Resistant Gloves[1]	Safety Glasses	Hearing Protection	Tyvek	Apron	Hard Hat	Face Shield	Fall Protection[2]	Visibility Vest
SAMPLING/ROUTINE TASKS												
Air Sampling	X	X		X								
Bridge Inspection/Const. Supervision	X	X				X			X			X
Drilling/Excavation	X	X		X	X	X			X			
Drum Sampling & Moving	X	X	X	X	X				X	X		
Ground Water Sampling (MW)	X	X		X	X				X			
Hand Sampling (shovel, auger)	X	X	X	X					X			
Landfill Sampling (soil, sediment, gw, sw,	X	X		X	X		X					
Phase 1 Site Inspection	X	X										
Probing	X	X		X	X	X			X			
Product Sampling (RW)	X	X		X	X		X					
Remediation Monitoring (air systems)	X	X		X	X	X						
Remediation Monitoring (water systems)	X	X	X	X	X	X						
Soil Gas Sampling	X	X		X	X							
Stack Testing	X	X		X					X		X	
Stormwater Sampling	X	X		X								
Surface Water Sampling	X	X		X	X				X			
Surveying	X	X			X				X			X
Wastewater Sampling	X	X		X	X							
Wastewater Benchmark Test	X	X		X	X			X		X		
CHEMICAL HANDLING												
Filling Decon Bottles	X	X			X			X	X			
Soil Sample Disposal	X	X		X	X							
POWER EQUIPMENT												
Circular Saw	X	X			X	X						
Concrete Core Machine	X	X	X		X	X						
Drill Press	X	X			X	X						
Generators	X	X	X		X	X			X			
Industrial Vacuum	X	X	X		X	X						
Pavement Saw	X	X	X		X	X						
Power Equipment (hand drills, grinder, etc.)	X	X	X		X	X						
Power Washer	X	X		X	X	X						
Regenerative Blowers/Air Compressors	X	X	X		X	X						
Rotary Percussion Hammer	X	X	X		X	X						
Sawzall	X	X			X	X						

Notes: Minimum protective equipment means the minimally acceptable protective gear to be donned when performing or using the equipment listed above. Additional protective equipment (i.e. respirators) may be required as described in the site specific health and safety plan or based on the anticipated hazards associated with the project. Work clothes include long pants, short or long sleeve shirt and other winter clothing. If upgrade to level C respiratory protection is necessary the appropriate respirator cartridges will provide protection against hydrogen sulfide and volatile organics, but not oxygen deficient atmospheres due to methane gas displacement of ambient air.

[1]The type of chemical resistant glove (i.e. disposable rubber, nitrile, other) must be selected based on the anticipated chemical hazards.

[2]Must be reviewed on a case by case basis.

TABLE 7

AIR MONITORING PROGRAM

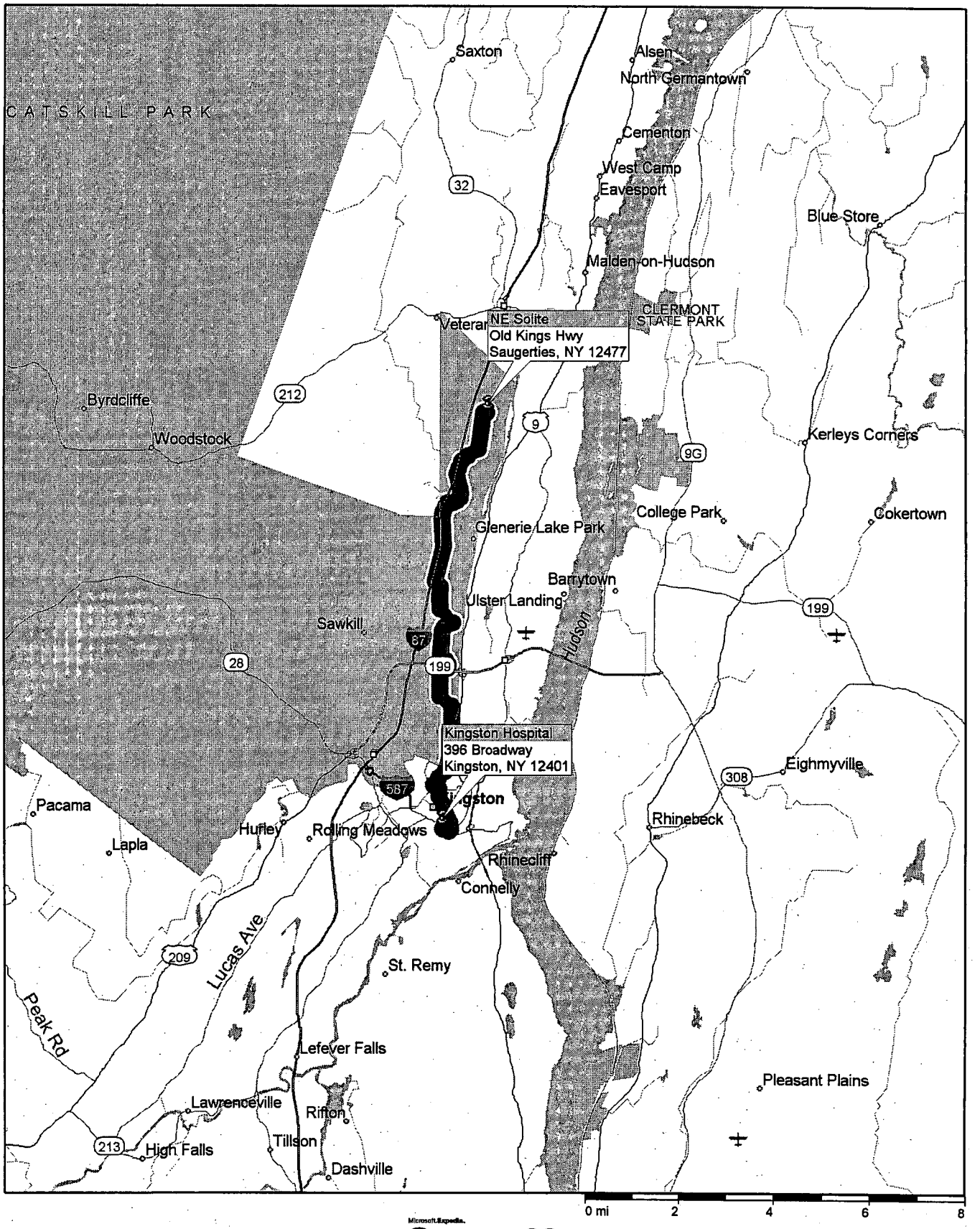
The primary airborne hazards anticipated during this project, are VOCs
The air-monitoring program is designed to protect against these hazards.

Chemical Compound	Monitoring Instrument	Monitoring Frequency	Action Level	Authorized Procedures When Action Level Exceeded
Particulates	Particulate Meter	• Prior to Entry • Continuously during excavation and ground intrusive activities	100 mcg/m^3 above background	1. Work may continue with dust suppression techniques provided that downwind particulate levels do not exceed 150 mcg/m^3 above the upwind level, and provided that no visible dust is migrating from the work area.
Volatile Organics	Photoionization Detector (PID)	• Prior to entry • Continuously during work activities in work area with (breathing zone, one foot above ground level and at borehole), with periodic screening of surrounding area, especially topographic depressions	5 ppm	2. Stop operations, evacuate area, contact HSM, reassess potential exposure 3. Implement engineering controls or upgrade of respiratory protection to Level C
			Level C 50 ppm	1. Stop operations, evacuate area, reassess potential exposure 2. Implement engineering controls 3. Shutdown operations if condition cannot be controlled

Notes:

1. Air monitoring data must be recorded in a field book on an hourly basis noting all short term exposures (peak concentration & duration) >80% of action level including all hourly levels in work and surrounding areas.
2. Respiratory or PPE upgrade more stringent than level C requires authorization from the project manager, and re-evaluation of necessary contaminant exposure routes, and PPE as well as action levels before resuming affected work task.
3. Monitoring instruments must be calibrated daily on-site under same conditions where they are to be used. Calibration must be recorded in calibration log (Section 7.11). Calibration checks must be performed at midday, when temperature changes of ±20°F occur (from the initial calibration), and when the instruments are suspected to be operating inaccurately.

