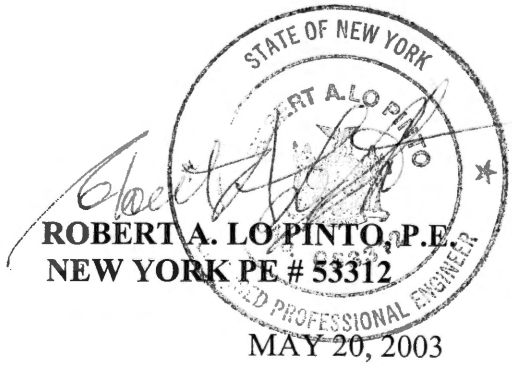
INTERIM REMEDIAL MEASURES
WORK PLAN
FOR
1101 LINWOOD STREET
BROOKLYN, NEW YORK 11208

SUBMITTED UNDER THE
NEW YORK STATE DEPT. OF ENVIRONMENTAL CONSERVATION
VOLUNTARY CLEANUP PROGRAM
FOR
SITE #V00582
WITH
VOLUNTARY CLEANUP AGREEMENT
INDEX #D2-0001-02-08

SHAPIRO ENGINEERING, P.C.
CONSULTING ENGINEERS
181 SOUTH FRANKLIN AVENUE, SUITE 305
VALLEY STREAM, NEW YORK 11581
516 791-2300
FAX: 516 791-0782
E-MAIL: shapiroengineers@worldnet.att.net



ROBERT A. LO PINTO, P.E.
NEW YORK PE # 53312

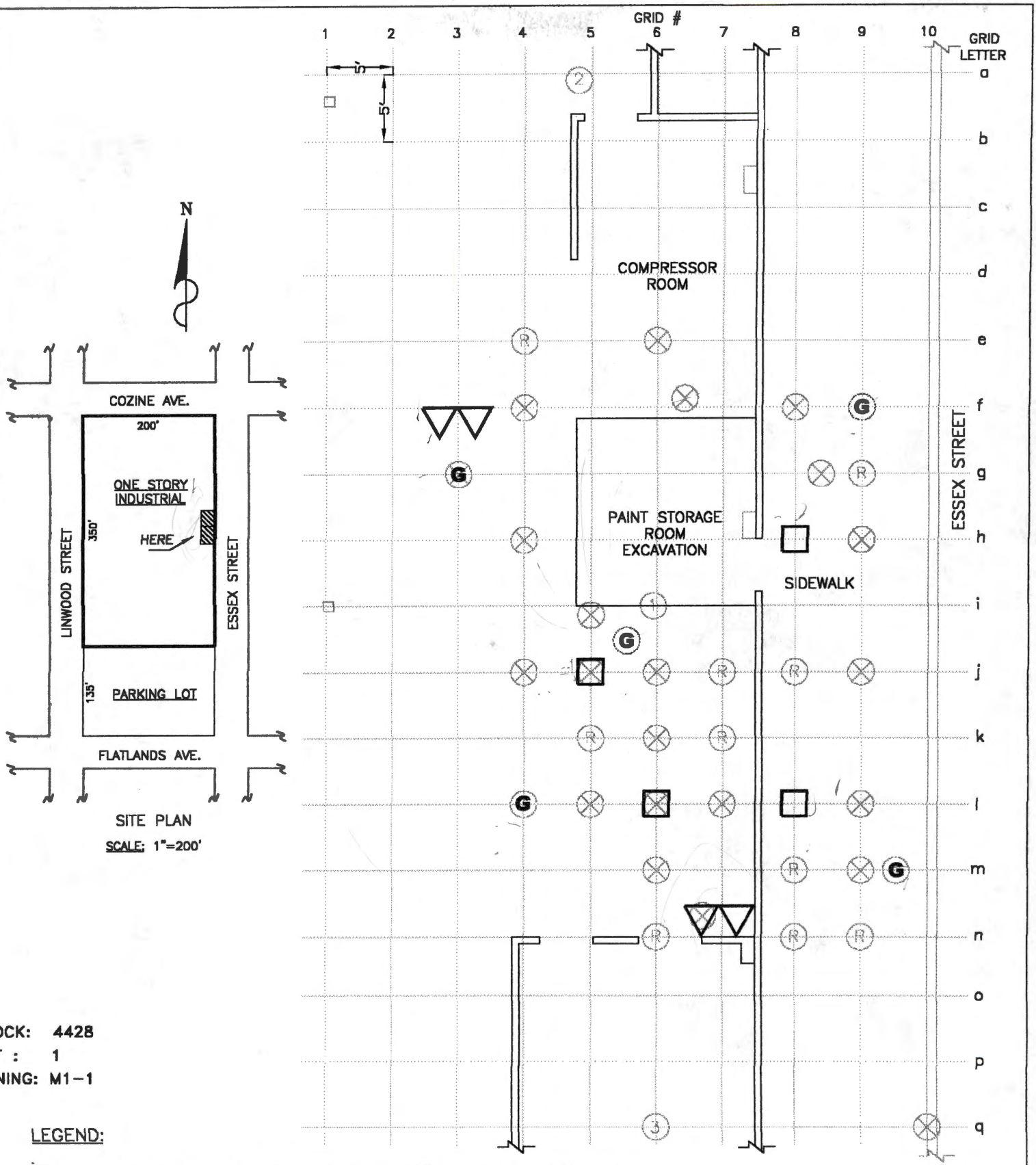
01-44

MAY 20, 2003

RECAPITULATION

S&S X-Ray Products Inc. is proposing this Interim Remedial Measures Work Plan under the conditions of a Voluntary Cleanup Agreement with the NYSDEC. The Plan calls for the removal and monitoring of free product from groundwater in the vicinity of a Solvent Spill that occurred prior to S&S purchasing the property at 1101 Linwood Street, Brooklyn, New York 11208. The tasks presented in this Work Plan have been designed to reduce the contaminants from the groundwater to such a level as to protect human health and the environment.

ROBERT A. LO PINTO, P.E
MAY 20, 2003



BLOCK: 4428
LOT : 1
ZONING: M1-1

LEGEND:

- (#) – SAMPLE LOCATION (OCTOBER)
- (⊗) – SAMPLING LOCATION (FEBRUARY)
- (R) – SAMPLING REFUSED
- □ – EXTRACTION WELL
- ▽ – MONITORING WELL
- (G) – SOIL GAS WELL

SCALE: 1"=10'-0"

I:\SUCHKOVA, SHAPIRO ENGINEERING, P.C. 4/11/03 9:55 AM 01-44 IRM WP-2.dwg

8.5 x 11

Sheet 1 of 1 Sheets | File: 01-44 IRM WP-2 | Job: 01-44 | Drawn by: JAS | Scale: AS NOTED | Date: 4/11/03

SHAPIRO ENGINEERING, P.C
CONSULTING ENGINEERS
161 South Franklin Avenue, Suite 305, Valley Stream, N.Y. 11581-1101
(516) 791-2300 FAX: (516) 791-0782 e-mail: shapiroengineers@worldnet.att.net

S & S X-RAY PRODUCTS, INC.
1101 LINWOOD STREET
BROOKLYN, NEW YORK 11208

INTERIM REMEDIAL MEASURES WORK PLAN

INTERIM REMEDIAL MEASURES WORK PLAN

TABLE OF CONTENTS

SECTION 1

INTRODUCTION

1.1 PURPOSE:

This Interim Remedial Measures (IRM) Work Plan (WP) has been prepared in accordance with a Voluntary Cleanup Agreement (VCA), Index #D2-0001-02-08, under the New York State Dept. of Environmental Conservation Voluntary Cleanup Program (VCP). S&S X-Ray Products Inc. entered into the VCP for the property at 1101 Linwood Street, Brooklyn, New York 11208, by executing the VCA, which was accepted by the NYS DEC, and became effective on 9/22/02. This IRM WP describes interim measures to be accomplished at the site in order to reduce the level of contaminants to an acceptable level to protect human health and safety.

1.2 SITE DESCRIPTION:

The site, as identified in the VCA, as Site #V00582 is that parcel of real property listed on the Borough of Brooklyn (Kings County) Tax Map as Block 4428, Lot 1. The site is located in the East New York Section of Brooklyn, and covers an entire block bounded by Cozine Avenue to the North, Essex Street to the East, Flatlands Avenue to the South and Linwood Street to the West. The property measures 485 feet North/South and 200 feet East/West. There is an open accessory parking lot on the Southern portion of the property measuring 135 feet North/South and 200 feet East/West. There is a one story Industrial Building (with a Mezzanine) occupying the remaining portion of the property measuring 350 feet by 200 feet.

The work site is the location on the property where the contamination has been identified, and where remediation will occur. The work site covers an area approximately 80 feet North/South

and 40 feet East/West, and is located along Essex Street, approximately 175 feet South of Cozine Avenue.

1.3 SITE HISTORY:

The present Industrial Building was constructed in 1962 and occupied by Art-Lloyd Metal Products. Art-Lloyd manufactured sheet metal products and furniture. As part of the manufacturing process, Art-Lloyd used a number of Paint Spray Booths, in which solvent based paint was sprayed on the metal sheets. Various solvents were used in the facility, both to thin the paints and as cleaning agents.

S&S X-Ray Products Inc. purchased the building in 1986 from a Court appointed Receivership. S&S began manufacturing Metal Medical Equipment using a Powder Coating System. S&S did not use any paint or solvents in their manufacturing process.

During negotiations for the sale of the building by S&S in 2001, a potential buyer performed a Phase I Environmental Site Assessment, and discovered the possibility of two buried tanks on the property. The presence of these tanks was unknown to S&S.

1.4 PREVIOUS INVESTIGATIONS:

Laurel Environmental Associates, Ltd., Consultants for a potential buyer of the property, issued a Phase I Environmental Site Assessment on 7/19/2001. In the Report, they identified two "gasoline" vent pipes on the Essex Street side of the building. It was assumed that the vent pipes were attached to two 550 gallon Underground Storage Tanks located below the concrete floor of the building.

Further investigation by Shapiro Engineering, P.C. (Shapiro) in August and September 2001 revealed that there were two 550 gallon Underground Storage Tanks, installed around the time that the building was erected, and that they were used to store paint thinners.