Figure 1, Route to Hospital



Microsoft Expedia Streets98

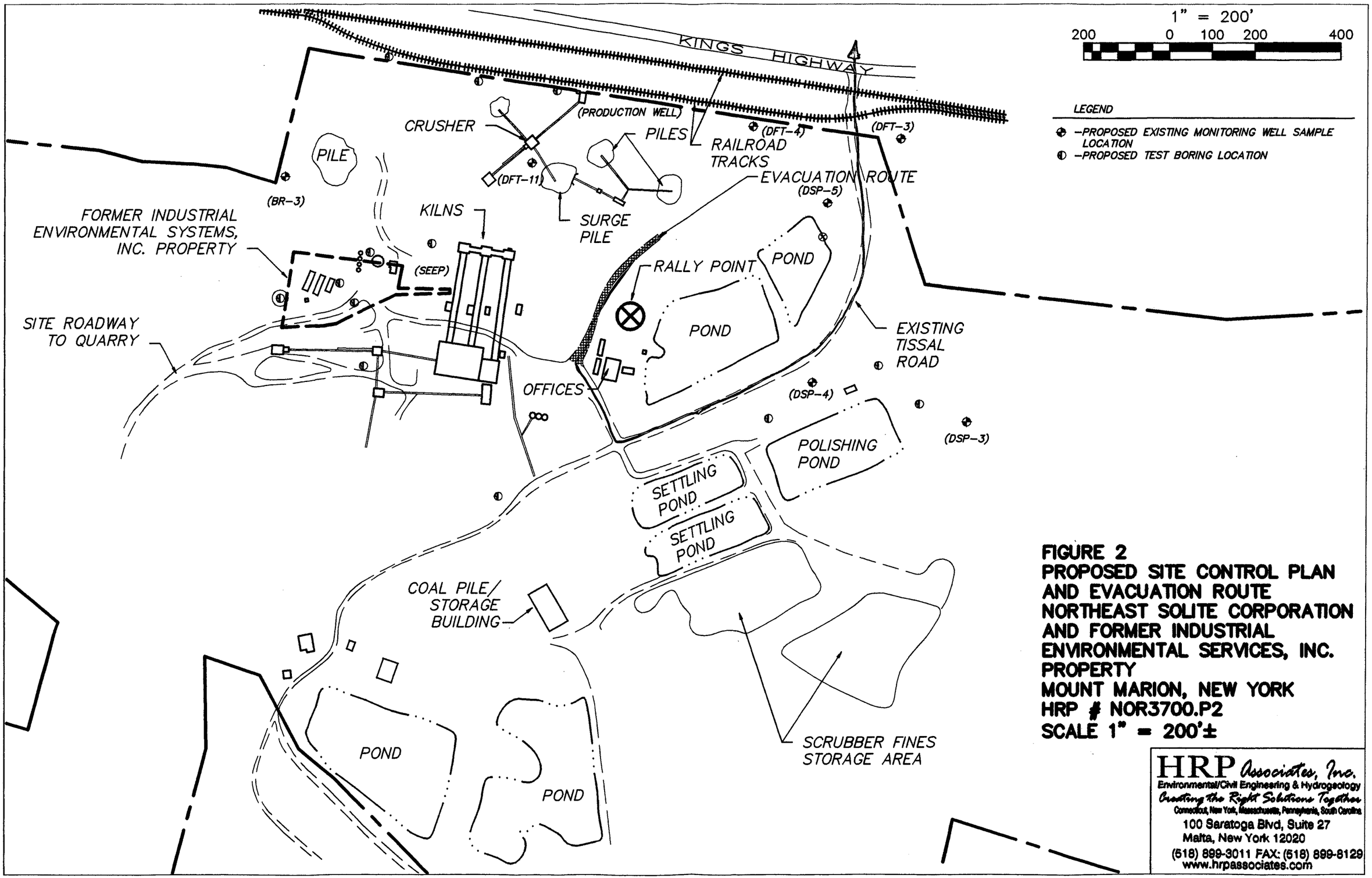


FIGURE 2
PROPOSED SITE CONTROL PLAN AND EVACUATION ROUTE
NORTHEAST SOLITE CORPORATION AND FORMER INDUSTRIAL ENVIRONMENTAL SERVICES, INC. PROPERTY
MOUNT MARION, NEW YORK
HRP # NOR3700.P2
SCALE 1" = 200'±

HRP Associates, Inc.
Environmental/Civil Engineering & Hydrogeology
Creating the Right Solutions Together
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Malta, New York 12020
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APPENDIX C

CITIZENS PARTICIPATION PLAN

FOCUSED REMEDIAL INVESTIGATION/FEASIBILITY STUDY CITIZEN PARTICIPATION PLAN

Northeast Solite Corporation/Industrial Environmental Systems, Inc.
New York Facility
962 Kings Highway
Mount Marion, New York

Order on Consent Index # W3-0881-01-02
NYSDEC Site Code #3-56-005

PREPARED BY:

HRP ASSOCIATES, INC.
100 SARATOGA VILLAGE BOULEVARD, SUITE 27
MALTA, NEW YORK 12020

Christopher J. Bablin
Senior Project Geologist

Jeffrey R. Sotek, P.E., C.S.P.
Senior Project Manager

Submitted: June 9, 2003
Revised: November 24, 2003

HRP
Associates, Inc.

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LIST OF APPENDICES

A. Glossary of Terms used in the IHWR Program in this Plan.....Follows Text

1.0 introduction

The New York State Department of Environmental Conservation (NYSDEC), in cooperation with the New York State Department of Health (NYSDOH) and Northeast Solite/Industrial Environmental Systems Inc (NES/ISE), is committed to informing and involving the public during the upcoming Focused Remedial Investigation (FRI) and Feasibility Study (FS) for the Northeast Soiite site.

The Northeast Soiite site is listed in the New York State Registry of Inactive Hazardous Waste Site as a Class 2 Site (Site #356005). A Class 2 designation means that the site has been determined to be a significant threat to the public health or the environment and action is required.

On March 26, 2001, an Order on Consent was signed between NYSDEC and the Respondents NES/ISA. An Order on Consent is a legal and enforceable agreement by which a responsible party or parties will undertake site investigation and/or cleanup, or pay for the costs of those activities. An environmental consulting firm, HRP Associates, Inc. has been retained by NES/IES to prepare and implement the FRI/FS Work Plan.

2.0 Site Background

Based on HRP's review of the available documents, a 0.8±-acre portion of the site was utilized by Industrial Environmental Systems (IES) for the storage and blending of industrial waste solvents (see Figure 2 for location of former IES site). These solvents were then used as a fuel in rotary kilns at the adjacent NES site from 1976 to the early 1980's. Reportedly, the IES site utilized nine (9) storage tanks to blend, isolate, and transfer the solvent fuel to the NES rotary kilns via aboveground and underground piping. Solvents at the facility were tested and then off-loaded from tankers into one of two (2) receiving tanks. The receiving tanks were used to blend the solvents and segregate solid materials. Periodically, the receiving tanks were cleaned out and the solid material was drummed. Reportedly, the drums were temporarily stored on-site, then transported off-site for disposal at an approved facility.

The NYSDEC determined that the facility's storage of spent solvents constituted the operation of a hazardous waste storage site requiring a permit (pursuant to Section 360.8(a)(17) of 6 NYCRR. Therefore IES signed an Order on Consent in 1981. The order required NES/IES to submit a waste analysis plan (to test materials prior to incineration, ensuring that the materials are included on the permit) and conduct a subsurface investigation.

For a detailed analysis of the environmental history of this site, including prior investigations and remedial activities, see Chapter 2.3 of the RI/FS Work Plan.

3.0 Project Description

The purpose of the FRI/FS is to properly address the NYSDEC's concerns regarding the site's current environmental status. Currently, the subject site is included on the NYSDEC's registry of Inactive Hazardous Waste Disposal Sites (IHWDS) as a Classification 2 site (i.e., significant threat to the public health or the environment, action required). In addition, the FRI/FS will confirm extensive remedial efforts performed at the site to date.

The goal of developing and implementing the FRI/FS is to update the environmental data regarding the site's historical areas of concern (AOCs). To accomplish this goal, the FRI/FS will be implemented in the vicinity of the site's historical AOCs.

It is HRP's intent to achieve this goal by implementing the NYSDEC's recommended scope of work, outlined in Exhibit B of the Order of Consent. Specifically, the scope of work tasks will address the following:

- Determine the existence and condition of the on-site monitoring well network;
- Based on the determination of the monitoring well network, monitoring wells will either be replaced or the groundwater samples will be collected during a Geoprobe ® investigation;
- Conduct a groundwater investigation in the downgradient area of the site;
- If necessary, conduct a soil gas survey to determine the locations for any new monitoring wells or the location for the Geoprobe ® investigation;
- Conduct a Geoprobe ® investigation based on information from previous investigations;
- Conduct an off-site groundwater investigation;
- Investigate the two (2) sources of contamination, based on previous investigations, including the tank farm area, and the settling pond area.

4.0 Community Issues and CP Issues

To keep the public informed and involved as the investigation unfolds, CP activities will include the following:

1. A CP Plan will be developed, which will include among other things; a brief description of the site background and upcoming investigation; a mailing list of affected or interested parties, and information for the public on how to access project documents or contact project personnel.

2. Document Repositories will be established.

3. A Fact Sheet will be mailed to the project's Mailing List advising that a Focused Remedial Investigation/Feasibility Study (FRIFS) is about to begin.

4. At the completion of the FRI/FS, a Fact Sheet will be sent to the mailing list to advise of the Proposed Remedial Action Plan (PRAP), to solicit public comments on the plan and announce the time and place for a public meeting.

5. A Public Meeting will be held in the community, during the official 30-day public comment period, to present the PRAP in detail, and to solicit public comments.

6. As a part of the Record of Decision (ROD), a "Responsiveness Summary" will be prepared which will address all the comments received from the Public during the comment period.

7. A Citizen Participation Record (CPR) and a Community Profile Scoping Sheet (CPSS) for the FRI/FS and the ROD will be completed. The CPR will provide a status report on the project, while the CPSS will provide a summary of the project's findings.

8. After the ROD has been issued, it will be placed in the document repositories, and a "Notice of ROD Availability" will be prepared and mailed to the site's mailing list which will briefly describe the selected remedy.

5.0 Project Contacts

For additional information about the program to investigate the Northeast Solite Site, the public is encouraged to contact the following project staff.

Environmental and Site Activities:
Tara King
NYSDEC
625 Broadway
Albany, NY 12233-7015
518-402-9621

Health Related Issues:
Fay Navritil
NYSDOH
547 River Street
Troy, NY 12180
1-800-458-1158 x27890

Citizen Participation
Michael J. Knipfing
NYSDEC
21 South Putt Corners Road
New Paltz, NY 12561
845-256-3154

6.0 Document Repositories

Two document repositories have been established to provide the public with convenient access to important project documents. They are:

Saugerties Public Library
91 Washington Avenue
Saugerties, NY 12477
845-246-4317
Hours: M,W (Noon-8pm); Tu,Thu,Fri (10am-6pm);
Sat (10am-2pm, but closed during summer)

NYSDEC, Region 3
21 S. Putt Corners Road
New Paltz, NY 12561
845-256-3154
Hours: M-F, 8:30am-4: 45 pm (please call for appointment)

Documents currently available include the Order on Consent dated March 26, 2001, and under which this investigation is being carried out, and the Approved Work Plan for the FRI/FS process. As more documents are created during the remediation process, they will be placed in the repositories.