On 10/30/2001, as part of a Phase II Investigation, Laurel Environmental took soil and groundwater samples at three locations in the work area. Boring #1 was located closest to the expected tank location, approximately 10 feet South of the tank. Field Photo Ionization Detector (PID) readings were on the order of 1,200 to 20,000 ppm. The other two borings, one North and one South of the tank and Boring #1 showed no contamination using the PID. A Spill Report, #01-07758 was called into NYS DEC. Samples were collected and sent to an ELAP Certified Laboratory for analysis. The Laboratory Analysis indicated concentrations of Ethylbenzene (20 ppm), Xylenes (170 ppm), Napthalene (4 ppm), Lead (59 ppm), Chromium (12 ppm) and Barium (39 ppm) in Soil Boring #1. Groundwater at Boring #1 had concentrations of Toluene (0.25 ppm), Ethylbenzene (12 ppm), Xylenes (130 ppm), Napthalene (10 ppm), Lead (0.006 ppm), Chromium (0.12 ppm) and Barium (0.1 ppm). Soil and Groundwater Boring #2 results indicated only a few trace level contaminants. Boring #3 showed no contaminants.

In January 2002, S&S initiated further investigations to locate the buried tanks and determine the extent of contamination. The concrete floor slab was opened, and soil removed from below grade. The top of a tank and piping were located. The slab above the tank was removed and soil was removed in layers. Field PID tests were used to identify contaminated soil, which was stockpiled separately from the clean soil. An interim follow-up Spill Report was submitted to NYS DEC on 1/22/02. A copy is in Appendix "A", along with Site photographs. In this Report,

it was noted that the possible source of contamination was from a broken fill pipe located near the building's exterior wall.

Excavation continued to locate and remove the two buried tanks. Soil around the tanks was removed. The tanks were found to be encased in concrete, a portion of which was broken apart and removed. The two tanks were removed and inspected. The Southern Tank was mostly still full of water, with a small pin hole on top of the tank. The Northern Tank was partially full of water, with a hole on the underside of the tank. The tanks were emptied, cleaned and disposed of properly. Samples of the tank water were collected and analyzed. Field PID readings were taken in the excavation area. Stockpiled soil was analyzed and properly disposed.

An estimated 40 cubic yards (41.8 tons) of Contaminated Soil was removed from the site to a Proper Disposal Site. The Excavation Area is still open, after the Underground Storage Tanks (USTs) and associated piping have been removed. The building is presently empty and vacant.

There are no Endpoint Samples from the UST Excavation Area. All sample results are provided in Appendix "A", along with Soil and Groundwater Contaminant Concentration Contour Figures in Appendix "E".

With the tanks removed and the approximate location of Contaminated Soil identified, it was decided to determine the extent of contamination. Soil/Groundwater borings were taken in an approximate 5 foot by 5 foot grid around the tank's location. A Geoprobe Drilling Machine was utilized to take Soil Samples at approximately 4 foot intervals down to 16 feet, and then Groundwater Samples between 16 feet below grade to 46 feet. Samples were screened in the field with a portable PID, and then analyzed for Ethylbenzene, Toluene, Xylene, Benzene and

MTBE in the field by Berninger Environmental using a Gas Chromotgraph. A total of 102 Samples were analyzed in the field. Thirty-one (31) Samples were sent to an ELAP Certified Laboratory for analysis (ECO Test Laboratories, Inc.). The analytical results are in Appendix "A", including drawings of various locations and depths below grade.

1.5 SUMMARY OF ENVIRONMENTAL CONDITIONS:

The results of testing indicate concentrations of Benzene, Toluene, Ethylbenzene and Xylene in the Soil and Groundwater. The soil concentrations range from non-detectable levels of Benzene and Toluene to 1,800 ppm of Xylene and 270 ppm of Ethylbenzene. The Groundwater concentrations range from non-detectable and trace levels of Benzene, non-detectable to 0.41 ppm of Toluene to 380 ppm of Xylene and 31 ppm of Ethylbenzene. The extent of contamination range from 10 feet distant from the tank's location to 35 feet distant for the Soil and Groundwater Samples. Low levels of Groundwater contamination were detected at 46 feet below grade.

There is a distinct difference between the field GC sample results and the ELAP Certified Laboratory results, both in the contaminant identified, and in the contaminant concentration. The ELAP Laboratory results are used in all site evaluations. The field results are used with a degree of uncertainty. A Data Usability Summary Report (DUSR) for the Laboratory Data being relied upon for characterization of the site is provided in Appendix "D".

Based on the Analytical Results, there appears to be a pocket of Contaminated Groundwater located below the tank location and extending approximately 10 feet North and West of the tanks, approximately 15 feet East and approximately 35 feet South. This pocket of Groundwater Contamination is highest at the Soil/Groundwater interface (16 feet below grade) and drops off

considerably at 36 feet below grade. The highest levels of Contaminated Soil are located closest to the broken fill pipe and closest to the Soil/Groundwater interface.

Horizontal and Vertical Soil/Groundwater Contaminant Concentration Contour Figures (used to graphically identify the extent of contamination above New York State Standards, Criteria and Guidelines (SCGs) at the Site) are presented in Appendix "E".

The S&S X-Ray Facility is located approximately 25 feet above mean low water, in an area that is generally flat, with a gentle slope to the South-southeast. The nearest surface water body is Hendrix Creek, located approximately 1 mile Southeast of the facility. The facility is located over the Long Island Aquifer. The four distinct formations on Long Island include the upper Glacial, Fameco, Magothey and Lloyd Aquifers. The upper Glacial Aquifer overlies the other Aquifers and is found at the surface of the majority of Brooklyn. The site is underlain by silt, sand and gravel to a depth of approximately 50 - 60 feet. The Gardeners clay unit underlies the silt/sand/gravel layer, and is estimated to be about 20 feet thick. This clay unit restricts vertical flow between the upper and deeper aquifers.

No formal boring logs were taken during sampling. However, the majority of the sample cores were of sandy soil, with pockets of clay and Loam.

1.6 PROPOSED INTERIM REMEDIAL MEASURE:

It is proposed that Contaminated Groundwater be pumped directly into a Tank Truck for off-site disposal. Four wells will be installed in the Contaminated Groundwater Plume and used to extract Contaminated Groundwater. Two monitoring wells, each with two cluster wells at different depths, will be installed downgradient of the Plume for monitoring purposes. Samples

will be collected prior to the start of pumping. The thickness of free product will also be measured at each well, before and during pumping. Each location will be pumped in succession until recharge is needed, continuing from well to well until the measured free product is negligible. It is expected that as much as 5,000 gallons of Contaminated Groundwater may be collected for disposal.

After pumping is completed, samples will be collected from the Monitoring Well over a period of time to determine the levels of contamination remaining. Depending on the results, additional Groundwater and/or Soil Sampling may be performed.

A Soil Gas Sampling Plan is included as part of the IRM Report at hand, in order to assess the potential risk to human health as a direct result of Vapor intrusion, namely the migration of Volatile Chemicals from the subsurface into the overlying environment.

The Soil Gas Sampling Plan is presented in Section 3.3I.

1.7 CONTEMPLATED USE:

The VCA identifies the contemplated use as Restricted Industrial Use as defined by the VCA Program Guide.. The premises at 1101 Linwood Street is a Factory. It is located in an area zoned by NYC for Manufacturing Use. The adjacent properties on all sides are also located in the Manufacturing Zone.

SECTION 2

EVALUATION OF THE INTERIM REMEDIAL MEASURE

2.1 PROPOSED INTERIM REMEDIAL MEASURE:

It is the object of this Interim Remedial Measure Work Plan to remove sufficient free product and Contaminated Groundwater from the project area to ensure protection of human health and the environment.

The cleanup objective is to have less than 0.1 inches of free product on the groundwater surface.

2.2 POTENTIAL QUALITATIVE HUMAN HEALTH EXPOSURE ASSESSMENT:

Before the proposed cleanup objectives for this project can undergo the evaluation presented in 6NYCRR375-1.10(c), it is necessary to perform a Qualitative Human Health Exposure Assessment. The Assessment is presented below. See also the Exposure Assessment Chart at the end of this Section.

SITE CHARACTERIZATION

The project area is located in an area zoned for Manufacturing Use. The facilities surrounding the site are all commercial or manufacturing facilities. The area is generally either paved or covered by buildings. The nearest body of water is Jamaica Bay, which is located approximately 4,500 feet South, across the Belt Parkway.

EXPOSURE PATHWAYS:

The five elements of an exposure pathway as they apply to this project site are presented in the Potential Qualitative Human Health Exposure Assessment Chart. There are two possible sources of contamination: Groundwater and Soil. The groundwater is proposed for cleanup as described above under this Interim Remedial Work Plan. Once the groundwater contamination is reduced, it is expected that there will then be a reduction in the soil contamination, especially in the area of the groundwater interface. It must be remembered that the spill that caused this contamination occurred prior to 1986, at least 16 years ago.

The contaminants from both sources can be potentially released/transported into the air if they are exposed. However, the soil/groundwater is located under a concrete floor/sidewalk. There is no basement/cellar in the facility. The facility is intended for restricted industrial use. There is also no use of this groundwater layer for potable purposes. Therefore, cleanup activities provide the major mechanism for air release/transport of the contaminants. Another release/transport mechanism is cross contamination from the soil contamination phase to the groundwater phase and vice versa. The removal of free product from the groundwater should eliminate contamination transport from the groundwater phase to the soil phase. Continued monitoring will determine the extent of soil contamination and its potential to recontaminate the groundwater phase. Another release/transport mechanism for the groundwater phase is the movement of the groundwater through the Aquifer until it reaches Jamaica Bay. Initial Surveys of the wells will identify the groundwater flow direction, which has been estimated to be Southerly. Initial testing has not identified any groundwater contamination at approximately 45 feet South of the site, nor any at approximately 30 feet North of the site. Considering that the

spill occurred over 16 years ago, transport into Jamaica Bay is not expected to occur. The last release mechanism is for the soil, and is in-place exposure. The soil is not exposed since it is under a concrete floor, however, if there are cracks or degradation of the concrete, there is the potential for migration of the soil vapors above ground, resulting in inhalation by workers in and around the site. The results of Soil Gas Sampling will help identify the potential for this exposure.

The potential points of exposure are inside the building and around the building for the groundwater and soil phases and Jamaica Bay for the groundwater phase. As stated above in the transport/release mechanism discussion, the groundwater will not be exposed in the building, and the groundwater is not expected to contaminate Jamaica Bay. The soil may be exposed when you consider migration through the concrete floor of Soil Gas, or a minimal exposure during Well installation.

The potential routes of exposure are inhalation, ingestion and absorption. Soil Gas has the ability to migrate into indoor air through cracks, plugged bore holes or any area of degraded integrity of the concrete floor. Therefore, inhalation may be a potential exposure pathway. There are no other points of exposure, so ingestion and absorption are not considered as a route of exposure.