7.0 Potentially Affected/Interested Public (Mailing List)

A mailing list will be completed by HRP. Individuals and organizations on this list will receive all mailings concerning the investigation of the Northeast Solite Site. As the process unfolds, additional persons will be added to this list as we become aware of their interest in the site. This list includes, but is not limited to the following: Adjacent Property

Appendix A

Glossary of Terms
Used in the Hazardous Waste Remediation Program

Hazardous Waste Site Program
Glossary and Acronyms

GLOSSARY

This glossary defines terms associated with New York's hazardous waste site citizen participation program, and important elements of the hazardous waste site remedial program. Words in **bold** in the definitions are defined elsewhere in the glossary. A list of acronyms often used in the remedial program begins on page D-7.

Administrative Record	Part of a site's **Record of Decision** which lists and defines documents used in the development of NYSDEC's decision about selection of a remedial action.
Availability Session	A scheduled gathering of program staff and members of the public in a casual setting, without a formal presentation or agenda but usually focusing on a specific aspect of a site's remedial process.
Citizen Participation	A program of planning and activities to encourage communication among people affected by or interested in hazardous waste sites and the government agencies responsible for investigating and remediating them.
Citizen Participation Plan	A document which must be developed at a site's **Remedial Investigation** stage. A CP Plan describes the citizen participation activities that will be conducted during a site's remedial process.
Citizen Participation Record	A document prepared at a major remedial stage which describes the citizen participation activities required at that stage. A CP Record also directs a scoping process to determine if additional citizen participation activities are appropriate and feasible.

Citizen Participation Specialist

A staff member from an NYSDEC central office or regional office who has specialized training and experience to assist a **project manager** and other staff to plan, conduct and evaluate a site-specific citizen participation program.

Classification

A process to place a hazardous waste site within a category which defines its hazardous waste status and its threat or potential threat to public health and the environment. Sites are listed along with their classifications in the **Registry of Inactive Hazardous Waste Disposal Sites**.

Class 1 - causing or representing an imminent danger of causing irreversible or irreparable damage to public health or environment -- immediate action required.
Class 2 - significant threat to public health or environment -- action required.
Class 2a - temporary classification assigned to a site for which there is inadequate or insufficient data for inclusion in any other classification.
Class 3 - does not present a significant threat to public health or environment -- action may be deferred.
Class 4 - site properly closed -- requires continued management.
Class 5 - site properly closed -- no further action required.
Delisted - site no longer considered an inactive hazardous waste disposal site.

Comment Period

A time period for the public to review and comment about various documents and DER actions. For example, a 30-day comment period is provided when DER issues a **Proposed Remedial Action Plan (PRAP)**, and when DER proposes to **Delist** a site from the **Registry of Inactive Hazardous Waste Disposal Sites**.

Consent Order

A legal and enforceable agreement negotiated between NYSDEC and a **responsible party**. The order sets forth agreed upon terms by which a responsible party will undertake site investigation and/or cleanup, or pay for the costs of those activities. The order includes a description of the remedial actions to be taken by the responsible party with NYSDEC oversight, and a schedule for implementation.

Contact List

Names, addresses and/or telephone numbers of individuals, groups, organizations, government officials and media affected by or interested in a particular hazardous waste site. The size of a contact list and the categories included are influenced by population density, degree of interest in a site, the stage of the remedial process and other factors. It is an important tool needed to conduct outreach activities.

Delist

Action by which DER removes a hazardous waste site from the **Registry of Inactive Hazardous Waste Disposal Sites** upon determination that: the site contains inconsequential amounts of hazardous waste; or that a remediated site no longer requires **Operation and Maintenance;** or that a remediated site does not require Operation and Maintenance. A proposal to delist a site triggers a public notification and **comment period** process.

Division of Environmental Enforcement (DEE)

A unit within the New York State Department of Environmental Conservation which works with the **Division of Environmental Remediation** and others to negotiate with **responsible parties** to achieve agreements for the investigation and remediation of hazardous waste sites. A negotiated agreement is contained in a **consent order**.

Division of Environmental Remediation

Formerly the **Division of Hazardous Waste Remediation**, a major program unit within the New York State Department of Environmental Conservation created to manage the hazardous waste site remedial program from site discovery through **Operation and Maintenance** activities. Staff include: engineers, geologists, chemists, attorneys, citizen participation specialists, environmental program specialists and support staff.

Division of Hazardous Waste Remediation

(See **Division of Environmental Remediation**.)

Document Repository — A file of documents pertaining to a site's remedial and citizen participation programs which is made available for public review. The file generally is maintained in a public building near the hazardous waste site to provide access at times and a location convenient to the public.

Enforcement — NYSDEC's efforts, through legal action if necessary, to compel a **responsible party** to perform or pay for site remedial activities. NYSDEC may perform this effort by itself or in concert with other agencies

Environmental Quality Bond Act (EQBA) — The 1986 Environmental Quality Bond Act which gives New York State bonding authority of up to $1.2 billion to fund the State's share of the total cost of remediating hazardous waste sites in New York State.

Fact Sheet — A written discussion about part or all of a site's remedial process, prepared and provided by DER to the public. A fact sheet may focus on: a particular element of the site's remedial program; opportunities for public involvement; availability of a report or other information, or announcement of a **public meeting** or **comment period**. A fact sheet may be mailed to all or part of a site's **contact list**, distributed at meetings, placed in a **document repository** and/or sent on an "as requested" basis.

Interim Remedial Measure (IRM) — A discrete action which can be conducted at a site relatively quickly to reduce the risk to people's health and the environment from a well-defined hazardous waste problem. An IRM can involve removing contaminated soil and drums, providing alternative water supplies or securing a site to prevent access.

National Priorities List — The U.S. Environmental Protection Agency's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial response using money from a special trust fund.

New York State Department of Health — Agency within the executive branch of New York State government which: performs health-related inspections at suspected hazardous waste sites; conducts health assessments to determine potential risk from environmental exposure; reviews Risk Assessments prepared during the **Remedial Investigation and Feasibility Study**; conducts health-related community outreach around sites; and reviews remedial actions to assure that public health concerns are adequately addressed.

New York State Department of Law	Agency within the executive branch of New York State government which takes the lead on hazardous waste sites requiring civil enforcement through court action. Litigation can involve negotiations and court action with **responsible parties** to clean up sites; natural resource damage claims, and recovery of remedial costs.
New York State Registry of Inactive Hazardous Waste Disposal Sites	The "Registry." A document which NYSDEC is directed by law to maintain and which lists and provides information about every hazardous waste site in New York State which meets criteria established through a definition of hazardous waste and a **classification** system.
Operable Unit	A discrete part of an entire site that produces a release, threat of release, or pathway of exposure. An Operable Unit can receive specific investigation, and a particular remedy may be proposed. A **Record of Decision** is prepared for each Operable Unit.
Operation and Maintenance	A period in which remedial action may be conducted following construction at a site (for example, operation of a "pump and treat" system), or which is performed after a remedial action to assure its continued effectiveness and protection of people's health and the environment. Activities can include site inspections, well monitoring and other sampling.
Preliminary Site Assessment (PSA)	A PSA is DER's first investigation of a site. A PSA is performed to determine if a site meets New York State's definition of an inactive hazardous waste disposal site by confirming the presence of hazardous waste and determining if the site poses a significant threat to public health or the environment.
Project Manager	An NYSDEC staff member within the **Division of Environmental Remediation** (usually an engineer, geologist or hydro geologist) responsible for the day-to-day administration of remedial activities at, and ultimate disposition of, a hazardous waste site. The Project Manager works with legal, health, **citizen participation** and other staff to accomplish site-related goals and objectives.

Proposed Remedial Action Plan (PRAP)

An analysis by DER of each alternative considered for the remediation of a hazardous waste site and a rationale for selection of the alternative it recommends. The PRAP is created based on information developed during the site's **Remedial Investigation and Feasibility Study**. The PRAP is reviewed by the public and other state agencies.

Public Meeting

A scheduled gathering of **Division of Environmental Remediation** staff with the affected/interested public to give and receive information, ask questions and discuss concerns about a site's remedial program. Staff from other NYSDEC divisions, legal and health staff, and staff from consultants and a responsible party often also attend. A public meeting, unlike an **availability session**, generally features a formal presentation and a detailed agenda.

Reclassification

A process by which DER redefines the threat posed by a hazardous waste site to public health and the environment by developing and assessing site information and, based on findings and conclusions, assigning a new **classification** code.

Record of Decision (ROD)

A document which provides definitive record of the cleanup alternative that will be used to remediate a hazardous waste site. The ROD is based on information and analyses developed during the **Remedial Investigation/Feasibility Study** and public comment.

Remedial Alternatives Report (RAR)

A report that contains an evaluation of options for the remediation of any contaminantion in, on, or under, or emanating from, a property that includes an analysis of data and other information concerning the nature and extent of that property's contamination and is generally performed concurrently, and in an interactive fashion, with the site investigation.

Remedial Construction

The physical development, assembly and implementation of the remedial alternative selected to remediate a site. Construction follows the **Remedial Design** stage of a site's remedial program.

Remedial Design

The process following finalization of a **Record of Decision** in which plans and specifications are developed for the **Remedial Construction** of the alternative selected to remediate a site.