The potential receptors are workers in and around the building for groundwater and soil, and for a recreator in Jamaica Bay for groundwater. There are presently no workers in the building. The closest offsite building to the contamination is a Truck Dispatch Building for Verizon. There are few workers inside the building. The only point of exposure would be inhalation of future

workers in the building and to workers around the building. Preliminary PID Readings taken during excavation showed low to non-detect levels of VOC in the air. The Soil Gas Sampling will help identify the potential for migration of Soil Gas into and around the building. It is expected that there will be minimal to no human health exposure from any contamination in the groundwater or soil at the site. Soil Gas Sampling and continued monitoring after the Free Product is removed from the Groundwater will provide information to further evaluate the exposure potential.

2.3 INTERIM REMEDIAL MEASURE EVALUATION:

The following evaluation of the Interim Remedial Measure is performed in accordance with 6NYCRR375-1.10(c):

(1) Standards, Criteria and Guidance: As stated above in the Potential Qualitative Human Health Exposure Assessment, there is no intended use of the groundwater as potable water, nor is there any major expected human exposure. The Interim Work Plan cleanup objectives are based on protection of groundwater criteria to the extent possible by the work proposed.

(2) Overall Protectiveness of Public Health and the Environment: The proposed Interim Remedial Measure can achieve the cleanup objectives listed above. Achieving these objectives will protect human health and the environment for the site and the surrounding area. Further monitoring will be used to determine the final proposed remedy.

(3) Short-Term Effectiveness: The proposed Interim Remedial Measure has been designed so as to have no adverse effects to the workers, the environment or the community. The proposed remedy should achieve the cleanup objective in a reasonable period of time.

(4) Long-Term Effectiveness: The proposed Interim Remedial Measure may become the long-term remedy. This can only be determined after the work is performed and monitoring results are evaluated.

(5) Reduction of Toxicity, Mobility and Volume with Treatment: By removing the free product layer of the groundwater, a significant volume of contamination will be removed. This will also reduce the movement of the contamination in the groundwater phase, which for the last 16 years has been minimal.

(6) Feasibility: The removal of the free product layer should result in obtaining the cleanup objectives. There are no known impediments to the Work Plan.

It is therefore concluded that the proposed Interim Remedial Plan can achieve the cleanup goals for the site, and meet human health and environment protection.

1101 LINWOOD STREET
BROOKLYN, NEW YORK 11208

POTENTIAL QUALITATIVE HUMAN HEALTH EXPOSURE ASSESSMENT

CONTAMINANT SOURCE	CONTAMINANT RELEASE & TRANSPORT MECHANISM	POINT OF EXPOSURE	ROUTE OF EXPOSURE	RECEPTOR
1. GROUNDWATER	1. EVAPORATION INTO AIR 2. GROUNDWATER FLOW TO SURFACE WATER 3. SOIL CONTAMINATION	1. INSIDE OF BUILDING 2. JAMAICA BAY	1. INHALATION 2. INGESTION 3. ABSORPTION	1. WORKING IN BUILDING 2. JAMAICA BAY AREA
2. SOIL	1. EVAPORATION INTO AIR 2. GROUNDWATER CONTAMINATION 3. IN PLACE EXPOSURE	1. INSIDE OF BUILDING	1. INHALATION 2. INGESTION 3. ABSORPTION	1. WORKING IN BUILDING

SECTION 3

PROJECT PLANS AND SPECIFICATIONS

3.1 OBJECTIVE

The objective of this Interim Remedial Measure Work Plan is to remove free product from the groundwater so as to protect human health and the environment.

3.2 GENERAL WORK CONCEPT

The general work concept is to install four extraction wells from which groundwater and free product will be extracted. Two sets of Monitoring Wells, one up gradient and one down gradient will be installed. Each set will consist of two monitoring wells, each with two cluster wells at different depths for monitoring the groundwater before, during and after the extraction process. Five soil gas sampling wells will also be installed and the soil gas monitored prior to groundwater operations.

3.3 SPECIFIC WORK TASKS

A. LOCATE AND CORE CONCRETE AT EACH WELL: The Interim Remedial Measures Work Plan Drawing on Page ii shows the intended locations for the four extraction wells, the two sets of monitoring wells and the five soil gas sampling wells. These locations were based on preliminary testing of the soil and groundwater in October 2001 and February 2002. Two extraction well locations (Grid 8H and 8L) and two soil gas sampling wells (Grid 10F and 10M) are outside the building on the sidewalk. A NYC Department of Transportation Sidewalk Permit will be required before the wells can be installed.

Prior to well drilling, the existing concrete slab will be cored. Extraction Well locations 5J and 6L were previously cored for sampling and then plugged. This is also true for one of the

monitoring wells at location 7N, and one soil gas well at 3G. The two outside extraction well locations, the second monitoring well and four of the soil gas wells were not previously cored. Coring will be accomplished by use of a Core Bore M-1 Drilling Machine. The machine will be placed at the proper location, and a concrete core will be drilled, through the depth of the concrete slab/sidewalk. Proper safety procedures will be followed as outlined in the Health and Safety Plan in Appendix "B".

B. SOIL GAS SAMPLING PLAN: Soil Gas Samples will be collected due to possibly elevated levels of Volatile Organic Compounds (VOCs) found on-site within the Groundwater and Soil. This Soil Gas Sampling will be performed before the Groundwater Wells are installed.

After the concrete cores are removed from the test holes, three separate 2 inch wells will be installed at each soil gas well location. Each well will extend down to the appropriate sampling depth, and will be screened for the length of the following sampling depths (measured below the existing concrete slab/sidewalk): 0 - 2 feet, 6 - 8 feet and 12 - 14 feet. The wells will be installed following the procedures in Appendix "F", "Well Installation Procedures", using a 4.25" Hollow Stem Auger.

After the wells have been installed, Soil Gas Samples will be collected at a rate of no more than 100 - 200 ml/minute and analyzed for VOC content. Specific procedures are as follows:

1. MSA (Mine Safety Appliance) Sampling Pumps (or equal) will be used to purge the soil gas wells and to collect samples. The pumps will be operated at a 100-200 ml/min. pumping rate. Tygon Tubing will be used to connect the sample tube to the pump. The pumps will be calibrated before and after use.

2. The wells will be purged before sampling by removing 3 times the volume of air in the 2 foot screened area of the well. This will take approximately 3 minutes at a 100 ml/min. pumping rate.

3. After purging a portable PID Monitor will be used to screen each well. Then the sample tube will be connected to the pump and sampling will begin. NIOSH Method 1501 (Hydrocarbons, Aromatics) will be used for sampling and analysis. A total of 10 liters of air will be collected. This is equal to 1 hour and 40 minutes of sampling at a 100 ml/min. pumping rate.

4. Sampling at the three separate depths at each location will be performed simultaneously. After sampling is completed, the sampling tubes will be capped, and stored on site in a cooler.

5. Steps 2-4 will be repeated at each of the remaining soil gas monitoring wells. Depending on the number of pumps available, two or more locations may be sampled at the same time.

6. Appropriate QA/QC Samples will be collected in accordance with NIOSH Method 1501. The results of the PID screening will be recorded and sent to the Laboratory with the samples.

If elevated levels of Soil Gas are detected, then Indoor Air Samples will also be necessary to evaluate any discernible impact to Indoor Air Quality and Potential Human Health Exposures.

C. INSTALL EXTRACTION AND MONITORING WELLS: Details of the wells are shown on the Extraction Well and the Monitoring Well Drawings located at the end of this section. The wells will be installed following the procedures in Appendix "F", Well Installation Procedures", using a 6" Hollow Stem Auger. For the extraction wells, a 4 inch plastic well will be installed. For the monitoring wells, two 2 inch plastic wells will be installed, each at a different depth, in each of 2 borings clustered together. After completion, the wells will be allowed to establish equilibrium with the groundwater before the next task begins.

D. SURVEY WELL ELEVATIONS AND GROUNDWATER DEPTHS: A Licensed Land Surveyor will determine the elevations of the top of all wells. Then the groundwater elevations will be measured using a Waterra USA (Bellingham, WA) HS-1 Oil Water Interface Sensor, to the nearest one tenth of an inch relative to the top of the well. Using the well elevations and groundwater measurements, the relative groundwater elevations can be calculated, and the groundwater flow direction determined.

E. MEASURE FREE PRODUCT THICKNESS: The Waterra HS-1 Interface will be used to measure the free product thickness in each extraction well and each separate monitoring well. See HS-1 Owner's Manual Pages 1 and 2 located at the end of this section. A record of all measurements will be maintained.

F. INITIAL GROUNDWATER SAMPLING: Groundwater Samples will be collected from each extraction well and from each monitoring well. The wells will be purged by pumping approximately 3 volumes of water from the well using a low flow pump. Equilibrium will be determined, and purging terminated by testing the pumped water for pH, DO and Turbidity using an In-Situ Inc. MP Trill 9000 Multi-Parameter Tester. A Well Purging and Sampling Form will

be completed for each well. After the well is purged, a groundwater sample will be collected using the low flow pump. See Appendix "C", QA/QC Plan for proper Sample Collection, Labeling, Storage and Delivery Instructions. Each set of samples from the eight wells will consist of :

1. One Sample from each well, for a total of eight samples.
2. A Trip Blank Sample.
3. A Field Blank Sample.
4. Two Duplicate Samples from one of the eight wells, labeled with the well location, to be utilized as a Matrix Spike Sample and as a Matrix Spike Duplicate Sample.
5. A Field Blind Duplicate Sample. This will be a Duplicate Sample of one of the 8 well samples. It will be labeled in such a way that the Laboratory will not know which well it was collected from.

There will be a total of thirteen (13) samples collected and sent to the Laboratory for analysis.

G. EXTRACT WELLS IN ROTATION: A Vacuum Truck with a Fluid Recovery Manifold will be utilized to extract the groundwater from each of the four extraction wells. The truck will park on Essex Street, near the door to the excavated area. The truck will be electrically grounded. The truck's hose will be inserted into Well 5J until it is at the groundwater/soil interface. The pump will be started and groundwater extracted directly into the tank, until the vacuum pump loses suction, or 20 minutes, whichever occurs first. The hose will then be removed and placed into Well 6L. The extraction process will be repeated at Well 6L, Well 8H and Well 8L.

After each well is extracted, and the well naturally re-developed, the amount of free product in each well will be measured, as specified in E. above. If the amount of free product is less than 0.1 inch, the extraction process will stop. If free product is above 0.1 inch, extraction will continue as described above until either the measured free product in each well is less than 0.1 inch, or the truck tank is full. If the truck is full, it will be emptied and returned to the site for continued well extraction.

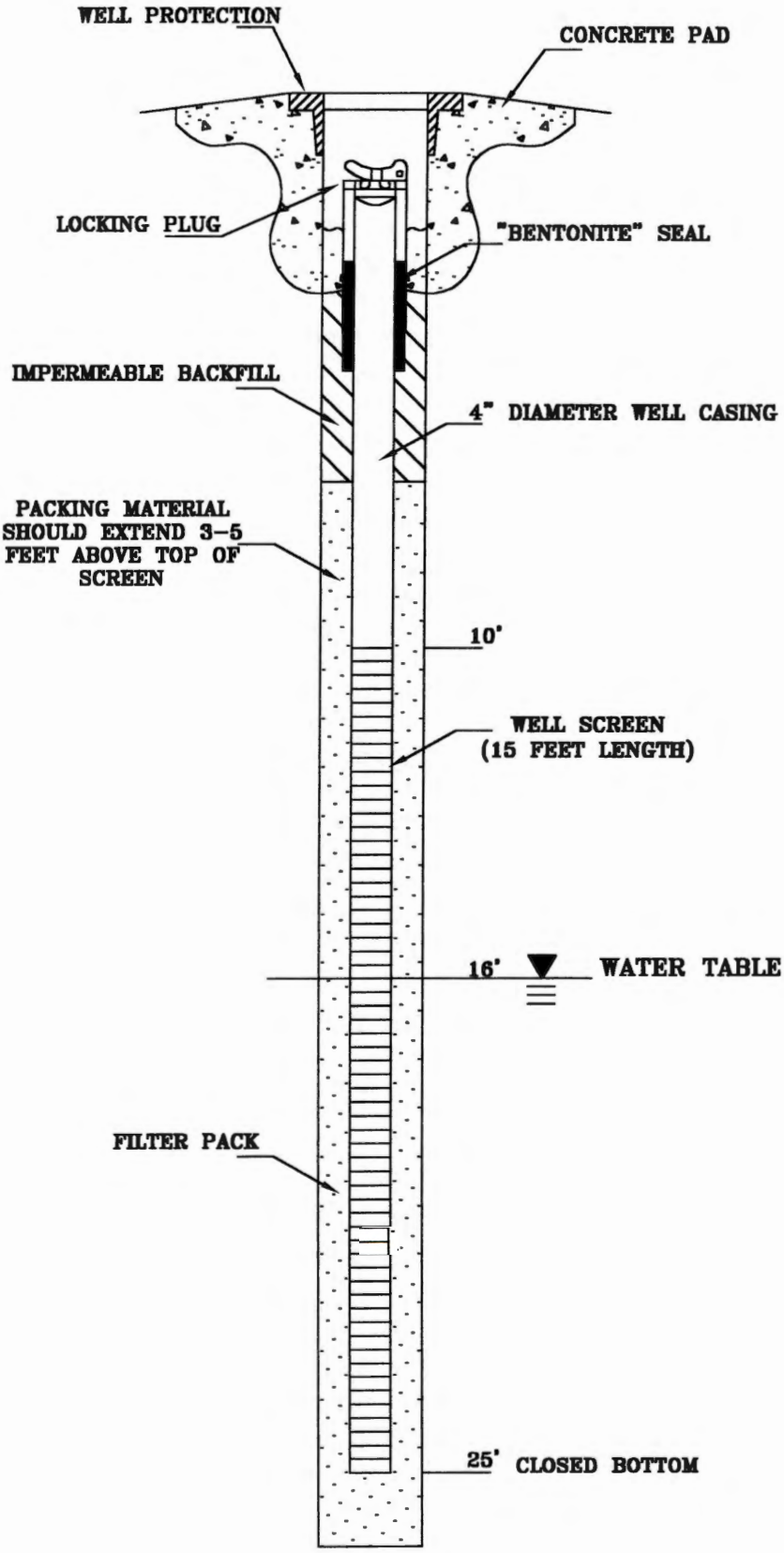
Once the free-product has been removed down to the goal of 0.1 inch remaining and Groundwater Samples have been collected, Hydrocarbon Absorbent Spill Socks will be installed at each Well, in order to absorb any residual floating free-product. Two and four inch socks will be used and changed on a schedule consistent with Manufacturer's recommendations. Soakease System Kits composed of a chemically resistant stainless steel refillable canister and a number of disposable absorbent socks, will be used in the clean-up operation.

H. COLLECT GROUNDWATER SAMPLES: After the free product is measured at less than 0.1 inch, or the truck is full, a set of groundwater samples will be taken at each Extraction Well and each Monitoring Well. Sampling will be accomplished using the low flow pump as described in F above, and following the procedures in Appendix " C", QA/QC Plan.

I. FOLLOW-UP MONITORING: One week after the extraction process ends, all Wells will have their groundwater sampled, following the procedures for initial groundwater sampling in "F" above.

J. RESULTS EVALUATION: The results of all testing will be evaluated to determine if additional well extraction is required. If additional extraction is required, steps E through J will be repeated. If no additional extraction is required, long term monitoring will be scheduled.

K. LONG TERM MONITORING: Collection of groundwater samples from Monitoring Wells, following Step F. above, will be scheduled at 1 month, 3 months and 6 months after completion of the evaluation of results. Soil Gas Monitoring, following Step B above, will also be accomplished. After each analysis, the results will be evaluated to determine if any change to the Work Plan and/or Schedule is required.



EXTRACTION WELL
(TYPICAL)

NOT TO SCALE

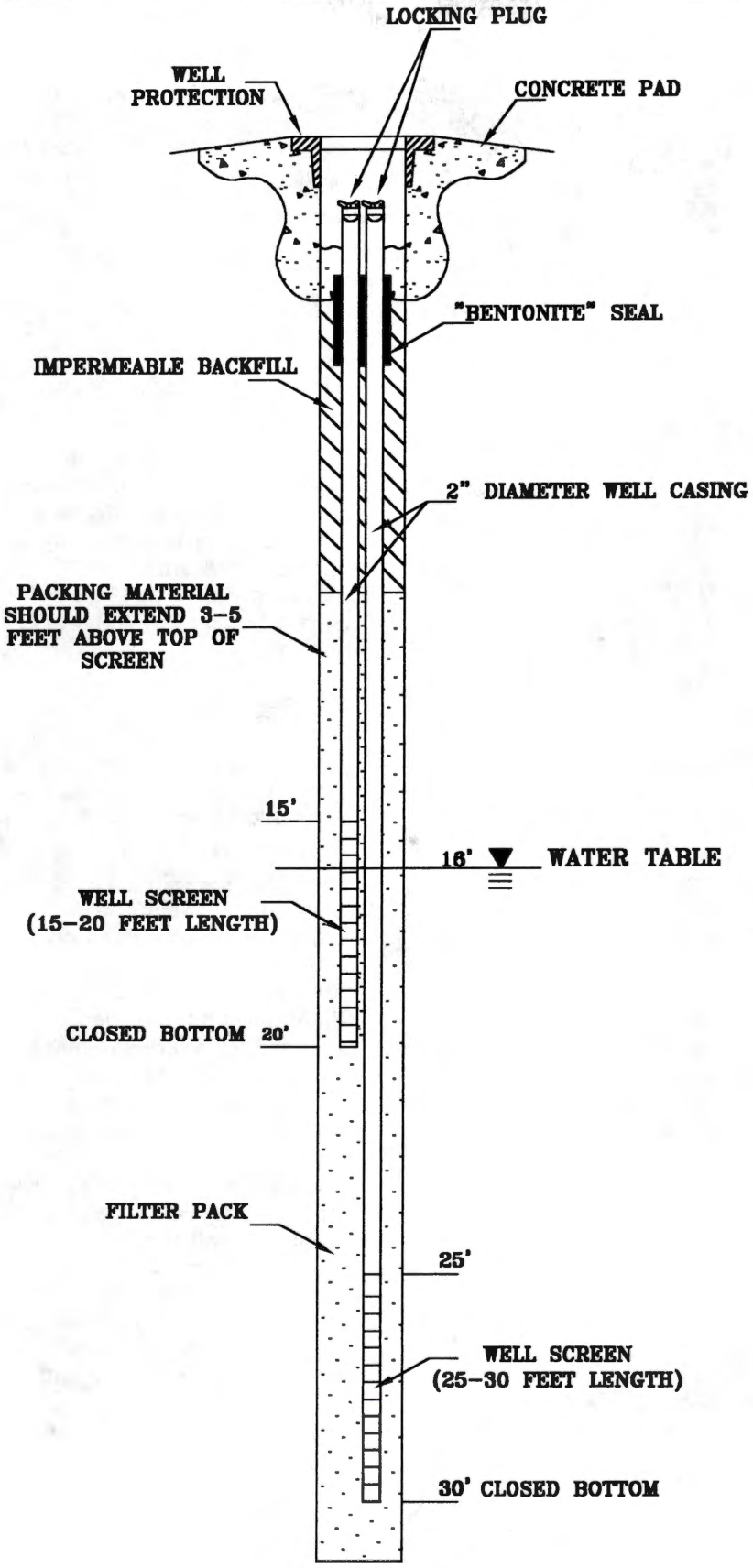
8.5 x 11

Sheet 1 of 1 Sheets	DWG: Extraction well
Job: 01-44	
Drawn by: AS	
Scale: AS NOTED	
Date: 10/21/02	

SHAPIRO ENGINEERING, P.C.
CONSULTING ENGINEERS
181 South Franklin Avenue, Suite 305, Valley Stream, N.Y. 11581-1101
(516) 791-2300 FAX: (516) 791-0782 e-mail: shapiroengineers@worldnet.att.net

S & S X-RAY PRODUCTS, INC.
1101 LINWOOD STREET
BROOKLYN, NEW YORK 11208

EXTRACTION WELL
(TYPICAL)



MONITORING WELL
(TYPICAL)

NOT TO SCALE

8.5 x 11

Sheet 1 of 1 Sheets	DWG.	Job: 01-44	Drawn by: JS
Scale: AS NOTED	Date: 10/21/02		

SHAPIRO ENGINEERING, P.C
CONSULTING ENGINEERS
181 South Franklin Avenue, Suite 305, Valley Stream, N.Y. 11581-1101
(516) 791-2300 FAX: (516) 791-0782 e-mail: shapiroengineers@worldnet.att.net

S & S X-RAY PRODUCTS, INC.
1101 LINWOOD STREET
BROOKLYN, NEW YORK 11208

MONITORING WELL

HOME

USER'S GUID

PRODUCTS

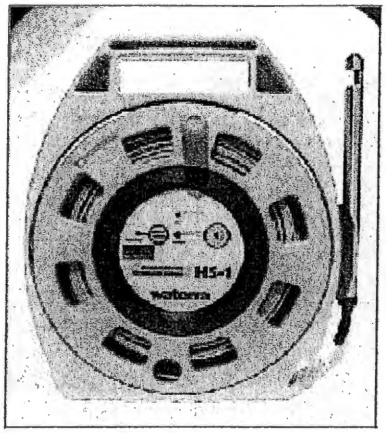
INFORMATIC

REACH US

RENTALS

FEATURES

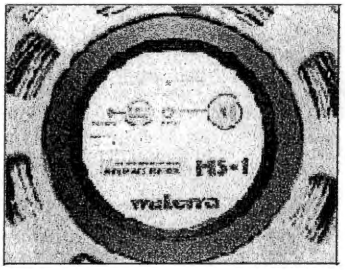
HS-1 Owner's Manual PAGE 1



FEATURES

Waterra has designed the HS-1 Interface Tape as a lightweight, compact, oil/water interface measuring device featuring an enclosed reel with a very narrow profile. The HS-1 can carry 30 meters or 100 feet of flat tape.