Remedial Investigation/ Feasibility Study (RI/FS)	The RI fully defines and characterizes the type and extent of hazardous waste contamination at the site. The FS, which may be conducted during or after the RI, uses information developed during the RI to develop alternative remedial actions to eliminate or reduce the threat of hazardous waste contamination to public health and the environment.
Responsible Party	An individual or business who: currently owns or operates a hazardous waste site; or historically owned or operated a site when hazardous waste was disposed; or generated hazardous waste at a site; or transported hazardous waste to a site.
Responsiveness Summary	A written summary of major oral and written comments received by DER during a **comment period** about key elements of a site's remedial program, such as a **Proposed Remedial Action Plan**, and DER's response to those comments.
Site Investigation (SI)	A process undertaken to determine the nature and extent of contamination in, on, and under, and emanating from a property. The **SI** includes the gathering of sufficient information to determine the necessity for, and the selection of the appropriate method of, remediation of contamination in, on, or under, or emanating from a property.
Site Issues and Community Profile Scoping Sheet	A document prepared to support each **Citizen Participation Record**. Each Scoping Sheet identifies issues and information important to DER and the community and information that needs to be exchanged at a particular remedial stage. The Scoping Sheet also summarizes information about the surrounding community, including demographics, special needs, etc.
Superfund	The common name for the Federal program established by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended in 1986. The Superfund law authorizes the U.S. Environmental Protection Agency to investigate and clean up sites nominated to the **National Priorities List**.
Title 3 Project	Remediation of a municipally owned site through the State Superfund Title 3 Program whereby New York State pays 75 percent of eligible costs for remediation and the municipality pays 25 percent.

Toll-Free "800" Number — An information line maintained by the **Division of Environmental Remediation** to provide convenient access for people who have questions, concerns or information about hazardous waste sites and their remedial programs.

ACRONYMS

AG	--	New York State Attorney General's Office
ARAR	--	Applicable, Relevant and Appropriate Requirement
C & D	--	Construction and Debris
CERCLA	--	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CO	--	Consent Order
CP	--	Citizen Participation
CPP	--	Citizen Participation Plan
CPS	--	Citizen Participation Specialist
CQC/CQA	--	Construction Quality Control/Construction Quality Assurance
DEE	--	Division of Environmental Enforcement
DER	--	Division of Environmental Remediation, formerly the Division of Hazardous Waste Remediation
DHWR	--	Division of Hazardous Waste Remediation, now the Division of Environmental Remediation
DOD	--	Department of Defense
DOL	--	Department of Law
DOW	--	Division of Water
ENB	--	Environmental Notice Bulletin
EQBA	--	1986 Environmental Quality Bond Act
EPA	--	Environmental Protection Agency
F & W	--	Division of Fish and Wildlife
FDA	--	Food and Drug Administration
FSF	--	Federal Superfund
FOIL	--	Freedom of Information Law
FS	--	Feasibility Study
FY	--	Fiscal Year
GPM	--	Gallons Per Minute
HeLP	--	Health Liaison Program
IRM	--	Interim Remedial Measure
mg/kg	--	milligrams per kilogram
NAPL	--	Non-Aqueous Phase Liquid
NPL	--	National Priorities List
NYSDEC	--	New York State Department of Environmental Conservation
NYSDOH	--	New York State Department of Health
O & M	--	Operation and Maintenance

OSHA	--	Occupational Safety and Health Administration
OU	--	Operable Unit
PAH	--	Poly-Aromatic Hydrocarbon
PCB	--	Poly-Chlorinated Biphenyl
PM	--	Project Manager
ppm/ppb/ppt	--	parts per million/parts per billion/parts per trillion
PRAP	--	Proposed Remedial Action Plan
PRP	--	Potentially Responsible Party
PRS	--	Priority Ranking System
PSA	--	Preliminary Site Assessment
QA/QC	--	Quality Assurance/Quality Control
RA	--	Remedial Action
RCRA	--	Resource Conservation and Recovery Act
RD	--	Remedial Design
RFP	--	Request for Proposals
RHWRE	--	Regional Hazardous Waste Remediation Engineer
RI	--	Remedial Investigation
RI/FS	--	Remedial Investigation/Feasibility Study
ROD	--	Record of Decision
RP	--	Responsible Party
SSF	--	State Superfund
TAGM	--	Technical and Administrative Guidance Memorandum
TCLP	--	Toxicity Characteristic Leaching Procedure
TSDF	--	Treatment, Storage and Disposal Facility
ug/l	--	micrograms per liter
USGS	--	U.S. Geological Service
VCP	--	Voluntary Cleanup Program
VOC	--	Volatile Organic Compound

APPENDIX D

RESUMES

Jeffrey R. Sotek, P.E., CSP
Senior Project Manager

AREAS OF EXPERTISE

- Environmental Site Assessment
- Site Investigations
- Remedial Action Projects
- Environmental Engineering and Permitting
- Tank Inspections
- Project Management

EDUCATION

B.S., Civil Engineering
Worcester Polytechnic Institute, 1990

PROFESSIONAL REGISTRATIONS/ CERTIFICATIONS

Registered Professional Engineer, New York, Vermont

Certified Safety Professional, Comprehensive Practice

Former NYS Licensed Asbestos Inspector

PROFESSIONAL AFFILIATIONS

American Industrial Hygiene Association

Business Council of New York State

Albany-Colonie Chamber of Commerce

PROFESSIONAL TRAINING/EDUCATION

- OSHA 40HR Hazardous Waste Operations & Emergency Response (HAZWOPER), 1990

PROFESSIONAL SUMMARY

Mr. Sotek is a registered Professional Engineer and Certified Safety Professional, with over 11 years of experience on a wide range of environmental, health, and safety projects. During the past several years Mr. Sotek has focused on project management and his duties have focused on the completion and management of Phase I, II, and III Environmental Site Assessments and remedial action projects. Mr. Sotek has completed or supervised over 500 Phase Is and 100 Phase IIs. He also serves as Primary Client contact for two of the top ten largest financial institutions in the United States, coordinating projects between HRP's four offices. In addition, in his capacity, Mr. Sotek has obtained closure from federal or state agencies for over 20 sites impacted by petroleum and chemical products.

RELEVANT EXPERIENCE

Portfolio Management, Textile Companies, Throughout United States, Capital Investment Corporation, National Lending Institution

Due to a pending $120,000,000 loan, HRP was retained to perform Phase I Site Assessments at fourteen industrial properties located throughout the United States (twelve in the Southeast, one in California, one in Indiana). The properties, consisting of dye houses, textile mills, warehouses, etc., ranged from one acre to over fifty acres and were improved by buildings ranging from 300,000 ft^2 to over 1,000,000 ft^2. Mr. Sotek coordinated with personnel from three HRP offices to ensure these projects were completed on time, on budget, and at the highest level of quality assurance. In addition to the traditional identification of recognized conditions, the Phase I's included a quantification environmental risk analysis. Mr. Sotek completed this analysis for the client and allowed the portfolio manager to evaluate environmental risks to the portfolio value and make informed prudent businesses decisions.

Subsurface Investigations, Plastic Bag Manufacturer, Orangeburg, New York

Mr. Sotek supervised the completion of a comprehensive subsurface investigation of a 53acre site utilized by a plastic bag manufacturer in Rockland County, New York. This site is improved by 300,000 ft^2 and 180,000 ft^2 manufacturing buildings. Based on a previous Phase I completed by HRP over 15 areas of concern including a 246,000 aboveground fuel oil tank, a 10,000gallon underground oil water separator, a 2,500gallon aboveground solvent tank, a historical, outside barrel storage area, and several historical spills/releases. Investigations consisted of the installation of over 20 soil borings, 20 hand borings, three overburden and three bedrock groundwater monitoring wells, and the collection and analysis of soil, groundwater, concrete chip and dust samples. Mr. Sotek and his team of hydrogeologists determined that no significant sources of

contamination, which could significant impair human health or the environment were present on-site.

Ultimately, due to the detection of low-level petroleum-related compounds beneath two outfalls and near a loading dock, the state was notified of a petroleum release on-site. Mr. Sotek coordinated the removal of 40 cubic yards of soil and successfully argued that with protective asphalt cap over the soils near the loading dock would not pose a threat to the environment or ground waters of the State. The NYSDEC has officially grant closure to this site with no further action necessary. This action enabled the client to proceed and obtain the 10 million dollar loan from an area financial institution.

Christopher J. Bablin
Senior Project Geologist

AREAS OF EXPERTISE

- Environmental Due Diligence
- Hydrogeologic Investigations
- Remedial Actions

EDUCATION

B.A., Geology, Concentration in Environmental Science, State University of New York, College at Cortland, 1989

PROFESSIONAL REGISTRATIONS/ CERTIFICATIONS

Licensed New York State (Dept. of Labor) Asbestos Building Inspector and Management Planner (#AH 98-18247).

PROFESSIONAL AFFILIATIONS

Hudson-Mohawk Professional Geologists Association

PROFESSIONAL TRAINING/EDUCATION

- OSHA 40HR Hazardous Waste Operations & Emergency Response (HAZWOPER), 1990
- OSHA Annual 8HR HAZWOPER Refresher (1991 to Present)

PROFESSIONAL SUMMARY

Mr. Bablin has been with HRP since 1997, and has over 13 years of experience in environmental consulting. As a Senior Project Geologist for HRP, Mr. Bablin has extensive experience at providing environmental due diligence services, including Phase I Environmental Site Assessments (ESAs), Transaction Screenings, Phase 2 ESAs, and asbestos inspection/management planning. In addition, Mr. Bablin has completed many hydrogeologic investigations, subsurface investigations, and remedial actions.

RELEVANT EXPERIENCE

Due Diligence-Phase I ESAs, Transaction Screenings, and Phase 2 ESAs

Mr. Bablin has performed environmental due diligence for lenders, financial institutions and private industry for many years. Primarily, Mr. Bablin has performed due diligence in the form of Phase I Environmental Site Assessment (ESAs), Phase 2 ESAs, and transaction screenings at numerous commercial and industrial settings. Mr. Bablin is very familiar with the ASTM E-1527 and E-1528 standards and as such, has been involved with all aspects of conducting Phase I ESAs and transaction screenings, including performing the site inspections, historical and regulatory review, report writing, and evaluating sites for recognized environmental conditions (RECs) in order to draw conclusions and provide recommendations, as necessary.

Mr. Bablin has also performed numerous Phase 2 ESAs when RECs identified in a Phase I ESA warrant additional investigation. Mr. Bablin prepares cost-effective, technically sound proposals for completing Phase 2 ESAs on a routine basis. Typically, tasks associated with performing Phase 2 ESAs, which Mr. Bablin has performed include the following:

- Coordinate with subcontractors and project managers;
- Supervising the installation of test borings and monitor wells using auger drilling and pneumatic-driven (i.e., Geoprobe® techniques);
- Collection, description and interpretation of soil and groundwater samples;

- Geophysical surveys for potential sources of contamination. (ground penetrating radar, magnetometer);
- Lithologic analysis of bedrock cores;
  Analysis and interpretation of acquired data to prepare final reports, which address the investigated RECs.

Due Diligence- Asbestos Building Inspection and Management Planning

Mr. Bablin is a Licensed Asbestos Building Inspector and Management Planner in New York State. As such, Mr. Bablin is qualified to collect bulk samples of suspect materials, prepare building survey reports and design operation and maintenance (O&M) plans to manage asbestos in place. Mr. Bablin has completed several asbestos building inspections and pre-demolition surveys, and recently, an operations and maintenance plan for a large apartment complex in Albany, New York.

Due Diligence-Lead-based Paint and radon issues

Mr. Bablin has evaluated other non-ASTM issues when performing due diligence, such as lead-based paint and radon. Mr. Bablin has experience in evaluating these issues. For example, Mr. Bablin has completed short-term radon sampling, and has been involved with lead-paint evaluations using X-ray fluorescence (XRF). Mr. Bablin has evaluated sites where lead-based paint/radon are concerns, and has assisted HRP's environmental engineers to mitigate them.

Remedial Actions

Mr. Bablin has been involved with several remediation efforts and is currently the technical liaison for three sites in New York State where remedial action is either proposed or is pending. Each site is briefly described below:

Hospital, Greater New York City

Since 1999, Mr. Bablin has characterized subsurface contamination, and performed pilot testing for selecting remedial alternatives at this site, where former underground gasoline storage tanks leaked into the subsurface. The proposed remediation, vacuum enhanced technologies, is pending regulatory approval.

Christopher J. Bablin
Senior Project Geologist

Former Dry Cleaner, Shopping Center, Northern New York

Mr. Bablin has been involved with this site since 2000, where a former dry cleaner leaked perchloroethene into the subsurface, impacting the underlying soil and groundwater. Mr. Bablin has worked with the site owner, through New York State's Voluntary Cleanup Program, to characterize the contamination and develop a proposed remedial strategy, including limited excavation coupled with accelerated and natural monitored attenuation.

Concrete Block Manufacturer, Syracuse, New York

Mr. Bablin has been involved with this site since 1999, where former underground gasoline and diesel storage tanks leaked into the subsurface. Mr. Bablin has characterized subsurface contamination, and worked with the owner to negotiate a cost-effective remedial approach by designing a bioremediation cell on-site. Mr. Bablin coordinates the operation of the cell, including routine sampling with on-site staff, and prepares progress reports for the regulators.

Hydrogeologic Investigations

In the course of his career as a geologist, Mr. Bablin has performed several groundwater supply investigations including the supervision of groundwater supply wells, performing aquifer pumping tests, data acquisition, reduction and analysis. Mr. Bablin has also performed subsurface resistivity surveys to evaluate groundwater supply potential in sedimentary bedrock and conductivity testing (slug and bail tests).

Caroline E. Benedict
Project Geologist

AREAS OF EXPERTISE

- Phase I Environmental Site Assessments
- Phase II Subsurface Investigations
- EHS Compliance

EDUCATION

B.S., Geology, *magna cum laude*, St. Lawrence University, 2001

PROFESSIONAL REGISTRATIONS/ CERTIFICATIONS

Licensed Asbestos Inspector with NYS DOL

PROFESSIONAL AFFILIATIONS

Hudson-Mohawk Professional Geologists Association

Albany-Colonie Chamber of Commerce Women's Business Council Member

Phi Beta Kappa Academic Honorary

PROFESSIONAL TRAINING/EDUCATION

OSHA 40-Hour HAZWOPER Trained, July 2001

OSHA 8-Hour HAZWOPER Refresher, 2002

First Aid/CPR Training with American Red Cross

Ms. Benedict is a Project Geologist for HRP and responsible for the following:

- Phase I environmental site assessments;
- Phase II subsurface investigations; and
- Environmental, Health and Safety Compliance.

SPECIFIC EXPERIENCE

Phase I Environmental Site Assessments

Ms. Benedict has completed numerous Phase I Environmental Site Assessments for various types of sites, including: a former railroad yard, warehouses, machine shops, restaurants, office buildings, strip malls, adult living facilities, apartment buildings, farms, and vacant land. A Phase I Site Assessment is a historical review of a site conducted to determine if past or present site operations (e.g. storage of fuel oil) are potential sources of contamination. Specific tasks performed by Ms. Benedict include: site inspection, interviews with site personnel, review of regulatory databases and information available at state and local offices, and preparation of Phase I reports in accordance with ASTM requirements and specific institutional requirements.

Phase II Subsurface Investigation, Heating Element Manufacturer, Brooklyn, New York

Ms. Benedict performed a Phase I ESA at the site, during which it was noted that on-site manufacturing and painting had occurred for over 80 years, with little to no documentation, and gasoline tanks had historically been noted on an abutting property. A Phase II ESA was recommended, which consisted of the installation of soil borings in areas of concern, the collection, description, and interpretation of representative soil samples, and the interpretation of analytical results. Trace to low levels of several aromatic volatile organic compounds were detected and it was determined that the degree and extent of contamination could not deduced without further investigation. However, the client determined that the results of the assessment were not significant enough to interfere with the progress of the loan.

Underground Tank Removal and Additional Subsurface Investigation, Nursing Home, Valatie, New York

Ms. Benedict conducted a Phase I and Limited Phase II ESA at the site, during which it was noted that a 37-year old, inactive, fuel oil UST was located on the property and that petroleum contamination was present in the vicinity of the piping. Ms. Benedict supervised the tank removal and cleaning and collected confirmatory soil samples. In addition, under Ms. Benedict's direction, five (5) additional soil borings were installed to determine the degree and extent of petroleum contamination. Ms. Benedict collected and reviewed representative soil samples and submitted samples for laboratory

analysis. Based on the findings, the associated spill file was closed with the NYSDEC.

Phase II Subsurface Investigation, Firehouse, Moreau, New York

Ms. Benedict conducted the Phase I ESA at the subject site, during which she noted that a former fuel oil underground storage tank had been removed without confirmatory soil samples; vehicle maintenance was performed in the vicinity of floor drains that discharged to an on-site drywell; suspect asbestos containing materials were observed; and a regulatory review was in order to evaluate the compliance status of the drywell. A Phase II ESA was recommended and Ms. Benedict oversaw the installation of seven (7) soil borings; collected, described, and interpreted representative soil samples; collected bulk samples; interpreted analytical results; and conducted a regulatory review regarding the drywell. Based on HRP's findings, it was determined that historical operations had not impacted the site's underlying soils. In addition, it was determined that the drywell was regulated under the Underground Injection Control (UIC) Program. The client decided to close out the drywell as per UIC protocol and the loan was successfully obtained.

Limited Phase II Subsurface Investigation, Former Dairy Farm, Moira, New York

Ms. Benedict conducted the Phase I ESA at the subject site, during which she noted that a residence and barn had historically been located on-site, and no information was available regarding the former heating source. In addition, a solid waste disposal area was observed on-site, with empty containers of various types of petroleum and chemical products. A Limited Phase II ESA was performed, which consisted of a magnetometer survey; the installation of hand borings to evaluate the impact of the disposal area on underlying soils; the collection, description, and interpretation of representative soil samples; and the interpretation of analytical results.

Limited Phase II Subsurface Investigation, Apartment Building, New Baltimore, New York

The subject site had historically utilized an underground fuel oil tank, which was removed, however, no confirmatory soil samples were collected upon excavation. Therefore, HRP was retained to complete a Phase II ESA, which consisted of the installation of four soil borings; the collection, description, and interpretation of representative soil samples; and the interpretation of analytical results.

Building Survey, Two Residences, East Greenbush, New York

During a Phase I ESA for a proposed department store, HRP noted several suspect asbestos containing materials in two on-site residences that were to be demolished. Ms. Benedict assisted in the bulk sampling and data collection for the surveys. In addition, Ms.

Benedict was involved in the interpretation of analytical results and the preparation of project reports.

Other Experience

Environmental, Health and Safety (EHS) Compliance

Ms. Benedict has also aided in the completion of several EHS compliance projects including Spill Prevention, Control and Countermeasure (SPCC) Plans, Stormwater Pollution Prevention (SWPPP) Plans, Spill Prevention Reports (SPR), Emergency Action Plans, Hazard Communication Plans, Air Audits, and Air Permits.

Spanish Translation

Ms. Benedict is bilingual in English and Spanish. Her education in Spanish has proven beneficial with those clients whose work force contains a high percentage of Spanish-speaking individuals. Ms. Benedict has translated various documents, including a Lockout/Tagout Plan, from both Spanish to English and English to Spanish. Also, Ms. Benedict has conducted Hazardous Waste training in Spanish for a client whose employees predominantly spoke Spanish.

JESSE ZAHN
Senior Project Scientist

EDUCATION

New Jersey Institute of
Technology/Newark College of
Engineering
MS Environmental Science, 1993

State University of New York at
Plattsburgh, New York
BA Environmental Science, 1991
BA Environmental Geology, 1991

CERTIFICATIONS and REGISTRATIONS

Certified Hazardous Materials Manager (CHMM), Current
AHERA Accredited Asbestos Inspector (NY, MA and CT), Current
OSHA 40-Hour Certification (HAZWOPWER), Current

Mr. Zahn has been a member of HRP's New York Office since December 2002. His responsibilities include client maintenance, obtaining and executing asbestos, environmental and compliance work and developing and supervising junior level staff.