The electronics module located in the hub of the unit contains the battery pack, the electronic circuit board, buzzer, lights and on/off membrane switch.



The on/off switch has a built-in timer so that the unit will automatically turn itself off after three minutes. This feature is designed to extend battery life. When the HS-1 is turned on, the battery light will be illuminated continuously. Low batteries are indicated by a flashing signal from the battery light indicator.

When the HS-1 Interface probe contacts a hydrocarbon liquid, the buzzer will emit an intermittant tone and the oil light will illuminate. When the HS-1 probe contacts water, the buzzer will emit a continuous tone and the water light will illuminate. There is no sensitivity adjustment available for the HS-1 Interface meter.

NEXT PAGE

HOME

USER'S GUID

PRODUCTS

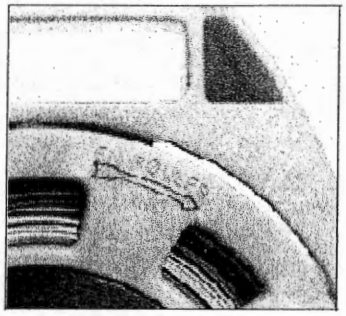
INFORMATIC

REACH US

RENTALS

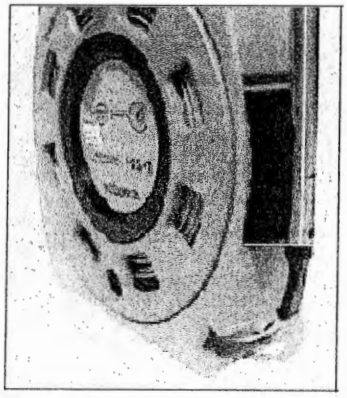
OPERATION

HS-1 Owner's Manual PAGE 2



WINDING THE REEL AND THE PROBE HOLDER

The flat tape on the HS-1 must always be wound on the reel in the same direction. If the tape is unwound completely from the reel, be sure that it is wound back onto the reel in the correct direction. To do this, face the front of the reel and turn the handle in a clockwise direction. *Always wind your tape up by turning the reel clockwise.* The correct direction for winding up the tape on the HS-1 reel is also indicated by the arrow embossed on the reel.



The probe of the HS-1 should always be retained by the probe holder when it is not in use. The probe should be mounted in the probe holder such that the point where the strain relief boot meets the stainless steel probe body is located at the base of the probe holder. (See line on diagram at left.)

PREVIOUS PAGE / NEXT PAGE

Call us today at
1-307-742-8213
1-800-446-7488

- Brochures
- Spec Sheets
- PowerPoint Presentation
- Get a Quote

MP TROLL 9000 Specifications

Sensor Specifications

Dissolved Oxygen % Saturation	Range	0 to 500%
	Resolution	0.1%
	Accuracy	±2%
Dissolved Oxygen mg/L	Range	0 to 50 mg/L
	Resolution	0.01 mg/L
	Accuracy	±0.2 mg/L
Conductivity (AC,SC, TDS, Resistivity)	Range	0.004 to 60 mS/cm *(Call for higher ranges)*
	Resolution	0.001 to 0.1 mS/cm (Range Dependent)
	Accuracy	±1% of reading + 0.002 mS/cm
Temperature	Range	-5 to 50°C
	Resolution	0.01°C
	Accuracy	±0.1°C
pH	Range	0 to 12 pH units
	Resolution	0.01 pH units
	Accuracy	±0.09 pH units
ORP	Range	-1400 to 1400 mV
	Resolution	0.1 mV
	Accuracy	±4 mV
Salinity	Range	0 to 42 ppt
	Resolution	0.1 ppt
	Accuracy	1% of reading
Level (Depth, Pressure, Open Channel Flow)	Range	11m (35 ft, 15psi), 21m (69 ft, 30psi), 70m (231 ft, 100psi), 210m (692ft, 300psi)
	Resolution	1mm
	Accuracy	0.05%FS
Barometric	Range	0 to 16.5psia (0 to 854 mmHg)
	Resolution	0.00531% FS (0.04 mmHg)
	Accuracy	±0.3% FS (±2.54 mmHg)
Nitrate	Range	0.14 to 14000 ppm N
	Resolution	Range Dependent
	Accuracy	10% of reading or 1 ppm N, whichever is greater
Chloride	Range	0.35 to 35000 ppm Cl
	Resolution	Range Dependent
	Accuracy	15% of reading or 1 ppm Cl, whichever is greater
Ammonium, Ammonia	Range	0.14 to 14000 ppm N
	Resolution	Range Dependent
	Accuracy	10% of reading or 2 ppm N, whichever is greater
Turbidity	Range	0 to 2000 NTU
	Resolution	0.1 NTU
	Accuracy	5% of reading or 2 NTU, whichever is greater

Hardware Specifications

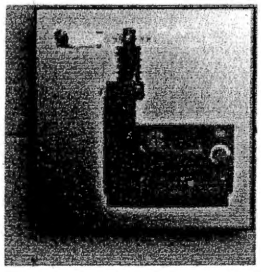
Data Logging	16 programmable tests (defined, running or stored)	**Test types:** Linear, Linear Average, Logarithmic, Event
Memory	4MB (over 1-million data points)	
Internal Power	2 internal user-replaceable D alkaline batteries	Battery life: Up to 1.5 months sampling at 15-sec intervals @ 20C
SDI-12 communications	Optional with SDI-12 Adapter	
Wetted materials	316L stainless steel, Delrin, Viton, nylon, PVC, FEP or polyurethane (cable)	
	TROLL 9000	**TROLL 9000E**
Dimensions	45mm (1.75 in) OD, 47.3cm (18.6 in) long	45.5mm (1.79 in) OD, 60.3cm (23.7 in) long
Weight	1.27 Kg (2.6 lbs)	2.7 Kg (5.95 lbs)

Click here to order a free TROLL 9000 brochure!

Need more information? Take a look at the spec sheet

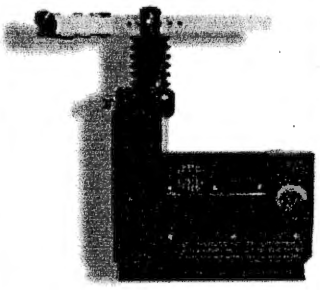
Contact Us

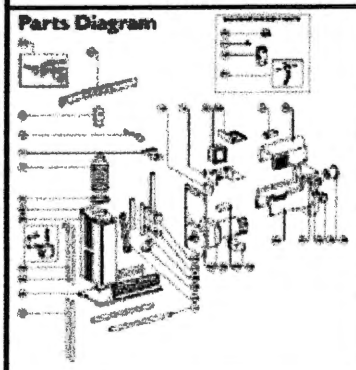
Low Flow Pump



HYDROLIFT II

Hydrolift II Electric Actuator





VIEW PARTS DIAGRAM

Would you like to try a Hydrolift?

Ask about our Rental Program

high performance automation

The **Waterra Hydrolift II** is a portable, electrically operated device that is used to automate the operation of the **Inertial Pump**. The **Hydrolift** is powered by a 3/4 horsepower electric motor (available in either 110 volt or 220 volt) and generates a 4 inch stroke at up to 200 cycles per minute. This actuator can operate the **Standard Flow System** up to its maximum effective depth and will operate the **High Flow System** up to a depth of 150 feet. The **Hydrolift** weighs 35 pounds and requires an electrical power supply of at least 1000 watts. This actuator is the ideal choice for the frequent user of the **Inertial Pumping System** with moderate to extreme pumping requirements.

key features

- Lightweight (35 lbs)
- Rugged field construction
- Power: 0 - 3.75 GPM / 200 feet + depth

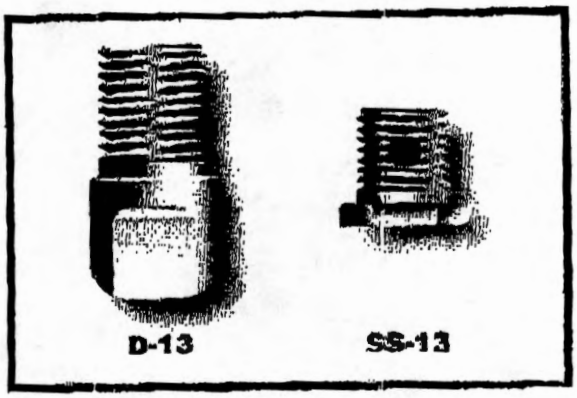
specifications

Weight:	**35 Lbs.**
Dimensions:	**14"h x 8"w x 24"L**
Horsepower:	**3/4**
Gearing:	**35:1**
RPM (Maximum):	**200**

Low Flow System

recommended devices
The Low Flow System is probably most frequently operated by hand, although the **Waterra Hydrolift II** can also be used to operate this system.