PROFESSIONAL EXPERIENCE

- **Assessment** Conducted Phase I and Phase II Environmental Site Assessments in the northeast, Colorado, and Canada. Managed and performed sampling for projects included soil, sediment, ground water and air investigations. Proficient in the use of the PCB immunoassay field kits.
- **Compliance** Experience with performing inspections for compliance evaluation of Connecticut storm water regulations and a member of project audit teams for health and safety and RCRA compliance audits.
- **Remediation** Experience with free product recovery and dissolved phase "pump and treat" systems, soil excavation and off-site disposal, execution of sampling plans for remedial investigations, UST removals and asbestos abatement.
- **Regulatory Agency Interaction** Experience with federal and northeast states' environmental regulations. Mr. Zahn's experience includes fostering productive agency interaction directed toward the ultimate goal of site regulatory closure. Mr. Zahn has managed projects under New York and Connecticut Voluntary Cleanup programs, and obtained a regulatory closure of a spill site at an active automotive facility under New York State management.
- **Lead, Asbestos and Radon** As a licensed Asbestos Inspector, Mr. Zahn is responsible for the assessment of residential, commercial and industrial properties for asbestos-containing materials. These assessments include locating suspect asbestos-containing materials, collecting samples and producing reports, which include quantification and condition assessments of suspect materials, as well as asbestos removal cost estimates. Experience includes lead in drinking water and radon sampling per EPA protocols.

James D. Scerra
Field Technician

AREAS OF EXPERTISE

- Hydrogeology
- Volatile Organic Compound Screening
- Gas Chromatography
- Field Sampling Services

EDUCATION

- Bachelor of Arts, Geography and Ehvironmental Sciences, University of Colorado
- Associate of Ares, Earth Sciences, Miami Dade Junior College
- Math & Sciences, University of South Carolina
- Math & Sciences, University of Washington

Mr. Scerra has over twenty years experience as a Hydrologic Technician and Environmental Consultant for the federal government and private environmental consulting firms. Mr. Scerra provides field-sampling services for groundwater, soil and wastewater. Mr. Scerra is a trained and certified to conduct Volatile Organic Compound (VOC) Field Screening using portable gas chromatography. He has worked on, supervised and managed numerous Gas Chromatography (GC) projects, analyzing VOC's in soil, water and soil gas. These projects also include the use of temperature programmable purge and trap GCs as well as isothermal portable GCs.

Mr. Scerra's extensive experience has given him proficiency in all aspects of multi-media environmental sampling, including Superfund, RCRA, NYS Part 360 and DOH Compliance Monitoring. Mr. Scerra has also maintained numerous relationships with DOH certified laboratories, private firms and state and local governments, acquiring knowledge of analytical protocols and methodologies used in the environmental industry.

Mr. Scerra's extensive environmental background has produced a demonstrated scientific ability and respect from all levels of employees, clients, superiors, peers and subordinates.

Robin C. Iacovo
Project Geologist

AREAS OF EXPERTISE

- Phase I Environmental Site Assessments
- Phase II/III Subsurface Investigations
- Remedial Action Supervision
- Data interpretation
- Proposal & Report Preparation
- Client Coordination
- Connecticut Remediation Standard Regulations

EDUCATION

B.S., Geological Engineering, Colorado School of Mines, 2001

Engineer-In-Training (EIT), Colorado, 2001

OSHA 40-Hour Hazardous Waste Operations and Emergency Response, 2001

OSHA Annual 8-hour HAZWOPER Refresher, 2002

EPOC – Fundamental Review of Remediation Standard Regulations, 2002

24-Hour Asbestos Site Inspector Training, 2002

Ms. Iacovo is a Project Geologist for HRP Associates, Inc. In her capacity as a Project Geologist, she is responsible for the following tasks:

- Phase I environmental site assessments
- Phase II subsurface investigations
- Phase III subsurface investigations
- Supervision of remedial actions at contaminated sites
- Interpretation of geologic and hydrogeologic data
- Proposal and report preparation and client coordination
- Familiarity with Connecticut Remediation Standard Regulations (RSRs)

SPECIFIC EXPERIENCE

Specifically, Ms. Iacovo has been responsible for the following projects:

Phase I Environmental Site Assessments

- Physical inspection of sites and the site vicinity, noting specific environmental concerns.
- Interview with site contacts, municipal, State, Federal officials with regard to past and present site uses and environmental concern.
- Research into past and present land uses through review of aerial photographs and other published sources.
- Review of published geologic data to evaluate site soil, ground water and surface water contamination potential.

Phase II & III Subsurface Investigations

- Installation of overburden and shallow bedrock monitoring wells using hollow stem auger, roller-bit, and/or air rotary drilling.
- Collection, description, and interpretation of split spoon and Geoprobe type sampling
- Collection of soil samples to determine the degree of subsurface contamination

Remedial Action

Ms. Iacovo's direct participation in remedial action includes supervision of excavation of contaminated soil, debris, and underground storage tanks affected by petroleum products.

OTHER EXPERIENCE

In the course of her career, Ms. Iacovo has also performed the following duties:

- Preparation of groundwater monitoring reports.
- Collection of groundwater and surface water samples.
- Design of restoration plan for a historic bridge near Berthoud Pass, CO
- Environmental and remediation policy research
- Engineering reports and presentations
- Geological mapping
- Soil classification

Jason A. Beach

Project Geologist

AREAS OF EXPERTISE

- Phase I Environmental Site Assessments
- Phase II/III Subsurface Investigations
- Remedial Action Supervision
- Data Interpretation
- Proposal and Report Preparation
- Client Coordination
- Groundwater Monitoring, Sampling & Reporting

EDUCATION

B.A. Geology, Hartwick College, Oneonta, New York, 2001

40-Hour Hazardous Waste Operations and Emergency Response, 2001, with yearly refreshers through March 2002

Asbestos Inspector Initial 24-Hour course

EPOC – Fundamental Review of Remediation Standard Regulations, 2002

Mr. Beach is a Project Geologist for HRP Associates, Inc. In his capacity as a project geologist, he is responsible for the following tasks:

- Phase I environmental site assessments
- Phase II subsurface investigations
- Phase III subsurface investigations
- Supervision of remedial actions at contaminated sites
- Connecticut Department of Transportation (CT DOT) Task 110, 120, 210, and 220 investigations
- Interpretation of geologic and hydrogeologic data
- Proposal and report preparation and client coordination
- Familiarity with Connecticut Remediation Standard Regulations

SPECIFIC EXPERIENCE

Specifically, Mr. Beach has been responsible for the following projects:

Phase I Environmental Site Assessments

- Physical inspection of sites and the site vicinity, noting specific environmental concerns.
- Interview with site contacts, municipal, State, Federal officials with regard to past and present site uses and environmental concern.
- Research into past and present land uses through review of aerial photographs and other published sources.
- Review of published geologic data to evaluate site soil, ground water and surface water contamination potential.

Phase II/III Subsurface Investigations

- Identification of potential contamination sources at sites due to present and historical land uses.
- Subsurface investigation of suspected contaminated sites and/or surrounding properties.
- Collection, description, and interpretation of split spoon soil and sediment samples.
- Collection of soil samples to determine the degree of subsurface contamination

SPECIFIC EXAMPLES

Specifically, Mr. Beach has been responsible for the following projects:

Jason A. Beach
Project Geologist

Urban Redevelopment, South-Central Connecticut

Environmental investigations were performed at this urban site prior to the redevelopment of a former armory building. Mr. Beach has completed Phase I, II and III investigations, and coordinated and supervised site remediation activities including removal and off-site disposal of soil contaminated with metals, and removal and off-site disposal of an underground storage tank (UST). The project remediation was expedited in order to accommodate the construction schedule.

Urban Redevelopment, Central Connecticut

A full range of environmental services were provided as part of redevelopment of this multi-property urban site into educational facilities. Mr. Beach has completed Phase I, Phase II, and Phase III investigations, which identified petroleum- and metal-contaminated soils. Mr. Beach supervised extensive site remediation activities, including removal and off-site disposal of approximately 1,000 tons of contaminated soil, and removal of 5 underground storage tanks (USTs). Other activities included removal and disposal of bituminous pavement parking areas, removal and disposal of concrete building foundations, dewatering of excavations, and structural backfilling in accordance with proposed building specifications. Coordination with on-site demolition and construction contractors was necessary during remedial activities.

DATAVAL, INC.

Environmental Data Validation

JAMES B. BALDWIN, JR.
Phone/Fax (607) 642-5460

520 Hooper Road, PMB 283
Endwell, NY 13760

ANALYTICAL CHEMIST, 28 YEARS INDUSTRIAL/ENVIRONMENTAL EXPERIENCE

* Director, IBM Environmental Laboratory
* Established corporation to provide validation and quality control services to environmental laboratory and engineering community.
* Certified Environmental Data Validator

Volatiles (VOA)	CLP
Semivolatiles (BNA)	SW-846
Dioxins (PCDD/PCDF)	NYS DEC ASP
Explosive Residues	6NYCRR Part 360

* Lead Engineer - Chemical Receiving/Inspection
* Environmental Analysis, QA/QC
* Environmental Analysis, Organic (bench chemist)
* Process Development Support
* Process Control (printed circuit Manufacturing)

EMPLOYMENT HISTORY

* IBM Corporation, Endicott, NY, 1974 to present
* DATAVAL, Inc., Endwell, NY, President, 1993 to present

SIGNIFICANT IBM POSITIONS

* Director of site environmental laboratory and coordinator of subcontracted laboratory services at IBM, Endicott NY.
* Data validator for subcontracted laboratory services
* Lead chemist, site environmental and chromatography laboratory
* Development chemist, chromatography and mass spectroscopy
* Analytical chemist, chemical R&I, process QA/QC

SIGNIFICANT DATAVAL POSITIONS

GOVERNMENT PROGRAMS

* Currently contracted by 20 NY municipalities for analytical review of landfill monitoring programs
* Drafted Site Analytical Plans for 9 NY Landfills
* Picatinny Arsenal (with Anderson & Mulholland & Assoc.) Data review, TCL. TAL, PCDD/PCDF, Explosive Residues
* Numerous Brownfields projects, data review for The Chazen Companies, Poughkeepsie, NY

MAJOR INDUSTRIAL CLIENTS

* Endicott Johnson Corporation, VOA data review
* Carrier Corporation, VOA data review

DATAVAL, INC.
Environmental Data Validation

JAMES B. BALDWIN, JR.
Phone/Fax (607) 642-5460

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Endwell, NY 13760

MAJOR INDUSTRIAL CLIENTS (cont.)

* Puerto Rico Sun Oil, VOA, BNA, TAL data review
* Caribbean Petroleum Corp., VOA, BNA, PCB, TAL data review
* ABB Traction, lead, PCB data review
* EG&G Rotron, VOA, BNA data review
* Niagara Mohawk, VOA, BNA PCB data review
* New York State Electric and Gas, VOA, BNA, PCB data review

ACCOMPLISHMENTS

* Developed environmental capabilities at IBM Endicott to absorb subcontracted analytical work costing $750,000 annually.
* Developed, implemented and documented the QA/QC programs necessary for the environmental laboratory to obtain New York State certification
* As environmental laboratory director at IBM, extended New York State certification to that of a commercial facility

PROFESSIONAL ASSOCIATIONS

* Member of New York State Association of Environmental Laboratories through 1997. Member of Technical Affairs Committee.
* Member of Tioga County (NY) Environmental Management Committee. (2003)

EDUCATION

* BS in Chemistry, Binghamton University, 1986
* Inorganic CLP Data Validation (40 hours), 1993
* Organic CLP Data Validation (40 hours), 1993
* 3.5 years toward BS in Biology (3.0 gpa), Penn State, 1974
* Associate of Science in Chemistry, Penn State, 1967

PERSONAL

* 55 years old
* Married with two children, Dea, Jeff
* Employed by IBM 28 years, DATAVAL 9 years
* Vietnam veteran
* Avid long distance runner (1992 Boston Marathon)
* Enjoy the outdoors and nature photography

APPENDIX E

WELL COMPLETION LOGS

DUNN GEOSCIENCE CORPORATION LATHAM, NEW YORK (518) 783-8102	TEST BORING LOG	BORING NO.
PROJECT Groundwater Contamination Study		BR-3
CLIENT Industrial Environmental Systems, Inc.		SHEET 1 OF 2
DRILLING CONTRACTOR Hanson Well Drilling & Pump Co., Inc.		JOB NO. 257-4-2851
PURPOSE Geologic Condition & Well Installation		ELEVATION 180.03'

GROUNDWATER					CASING	SAMPLE	CORE
DATE	TIME	DEPTH	CASING	TYPE	Steel		
2/2/84	1:30 P	13.4'	14.5'	DIAMETER	4"		
2/3/84	12:00 P	5.0'	14.5'	WEIGHT			
				FALL			

DATUM MSL
DATE STARTED 1/23/84
DATE FINISHED 2/3/84
DRILLER Roy Mason
INSPECTOR G. Casper/J. Wink

DEPTH FT.	CASING BLOWS	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSI-FICATION	GRAPHIC LOG	IDENTIFICATION	REMARKS
						Brown SILT and CLAY (Glaciolacustrine) (0.0'-4.5')	No Sample (0.0'-4.5')
						4.5'	
5						Limestone	Rock at 4.5' drilled open hole with Ingersoll Rand TH-60 air rotary drill down to 14.5' Chip sample only
10							
							4" steel casing set with bensea grout from 1.0'-14.5'.
15		Run #1				Run #1 - 14.5'-19.0' Limestone - Medium gray (N5), medium to thinly bedded, moderately hard slightly stained along fractured surfaces and coarser grained between individual bedding surfaces. Localized clasts and areas of bioturbation.	Rec. = 100% RQD = 96% D-2 S-2 F-2-3

DUNN GEOSCIENCE CORPORATION LATHAM, NEW YORK	TEST BORING LOG	BORING NO. BR-3
PROJECT Groundwater Contamination Study		SHEET 2 OF 2
CLIENT Industrial Enviromental Systems, Inc.		JOB NO. 257-4-2851

DEPTH FT.	CASING BLOWS	SAMPLE NO.	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSIFICATION	GRAPHIC LOG	IDENTIFICATION	REMARKS
		Run #2				Run #2 - 19.0'-24.0' Limestone - (Same) Void or Clay seam from 23.0'-23.4', not as fractured.	Rec.= 98% RQD = 94% D-2 S-2 F-2
25		Run #3				Run #3 - 24.0'-29.0' Limestone - (Same) Slightly stylolitic at 24.0', weathered brown fracture at 26.8'	Rec. = 96% RQD = 96% D-2 S-2 F-3
30		Run #4				Run #4 - 29.0'-34.0' Limestone - (Same)	Rec. = 100% RQD = 100% D-2 S-2 F-3
						34.0' Bottom of hole at 34.0'	
35						Monitoring well installed 4" steel casing with 20' rock sleave. 1-4" steel casing - 0.0'-14.5' 2-Grout seal - 1.0'-14.5' 3-Rock sleave - 14.5'-34.0'	

DUNN GEOSCIENCE CORPORATION LATHAM, NEW YORK (518) 783-8102	TEST BORING LOG	BORING NO.
PROJECT Groundwater Contamination Study		DFT-4
CLIENT Industrial Environmental Systems, Inc.		SHEET 1 OF 1
DRILLING CONTRACTOR Soil and Material Testing, Inc.		JOB NO. 257-4-2851
PURPOSE Monitoring Well Installation		ELEVATION 171.42'

GROUNDWATER					CASING	SAMPLE	CORE	
DATE	TIME	DEPTH	CASING	TYPE	Flush	SS	--	DATUM MSL
				DIAMETER	4" ID	1 3/8" ID	--	DATE STARTED 1/19/84
				WEIGHT	300 lbs	140 lbs	--	DATE FINISHED 1/20/84
				FALL	24"	30"	--	DRILLER Duane VanBurkom
								INSPECTOR Jeffrey Wink

DEPTH FT.	CASING BLOWS	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSI-FICATION	GRAPHIC LOG	IDENTIFICATION	REMARKS
			53			Gr mfG; shale	Rec. = 1.0'
	P	S-1	52	GP			
			33				
	P		63				
		S-2	63			Same	Rec. = .5'
	P		100/.4	GP			
	P						Tri-cone and washed (3.0'-5.0')
	P						
5						5.0'	
	P		8			Brown, dark brown SILT & CLAY; varved (ML-CL) (GLACIOLAUCSTRINE) Br, dk br $&C; vvd.	No recovery
	P	S-3	13				
			21				
	P		23				
			19				Rec. = 2.0' pp = >4.5 tsf WET
	P	S-4	24	ML-CL			
			28				
	P		37				
						9.0'	
10						Bottom of Hole at 9.0' (Backfilled hole to 6.85')	
						Monitoring well installed - 2" PVC - threaded	
						1. Screened PVC = 1.85'-6.85' with protective filter fabric and Sand pack.	
						2. Bentonite pellets = 1.4'-1.85'	
						3. Cement grout to surface 0.0'-1.4'	
						4. Protective casing installed over 3.15' PVC riser	
15							

DUNN GEOSCIENCE CORPORATION LATHAM, NEW YORK (518) 783-8102	TEST BORING LOG	BORING NO.
PROJECT Groundwater Contamination Study		DFT-11
CLIENT Industrial Environmental Systems, Inc.		SHEET 1 OF 1
DRILLING CONTRACTOR Soil & Material Testing, Inc.		JOB NO. 274-4-2851
PURPOSE Monitoring Well Installation		ELEVATION 171.84'

GROUNDWATER				CASING	SAMPLE	CORE	
DATE	TIME	DEPTH	CASING	TYPE	Flush	SS	DATE STARTED 1/27/84
				DIAMETER	4" ID	1 3/8" ID	DATE FINISHED 1/27/84
				WEIGHT	300 lbs	140 lbs	DRILLER Duane VanBurkom
				FALL	24"	30"	INSPECTOR Jeffrey T. Wink

DEPTH FT.	CASING BLOWS	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSI-FICATION	GRAPHIC LOG	IDENTIFICATION	REMARKS
	P					Miscellaneous Fill; shot rock Gravel, Silt & Clay (GM-GP)	No Sample (0.0 -2.(Tri-cone and washed (0.0'-2.0')
	P					2.0'	
	P				Run#1	Run #1 - 2.0'-5.0' Limestone - Shot rock (2.0'-4.0')	Rec. = 2.0' RQD = 0% D-2 S-3 F-4
	P					SILT & CLAY	
	P						
5		S-1	5 6 13 27	ML-CL		Br $&C,s mfG; (Fill) 5.5'	Rec. = .25' pp = <.5 tsf WET
		S-2	5 14 22 38	ML-CL		Brown SILT & CLAY little, medium fine Gravel (CL) (GLACIOLACUSTRINE) Same; Bk mtld	Rec. = 1.3' pp = >4.5 tsf WET
						Bottom of Hole at 9.0' 9.0'	
10						1. Screened PVC pipe and filter fabric - 2.0'-7.0' 2. Sand filter pack - 2.0'-7.0' 3. Bentonite pellets - 1.0'-2.0' 4. Cement grout - 0.0'-1.0'	
						5' protective casing installed over PVC riser.	
15							
20							

DUNN GEOSCIENCE CORPORATION LATHAM, NEW YORK 518-783-8102	TEST BORING LOG	BORING NO. DSP-3
PROJECT Monitoring Well Installation		
CLIENT Northeast Solite		SHEET 1 OF 2
DRILLING CONTRACTOR Soil & Material Testing		JOB NO. 257-1-2183
PURPOSE Monitoring Well Installation		ELEVATION 167.97'