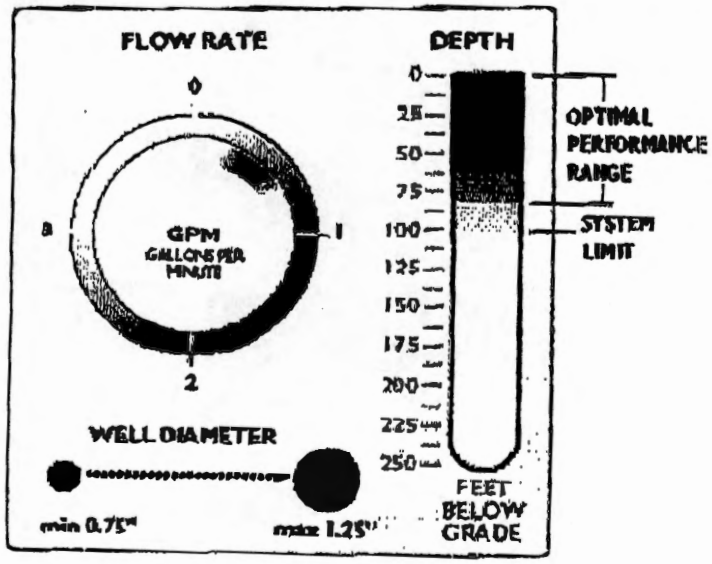
damaged wells
The Low Flow System is also useful for sampling in damaged or obstructed monitoring wells.



LOW FLOW SYSTEM

Piezometer Sampling

LOW FLOW Performance Chart
The Performance Chart shown below displays the performance capabilities of **the Low Flow System**. This chart is intended to assist you with the selection of the most suitable system for your specific site. Please note that the ratings have been calculated by actual field testing in a variety of well conditions and therefore may seem somewhat conservative in value.



SECTION 4

HEALTH AND SAFETY PLAN

4.1 PURPOSE

The purpose of the Health and Safety Plan (HSP) is to provide a means for the work to be accomplished with no injuries or adverse health effects. All workers will review and become familiar with the HSP. A copy of the HSP will always be available on site. All workers are required to comply with the HSP.

4.2 HEALTH AND SAFETY PLAN

The HSP is located in Appendix "B".

SECTION 5

QUALITY ASSURANCE/QUALITY CONTROL PLAN

5.1 PURPOSE

The purpose of the Quality Assurance/Quality Control Plan (QA/QCP) is to establish the procedures and actions to be taken by all personnel to ensure that high quality data is generated from all sampling activities. All personnel are required to follow QA/QCP.

5.2 QUALITY ASSURANCE/QUALITY CONTROL PLAN

The QA/QCP is located in Appendix "C".

SECTION 6

SCHEDULE

6.1 PURPOSE

The Purpose of this section is to establish a work schedule for the Interim Remedial Measures Work Plan. This schedule will be used to ensure adequate progress for all phases of the Work Plan. Changes to the schedule will be made if conditions warrant.

6.2 SCHEDULE

A Gantt Construction Schedule is on the next page depicting the proposed schedule for the Interim Remedial Measures described in this Work Plan.

8 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54

1. EQUIPMENT AND STAFF MOBILIZATION
2. OBTAIN SIDEWALK PERMIT
3. SOIL GAS WELL CONSTRUCTION & SAMPLING
4. EXTRACTION & MONITORING WELL CONSTRUCTION
5. WELL EXTRACTION AND INITIAL SAMPLING
6. FOLLOW-UP SAMPLING - 1 WEEK
7. LABORATORY TESTS AND REPORT
8. INITIAL EVALUATION - REPEAT 4. TO 6. ABOVE IF NEEDED
9. SOIL GAS SAMPLING
10. FOLLOW-UP SAMPLING - 1 MONTH
11. FOLLOW-UP SAMPLING - 3 MONTHS
12. FOLLOW-UP SAMPLING - 6 MONTHS
13. FINAL REPORT

8 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54

SECTION 7

REPORTING

7.1 REPORTING

In accordance with Section III, "Progress Reports", of the Voluntary Cleanup Agreement, Monthly Written Progress Reports will be submitted by the 10th day of each month commencing with the month subsequent to the approval of this Work Plan. In addition, a Final Report will be prepared and submitted after all long term monitoring is completed. (See Section 6, Schedule.)

7.2 REPORT SUBMISSION REQUIREMENTS AND ADDRESSES

All Reports will be submitted to the following addresses, in the quantity indicated.

a. Four copies, 1 unbound:

Chittbabu Vasudevan, P.E.
Bureau Chief, Eastern Remedial Bureau
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway, 11th Floor
Albany, New York 12233-7015

b. One Copy:

Kevin Carpenter, P.E.
Central Office VCP Coordinator
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway, 11th Floor
Albany, New York 12233-7015

c. Two Copies:

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

d. One copy:

Michael J. Lesser, Esq.
Bureau of State Superfund and Voluntary Cleanup
Division of Environmental Enforcement
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233-5550

SECTION 8

ORGANIZATION

8.1 PROJECT ORGANIZATION

The organization for this project is as follow:

POSITION/TITLE/AFFILIATION	NAME
Voluntary Cleanup Program Volunteer (Innocent Landowner)	S. & S. X-Ray Products, Inc. Norman Shoenfeld, MD
Project Director:	Robert A. Lo Pinto, P.E. Shapiro Engineering, P.C.
Project Manager/ Field Team Leader/Site Safety Officer	Brian Costello Branch Services, Inc.
QA/QC Officer:	Elliot J. Shapiro, P.E. Shapiro Engineering, P.C.

APPENDIX "A"

BACKUP DOCUMENTATION

TABLE OF CONTENTS

SHAPIRO ENGINEER G, P.C. CONSULTING ENGINEERS
181 SOUTH FRANKLIN AVE., SUITE 305, VALLEY STREAM, NEW YORK 11581-1101

ENGINEERING SERVICES SINCE 1946
ENVIRONMENTAL ENGINEERING • ENVIRONMENTAL SERVICES LABORATORY • FACILITIES ENGINEERING

01-44

January 22, 2002

New York State Department of Environmental Conservation
Region 2, Division of Environmental Remediation
47-40 21st Street
Long Island City, Queens, New York 11101-5407

Attn.: Michelle Tippler

REF.: 1) SPILL #01-07758

2) S. & S. X-RAY PRODUCTS, INC.
1101 LINWOOD STREET
BROOKLYN, NEW YORK 11208
BLOCK 4428 LOTS 1 & 20

Dear Ms. Tippler:

This is a follow-up to our phone conversation of 11/19/01, regarding Spill Report #01-07758. This Spill was reported on 10/30/01 by C. Sullivan of Laurel Environmental Associates, LTD. while conducting on site borings as part of a Phase II EAS Investigation. Samples from three locations were collected from the Soil and Groundwater. Copies of the results are enclosed. See Site Plan for locations. In order to determine the extent of possible contamination, the following actions have since been accomplished:

1. The reinforced concrete slab over the 2 Underground Storage Tanks has been removed.

2. Clean soil has been removed and stored in the facility in an attempt to locate the 2 Storage Tanks.

3. Buried piping has been located. An exterior fill pipe, located below the exterior wall, appears to have leaked.

4. Potentially contaminated soil, emanating from the fill pipe leak, has been removed in an attempt to locate the 2 Storage Tanks. The soil has been segregated from the clean soil, and stored on plastic sheeting and covered.

5. The top of a concrete casing over the 2 Storage Tanks has been located about 7 feet below grade. It is estimated that the tank bottoms are about 11 feet below grade.

(continued)

VOICE: 516-791-2300 E-MAIL: shapiroengineers@worldnet.att.net FAX: (516) 791-0782

At this point in our Preliminary Investigation, we have not yet excavated below the top of the Storage Tanks. In order to continue, additional equipment must be utilized. There are also structural support questions that must be resolved before we can excavate to the 11 feet below grade level. We therefore are in the process of performing the following:

1. Design Structural Support System.
2. Arrange for additional excavation equipment.
3. Testing the potentially contaminated soil and have it properly disposed of.
4. Excavating such that the tanks are fully exposed.
5. Delineate the potential extent of contamination.

When we have completed the above, we will notify you of the results.

Yours truly,

SHAPIRO ENGINEERING, P.C.

ROBERT A. LO PINTO, P.E., NSPE

RAL:EJS:SM

Enc.

c.c.: S. & S. X-Ray Products, Inc.

MyDocuments\Correspondence\2001\2001 S. & S. X-Ray\01-44 Ltr to DEC Re Spill Rpt. #01-07758.lwp

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING
377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (631) 422-5777• FAX (631) 422-5770
Email: ecotestlab@aol.com Website: www.ecotestlabs.com

LAB NO:215694.04 11/12/01

Laurel Environmental Associates, Ltd.
3 Lyn Court
Huntington, NY 11743
ATTN: Scott Yanuck

SOURCE OF SAMPLE: 1101 Linwood Street, Brooklyn, #01.067.1
COLLECTED BY: Client DATE COL'D:10/30/01 RECEIVED:10/31/01

SAMPLE: Soil sample, SB-1 8'-12'

ANALYTICAL PARAMETERS		
Chloromethane	ug/Kg	<500
Bromomethane	ug/Kg	<500
Vinyl Chloride	ug/Kg	<500
Chloroethane	ug/Kg	<500
Methylene Chloride	ug/Kg	<500
Acetone	ug/Kg	<5000
Carbon disulfide	ug/Kg	<500
1,1 Dichloroethene	ug/Kg	<500
1,1 Dichloroethane	ug/Kg	<500
1,2 Dichloroethene	ug/Kg	<500
Chloroform	ug/Kg	<500
1,2 Dichloroethane	ug/Kg	<500
2-Butanone	ug/Kg	<5000
111 Trichloroethane	ug/Kg	<500
Carbon Tetrachloride	ug/Kg	<500
Bromodichloromethane	ug/Kg	<500
1,2 Dichloropropane	ug/Kg	<500
c-1,3Dichloropropene	ug/Kg	<500
Trichloroethene	ug/Kg	<500
Chlorodibromomethane	ug/Kg	<500
112 Trichloroethane	ug/Kg	<500
Benzene	ug/Kg	<500
t-1,3Dichloropropene	ug/Kg	<500
Bromoform	ug/Kg	<500
4-Methyl-2-Pentanone	ug/Kg	<5000

ANALYTICAL PARAMETERS		
2-Hexanone	ug/Kg	<5000
Tetrachloroethene	ug/Kg	<500
Toluene	ug/Kg	<500
1122Tetrachloroethan	ug/Kg	<500
Chlorobenzene	ug/Kg	<500
Ethyl Benzene	ug/Kg	20000
Styrene	ug/Kg	<500
o Xylene	ug/Kg	45000
m + p Xylene	ug/Kg	120000
Xylene	ug/Kg	170000
% Solids		90

cc:

REMARKS: Analysis was performed by GC/MS, EPA Method 8260.

DIRECTOR

rn= 32306 NYSDOH ID# 10320 Page 1 of 4

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING
377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (631) 422-5777• FAX (631) 422-5770
Email: ecotestlab@aol.com Website: www.ecotestlabs.com

LAB NO:215694.04 11/12/01

Laurel Environmental Associates, Ltd.
3 Lyn Court
Huntington, NY 11743
ATTN: Scott Yanuck

SOURCE OF SAMPLE: 1101 Linwood Street, Brooklyn, #01.067.1
COLLECTED BY: Client DATE COL'D:10/30/01 RECEIVED:10/31/01

SAMPLE: Soil sample, SB-1 8'-12'

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arsenic as As	mg/Kg	1.9	
Barium as Ba	mg/Kg	39	
Cadmium as Cd	mg/Kg	0.72	
Chromium as Cr	mg/Kg	12	
Lead as Pb	mg/Kg	59	
Mercury as Hg	mg/Kg	0.040	
Selenium as Se	mg/Kg	<0.4	
Silver as Ag	mg/Kg	<0.5	

cc:

REMARKS: Methods: EPA 6010, EPA 7471A.

DIRECTOR

rn= 32307 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING
377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (631) 422-5777• FAX (631) 422-5770
Email: ecotestlab@aol.com Website: www.ecotestlabs.com

LAB NO:215694.04 11/12/01

Laurel Environmental Associates, Ltd.
3 Lyn Court
Huntington, NY 11743
ATTN: Scott Yanuck

SOURCE OF SAMPLE: 1101 Linwood Street, Brooklyn, #01.067.1
COLLECTED BY: Client DATE COL'D:10/30/01 RECEIVED:10/31/01

SAMPLE: Soil sample, SB-1 8'-12'
UNITS: ug/Kg

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS
Phenol	<30	
2-Chlorophenol	<30	
2-Methylphenol (o-cresol)	<30	
4-Methylphenol (p-cresol)	<30	
2-Nitrophenol	<30	
2,4-Dimethylphenol	<30	
2,4-Dichlorophenol	<30	
4-Chloro-3-methylphenol	<30	
2,4,6-Trichlorophenol	<30	
2,4,5-Trichlorophenol	<30	
2,4-Dinitrophenol	<300	
4-Nitrophenol	<300	
2-Methyl-4,6-dinitrophenol	<300	
Pentachlorophenol	<300	

cc:

REMARKS: EPa Method 8270.

DIRECTOR

rn= 32308 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING
377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (631) 422-5777• FAX (631) 422-5770
Email: ecotestlab@aol.com Website: www.ecotestlabs.com

LAB NO:215694.04 11/12/01

Laurel Environmental Associates, Ltd.
3 Lyn Court
Huntington, NY 11743
ATTN: Scott Yanuck

SOURCE OF SAMPLE: 1101 Linwood Street, Brooklyn, #01.067.1
COLLECTED BY: Client DATE COL'D:10/30/01 RECEIVED:10/31/01

SAMPLE: Soil sample, SB-1 8'-12'
UNITS: ug/Kg

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS	
Bis(2-chloroethyl)ether	<30	2,4-Dinitrotoluene	<30
1,3 Dichlorobenzene(sv)	<30	Diethyl Phthalate	<30
1,4 Dichlorobenzene(sv)	<30	4-Chlorophenyl phenyl ether	<30
Carbazole	67	Fluorene	120
1,2 Dichlorobenzene(sv)	<30	4-Nitroaniline	<30
Bis(2-chloroisopropyl)ether	<30	N-Nitrosodiphenylamine	<30
N-Nitrosodi-n-propylamine	<30	4-Bromophenyl phenyl ether	<30
Hexachloroethane	<30	Hexachlorobenzene	<30
Nitrobenzene	<30	Phenanthrene	850
Isophorone	<30	Anthracene	170
Bis(2-chloroethoxy)methane	<30	Di-n-Butyl Phthalate	<30
124-Trichlorobenzene	<30	Fluoranthene	740
Naphthalene(sv)	4000	Pyrene	1200*
4-Chloroaniline	<30	BenzylButylPhthalate	<30*
Hexachlorobutadiene	<30	3,3'-Dichlorobenzidine	<300**
2-Methylnaphthalene	800	Benzo(a)anthracene	420*
Hexachlorocyclopentadiene	<300	Chrysene	440*
2-Chloronaphthalene	<30	Bis(2-ethylhexyl)phthalate	210*
2-Nitroaniline	<30	Di-n-octyl Phthalate	<30**
Dimethyl Phthalate	<30	Benzo(b)fluoranthene	245^^**
Acenaphthylene	48	Benzo(k)fluoranthene	245^^**
2,6-Dinitrotoluene	<30	Benzo(a)pyrene	490**
3-Nitroaniline	<30	Indeno(1,2,3-cd)pyrene	240**
Acenaphthene	57	Dibenzo(a,h)anthracene	<30**
Dibenzofuran	52	Benzo(ghi)perylene	270**

cc:

REMARKS: EPA 8270.
^^Total = 490 ug/Kg, unable to separate isomers.
*,** Estimated due to low internal standard recovery, *42% & **23%. Low recovery due to interference. QC limit is 50%.

DIRECTOR

rn= 32309 NYSDOH ID# 10320 Page 4 of 4

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING
377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (631) 422-5777• FAX (631) 422-5770
Email: ecotestlab@aol.com Website: www.ecotestlabs.com

LAB NO:215694.01 11/12/01

Laurel Environmental Associates, Ltd.
3 Lyn Court
Huntington, NY 11743
ATTN: Scott Yanuck

SOURCE OF SAMPLE: 1101 Linwood Street, Brooklyn, #01.067.1
COLLECTED BY: Client DATE COL'D:10/30/01 RECEIVED:10/31/01

SAMPLE: Water sample, GW-1 14'-16'

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<200
Bromomethane	ug/L	<200
Vinyl Chloride	ug/L	<200
Chloroethane	ug/L	<200
Methylene Chloride	ug/L	<200
Acetone	ug/L	<2000
Carbon disulfide	ug/L	<200
1,1 Dichloroethene	ug/L	<200
1,1 Dichloroethane	ug/L	<200
1,2 Dichloroethene	ug/L	<400
Chloroform	ug/L	<200
1,2 Dichloroethane	ug/L	<200
2-Butanone	ug/L	<2000
111 Trichloroethane	ug/L	<200
Carbon Tetrachloride	ug/L	<200
Bromodichloromethane	ug/L	<200
1,2 Dichloropropane	ug/L	<200
c-1,3Dichloropropene	ug/L	<200
Trichloroethene	ug/L	<200
Chlorodibromomethane	ug/L	<200
112 Trichloroethane	ug/L	<200
Benzene	ug/L	<200
t-1,3Dichloropropene	ug/L	<200
Bromoform	ug/L	<200
4-Methyl-2-Pentanone	ug/L	<2000

ANALYTICAL PARAMETERS		
2-Hexanone	ug/L	<2000
Tetrachloroethene	ug/L	<200
Toluene	ug/L	250
1122Tetrachloroethan	ug/L	<200
Chlorobenzene	ug/L	<200
Ethyl Benzene	ug/L	12000
Styrene	ug/L	<200
o Xylene	ug/L	16000
m + p Xylene	ug/L	110000
Xylene	ug/L	130000

cc:

REMARKS: Analysis was performed by GC/MS, EPA Method 624.

DIRECTOR

rn= 32296 NYSDOH ID# 10320 Page 1 of 4

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING
377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (631) 422-5777• FAX (631) 422-5770
Email: ecotestlab@aol.com Website: www.ecotestlabs.com

LAB NO:215694.01 11/12/01

Laurel Environmental Associates, Ltd.
3 Lyn Court
Huntington, NY 11743
ATTN: Scott Yanuck

SOURCE OF SAMPLE: 1101 Linwood Street, Brooklyn, #01.067.1
COLLECTED BY: Client DATE COL'D:10/30/01 RECEIVED:10/31/01

SAMPLE: Water sample, GW-1 14'-16'

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arsenic as As	mg/L	0.005	
Barium as Ba	mg/L	0.10	
Cadmium as Cd	mg/L	<0.005	
Chromium as Cr	mg/L	0.012	
Lead as Pb	mg/L	0.006	
Mercury as Hg	mg/L	<0.001	
Selenium as Se	mg/L	<0.004	
Silver as Ag	mg/L	0.015	

cc:

REMARKS: EPA Methods; 6010, 7470A

DIRECTOR

rn= 32297 NYSDOH ID# 10320 Page 2 of 4

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING
377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (631) 422-5777• FAX (631) 422-5770
Email: ecotestlab@aol.com Website: www.ecotestlabs.com

LAB NO:215694.01 11/12/01

Laurel Environmental Associates, Ltd.
3 Lyn Court
Huntington, NY 11743
ATTN: Scott Yanuck

SOURCE OF SAMPLE: 1101 Linwood Street, Brooklyn. #01.067.1
COLLECTED BY: Client DATE COL'D:10/30/01 RECEIVED:10/31/01

SAMPLE: Water sample. GW-1 14'-16'
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS
Phenol	<100*	
2-Chlorophenol	<100*	
2-Methylphenol (o-cresol)	<100*	
4-Methylphenol (p-cresol)	<100*	
2-Nitrophenol	<100*	
2,4-Dimethylphenol	<100*	
2,4-Dichlorophenol	<100*	
4-Chloro-3-methylphenol	<100*	
2,4,6-Trichlorophenol	<10	
2,4,5-Trichlorophenol	<10	
2,4-Dinitrophenol	<100	
4-Nitrophenol	<100	
2-Methyl-4,6-dinitrophenol	<100	
Pentachlorophenol	<100	

cc:

REMARKS: Method: EPA 8270
*Elevated detection limit due to interference.