GROUNDWATER					CASING	SAMPLE	CORE	DATUM MSL
DATE	TIME	DEPTH	CASING	TYPE	HS Auger Flush	SS	--	DATE STARTED 8-24-83
				DIAMETER	6" OD 4"	2"	--	DATE FINISHED 8-24-83
				WEIGHT	140#	140#	--	DRILLER J. Hanson
				FALL	30"	30"	--	INSPECTOR R. Mead

DEPTH FT.	CASING BLOWS	SAMPLE NO.	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSIFICATION	GRAPHIC LOG	IDENTIFICATION	REMARKS
		S-1	2 6 12 13			Br rd S&C, t s; org.	Rec.= 0.5' Dry
		S-2	8 8 10 12			Rd br C&S, varved	Rec.= 1.0' Dry pp= (side)2.25 tsf (end) 3.5 tsf
5		S-3	12 12 12 12			Rd br S&C, carved, moister along partings Red brown SILT & CLAY; varved (CL) (GLACIOLACUSTRINE)	Rec.= 1.6' Moist pp= 2.0 tsf
		S-4	5 5 7 8			Same	Rec.= 1.5' Moist pp= 1.75 tsf
		S-5	7 8 10 12			Same, 2" silt seam at 8.7'	Rec.= 1.4' Moist to WET in seams pp= 1.0 tsf
10		S-6	2 2 3 3			Rd br SyC; varved 12.0'	Rec.= 1.7' WET pp= 0.75 tsf
		S-7	WRH WRH WRH WRH			Gr br SyC, varved	Rec.= 1.8' WET pp= <0.25 tsf
15		S-8	1 1 1 1			Cr br C&S, varved	Rec.= 2.0' WET pp= <0.25 tsf
		S-9	1 1 1 1			Same Gray brown CLAY & SILT; varved (CL) (GLACIOLACUSTRINE)	Rec.= 2.0' WET pp= <0.25 tsf
20		S-10	WOR 1 1 1			Same	Rec.= 2.0' WET pp= <0.25 tsf

DUNN GEOSCIENCE CORPORATION LATHAM, NEW YORK (518) 783-8102	TEST BORING LOG	BORING NO. DSP-3
PROJECT Monitoring Well Installation		SHEET 2 OF 2
CLIENT Northeast Solite		JOB NO. 257-1-2183

DEPTH FT.	CASING BLOWS	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSIFICATION	GRAPHIC LOG	IDENTIFICATION	REMARKS
		S-11	WOR WOR 1 1	CL		Gr br $&C, varved	Rec.= 2.0' Moist to WET pp= <0.25 tsf
25		S-12	WOR WOR WOR WOR	CL		Same Gray brown SILT & CLAY; varved (CL) (GLACIOLACUSTRINE)	Rec.= 2.0' Moist pp= <0.25 tsf
30		S-13	WOR WRH 2 2	CL		Same	Rec.= 2.0' Moist pp= <0.25 tsf
35		S-14	WRH WRH 10 17	CL		Gr Cy$ s(-), fS, t(-) fG 36.0'	Rec.= 0.6' Moist pp= 1.0'-1.5' tsf
		S-15	77 10 25			Cr Cy$ s, cf(+)S, t(+) fG (GLACIAL TILL) 39.0'	Rec.= 0.4' Moist pp= 1.0'-1.5 tsf Drill to bed-rock at 39.0'
40						End of boring at 39.0' Monitoring Well Installed- 2" pvc threaded 1. Bentonite pellets 38.0'-39.0' 2. pvc well screen with filter sand 3.0'-38.0' 3. pvc riser pipe to surface 4. Sand, cement bentonite grout to surface. 5. 3" protective casing installed.	

DUNN GEOSCIENCE CORPORATION LATHAM, NEW YORK (518) 783-8102	TEST BORING LOG	BORING NO. DSP-4
PROJECT Monitoring Well Installation		
CLIENT Northeast Solite Corporation		SHEET 1 OF 4
DRILLING CONTRACTOR Soil & Material Testing		JOB NO. 257-1-2183
PURPOSE Monitoring Well Installation		ELEVATION 167.98'

GROUNDWATER					CASING	SAMPLE	CORE	DATUM MSL
DATE	TIME	DEPTH	CASING	TYPE	HS Auger Flush	SS	—	DATE STARTED 8-19-83
8/22/83	9:25A	27.5'	55' (PA)	DIAMETER	6" OD 4"	1 3/8" id	--	DATE FINISHED 8-22-83
				WEIGHT	140#	140#	--	DRILLER J. Hanson
				FALL	30"	30"	--	INSPECTOR G. Gasper/R. Mead

DEPTH FT.	CASING BLOWS	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSIFICATION	GRAPHIC LOG	IDENTIFICATION	REMARKS
		S-1	11 13 13 20	ML		Br Cy$ 1, fS; rts	Rec.= 0.6' Moist pp= >4.5 tsf
		S-2	17 17 19 21	CL		Br $&C; mtld, numerous small orange pkts	Rec.= 1.3' Moist pp= >4.5 tsf
5		S-3	15 15 15 18	CL		Br $&C; vvd freq. (~10/in) prts & occ. $ seams (1/8"-1/4") freq. grayish clay seams	Rec.= 1.8' Moist pp= >4.5 tsf
		S-4	16 19 20 24	CL		Br C&$; vvd freq. $ seams, Gr br C seams 0.2' wet $ lyr at 7.5'-7.7'	Rec.= 1.5' Moist WET 7.5'-7.7' pp= 2.5-3.0 tsf
		S-5	5 8 10 15	CL		Br C&$; vvd, freq. $ prts, occ. concretions	pulled casing - changed to 6" augers
10		S-6	8 7 8 10	CL		Same	Rec.= 2.0' Moist pp= 1.75 tsf
		S-7	12 9 6 6	CL		Brown CLAY & SILT; varved with frequent SILT partings (CL) (GLACIOLACUSTRINE) Same	Rec.= 1.5' Moist pp= 1.75 tsf Rec.= 0.4' Moist-WET
						14.0'	pp= 0.75 tsf
15		S-8	3 2 2 3	CL		Gr br Cy$; vvd freq $yC seams	Rec.= 0.6' WET pp= <0.25 tsf
		S-9	5 3 4 4	CL		Same	Rec.= 0.1' WET
20		S-10	1 1 1 1	ML-CL		Br gr Cy$; vvd. occ. lyr; $ a, fS; freq Gr C seams	Rec.= 1.1' WET pp= <0.25 tsf

DUNN GEOSCIENCE CORPORATION LATHAM, NEW YORK (518) 783-8102	TEST BORING LOG	BORING NO. DSP-4
PROJECT Monitoring Well Installation		SHEET 2 OF 4
CLIENT Northeast Solite Corporation		JOB NO. 257-1-2183

DEPTH FT.	CASING BLOWS	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSIFICATION	GRAPHIC LOG	IDENTIFICATION	REMARKS
		S-11	1 1 1 1	CL		Gr br rd $&C; vvd	Rec.= 0.6' WET pp= <0.25 tsf
25		S-12	1 2 2 1	CL		Same; alt seam with lyrs, $yC-$	Rec.= 2.0' WET pp= <<0.25 tsf
30		S-13	2 2 1 2	CL		Same Gray brown SILT & CLAY, varved (CL) (GLACIOLACUSTRINE)	Rec.= 2.0' WET pp= <<0.25 tsf
35		S-14	WOR WOR WOR 2	CL		Same	Rec.= 2.0' WET pp= <<0.25 tsf Drove spoon to 38.5'
40		S-15	WRH WRH WRH 3	CL		Same	Rec.= 2.0' WET pp= <<0.25 tsf

DUNN GEOSCIENCE CORPORATION LATHAM, NEW YORK (518) 783-8102	TEST BORING LOG	BORING NO. DSP-4
PROJECT Monitoring Well Installation		SHEET 3 OF 4
CLIENT Northeast Solite Corporation		JOB NO. 257-1-2183

DEPTH FT.	CASING BLOWS	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSIFICATION	GRAPHIC LOG	IDENTIFICATION	REMARKS
45		S-16	3 4 3 3	CL		Same	Rec.= 2.0' WET pp= <0.25 tsf slightly firmer
50		S-17	WRH WRH 3 3	CL		Same; few clay seams	Rec.= 2.0' WET pp= 0.25 tsf
55		S-18	3 3 4 5	CL		Same; more frequent clay seams	Rec.= 2.0' WET pp= <0.25 tsf 0.75 in clay seams End drilling 8-19-83- RLM inspector
60		S-19	4 4 4 6	CL		Same	Rec.= 2.0' WET pp= 0.5 tsf
65		S-20	2 3 3 4	CL		Same	Rec.= 2.0' WET to Moist pp= 0.75 tsf

DUNN GEOSCIENCE CORPORATION LATHAM, NEW YORK (518) 783-8102	TEST BORING LOG	BORING NO. DSP-4
PROJECT Monitoring Well Installation		SHEET 4 OF 4
CLIENT Northeast Solite Corporation		JOB NO. 257-1-2183

DEPTH FT.	CASING BLOWS	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSIFICATION	GRAPHIC LOG	IDENTIFICATION	REMARKS
70		S-21	4 5 7 8	CL		Gr, rd br C&S; varved Gray brown CLAY & SILT, varved (CL) (GLACIOLACUSTRINE)	Rec.= 2.0' Moist pp= 0.75
75		S-22	10 10 55 97	CL		Same Gr cf S, l(+) mf(+)G, l(+) S&C 76.5' (GLACIAL TILL) 77.0'	Rec.= 1.8' Moist pp= 1.0 increasing to 2.0 at top of till Roller bit to 77.0'
						End of Boring at 77.0' Monitoring Well Installed 2" pvc 1. Bentonite pellets 74.0'-77.0' 2. Well Screen 4.0'-74.0' filter pack surroumding screen extending from 74.0'-3.0' 3. Cley, cement bentonite backfill to surface 4. 3" steel protective casing installed. 5. pvc riser pips to surface. pvc is threaded joint.	