DIRECTOR

rn= 32298 NYSDOH ID# 10320 Page 3 of 4

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING
377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (631) 422-5777• FAX (631) 422-5770
Email: ecotestlab@aol.com Website: www.ecotestlabs.com

LAB NO:215694.01 11/12/01

Laurel Environmental Associates, Ltd.
3 Lyn Court
Huntington, NY 11743
ATTN: Scott Yanuck

SOURCE OF SAMPLE: 1101 Linwood Street, Brooklyn, #01.067.1
COLLECTED BY: Client DATE COL'D:10/30/01 RECEIVED:10/31/01

SAMPLE: Water sample, GW-1 14'-16'
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS	
Bis(2-chloroethyl)ether	<100*	2,4-Dinitrotoluene	<10
1,3 Dichlorobenzene(sv)	<100*	Diethyl Phthalate	<10
1,4 Dichlorobenzene(sv)	<100*	4-Chlorophenyl phenyl ether	<10
Carbazole	<10	Fluorene	9^
1,2 Dichlorobenzene(sv)	<100*	4-Nitroaniline	<10
Bis(2-chloroisopropyl)ether	<100*	N-Nitrosodiphenylamine	<10
N-Nitrosodi-n-propylamine	<100*	4-Bromophenyl phenyl ether	<10
Hexachloroethane	<100*	Hexachlorobenzene	<10
Nitrobenzene	<100*	Phenanthrene	81
Isophorone	<100*	Anthracene	16
Bis(2-chloroethoxy)methane	<100*	Di-n-Butyl Phthalate	27
124-Trichlorobenzene	<100*	Fluoranthene	79
Naphthalene(sv)	10000	Pyrene	75
4-Chloroaniline	<100*	BenzylButylPhthalate	<10
Hexachlorobutadiene	<100*	3,3'-Dichlorobenzidine	<100
2-Methylnaphthalene	350	Benzo(a)anthracene	31
Hexachlorocyclopentadiene	<100	Chrysene	34
2-Chloronaphthalene	<10	Bis(2-ethylhexyl)phthalate	18
2-Nitroaniline	<100*	Di-n-octyl Phthalate	<10
Dimethyl Phthalate	<10	Benzo(b)fluoranthene	25^^
Acenaphthylene	<10	Benzo(k)fluoranthene	25^^
2,6-Dinitrotoluene	<10	Benzo(a)pyrene	28
3-Nitroaniline	<10	Indeno(1,2,3-cd)pyrene	11
Acenaphthene	8^	Dibenzo(a,h)anthracene	<10
Dibenzofuran	6^	Benzo(ghi)perylene	9^

cc:

REMARKS: Method: EPA 8270
^Reported below quantification limit.
^^Total = 50 ug/L, unable to separate isomers.
*Elevated detection limit due to interference.

DIRECTOR

rn= 32299 NYSDOH ID# 10320 Page 4 of 4

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING
377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (631) 422-5777• FAX (631) 422-5770
Email: ecotestlab@aol.com Website: www.ecotestlabs.com

LAB NO:215694.05 11/12/01

Laurel Environmental Associates, Ltd.
3 Lyn Court
Huntington, NY 11743
ATTN: Scott Yanuck

SOURCE OF SAMPLE: 1101 Linwood Street, Brooklyn, #01.067.1
COLLECTED BY: Client DATE COL'D:10/30/01 RECEIVED:10/31/01

SAMPLE: Soil sample, SB-2 8'-12'

ANALYTICAL PARAMETERS		
Chloromethane	ug/Kg	<5
Bromomethane	ug/Kg	<5
Vinyl Chloride	ug/Kg	<5
Chloroethane	ug/Kg	<5
Methylene Chloride	ug/Kg	<5
Acetone	ug/Kg	<50
Carbon disulfide	ug/Kg	<5
1,1 Dichloroethene	ug/Kg	<5
1,1 Dichloroethane	ug/Kg	<5
1,2 Dichloroethene	ug/Kg	<5
Chloroform	ug/Kg	<5
1,2 Dichloroethane	ug/Kg	<5
2-Butanone	ug/Kg	<50
111 Trichloroethane	ug/Kg	<5
Carbon Tetrachloride	ug/Kg	<5
Bromodichloromethane	ug/Kg	<5
1,2 Dichloropropane	ug/Kg	<5
c-1,3Dichloropropene	ug/Kg	<5
Trichloroethene	ug/Kg	<5
Chlorodibromomethane	ug/Kg	<5
112 Trichloroethane	ug/Kg	<5
Benzene	ug/Kg	<5
t-1.3Dichloropropene	ug/Kg	<5
Bromoform	ug/Kg	<5
4-Methyl-2-Pentanone	ug/Kg	<50

ANALYTICAL PARAMETERS		
2-Hexanone	ug/Kg	<50
Tetrachloroethene	ug/Kg	<5
Toluene	ug/Kg	<5
1122Tetrachloroethan	ug/Kg	<5
Chlorobenzene	ug/Kg	<5
Ethyl Benzene	ug/Kg	<5
Styrene	ug/Kg	<5
o Xylene	ug/Kg	<5
m + p Xylene	ug/Kg	<10
Xylene	ug/Kg	<15
% Solids		91

cc:

REMARKS: Analysis was performed by GC/MS, EPA Method 8260.

DIRECTOR

rn= 32310 NYSDOH ID# 10320 Page 1 of 3

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING
377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (631) 422-5777• FAX (631) 422-5770
Email: ecotestlab@aol.com Website: www.ecotestlabs.com

LAB NO:215694.05 11/12/01

Laurel Environmental Associates, Ltd.
3 Lyn Court
Huntington, NY 11743
ATTN: Scott Yanuck

SOURCE OF SAMPLE: 1101 Linwood Street, Brooklyn, #01.067.1
COLLECTED BY: Client DATE COL'D:10/30/01 RECEIVED:10/31/01

SAMPLE: Soil sample, SB-2 8'-12'
UNITS: ug/Kg

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS
Phenol	<30	
2-Chlorophenol	<30	
2-Methylphenol (o-cresol)	<30	
4-Methylphenol (p-cresol)	<30	
2-Nitrophenol	<30	
2,4-Dimethylphenol	<30	
2,4-Dichlorophenol	<30	
4-Chloro-3-methylphenol	<30	
2,4,6-Trichlorophenol	<30	
2,4,5-Trichlorophenol	<30	
2,4-Dinitrophenol	<300	
4-Nitrophenol	<300	
2-Methyl-4,6-dinitrophenol	<300	
Pentachlorophenol	<300	

cc:

REMARKS: EPa Method 8270.

DIRECTOR

rn= 32311 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING
377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (631) 422-6777• FAX (631) 422-5770
Email: ecotestlab@aol.com Website: www.ecotestlabs.com

LAB NO:215694.05 11/12/01

Laurel Environmental Associates. Ltd.
3 Lyn Court
Huntington, NY 11743
ATTN: Scott Yanuck

SOURCE OF SAMPLE: 1101 Linwood Street, Brooklyn, #01.067.1
COLLECTED BY: Client DATE COL'D:10/30/01 RECEIVED:10/31/01

SAMPLE: Soil sample, SB-2 8'-12'
UNITS: ug/Kg

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS	
Bis(2-chloroethyl)ether	<30	2,4-Dinitrotoluene	<30
1,3 Dichlorobenzene(sv)	<30	Diethyl Phthalate	<30
1,4 Dichlorobenzene(sv)	<30	4-Chlorophenyl phenyl ether	<30
Carbazole	<30	Fluorene	<30
1,2 Dichlorobenzene(sv)	<30	4-Nitroaniline	<30
Bis(2-chloroisopropyl)ether	<30	N-Nitrosodiphenylamine	<30
N-Nitrosodi-n-propylamine	<30	4-Bromophenyl phenyl ether	<30
Hexachloroethane	<30	Hexachlorobenzene	<30
Nitrobenzene	<30	Phenanthrene	180
Isophorone	<30	Anthracene	41
Bis(2-chloroethoxy)methane	<30	Di-n-Butyl Phthalate	<30
124-Trichlorobenzene	<30	Fluoranthene	200
Naphthalene(sv)	<30	Pyrene	400*
4-Chloroaniline	<30	BenzylButylPhthalate	<30*
Hexachlorobutadiene	<30	3,3'-Dichlorobenzidine	<300**
2-Methylnaphthalene	<30	Benzo(a)anthracene	130*
Hexachlorocyclopentadiene	<300	Chrysene	150*
2-Chloronaphthalene	<30	Bis(2-ethylhexyl)phthalate	44*
2-Nitroaniline	<30	Di-n-octyl Phthalate	<30**
Dimethyl Phthalate	<30	Benzo(b)fluoranthene	60^^**
Acenaphthylene	<30	Benzo(k)fluoranthene	60^^**
2,6-Dinitrotoluene	<30	Benzo(a)pyrene	130**
3-Nitroaniline	<30	Indeno(1,2,3-cd)pyrene	<30**
Acenaphthene	<30	Dibenzo(a,h)anthracene	<30**
Dibenzofuran	<30	Benzo(ghi)perylene	<30**

cc:

REMARKS: EPA 8270.
^^Total = 120 ug/Kg, unable to separate isomers.
*,** Estimated due to low internal standard recovery, *36% & **20%. Low recovery due to interference. QC limit is 50%.

DIRECTOR

rn= 32312 NYSDOH ID# 10320 Page 3 of 3

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING
377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (631) 422-5777• FAX (631) 422-5770
Email: ecotestlab@aol.com Website: www.ecotestlabs.com

LAB NO:215694.02 11/12/01

Laurel Environmental Associates, Ltd.
3 Lyn Court
Huntington, NY 11743
ATTN: Scott Yanuck

SOURCE OF SAMPLE: 1101 Linwood Street, Brooklyn, #01.067.1
COLLECTED BY: Client DATE COL'D:10/30/01 RECEIVED:10/31/01

SAMPLE: Water sample, GW-2 14'-16'

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Bromomethane	ug/L	<1
Vinyl Chloride	ug/L	<1
Chloroethane	ug/L	<1
Methylene Chloride	ug/L	<1
Acetone	ug/L	<10
Carbon disulfide	ug/L	<1
1,1 Dichloroethene	ug/L	<1
1,1 Dichloroethane	ug/L	<1
1,2 Dichloroethene	ug/L	<2
Chloroform	ug/L	<1
1,2 Dichloroethane	ug/L	<1
2-Butanone	ug/L	<10
111 Trichloroethane	ug/L	<1
Carbon Tetrachloride	ug/L	<1
Bromodichloromethane	ug/L	<1
1,2 Dichloropropane	ug/L	<1
c-1,3Dichloropropene	ug/L	<1
Trichloroethene	ug/L	<1
Chlorodibromomethane	ug/L	<1
112 Trichloroethane	ug/L	<1
Benzene	ug/L	<1
t-1.3Dichloropropene	ug/L	<1
Bromoform	ug/L	<1
4-Methyl-2-Pentanone	ug/L	<10

ANALYTICAL PARAMETERS		
2-Hexanone	ug/L	<10
Tetrachloroethene	ug/L	<1
Toluene	ug/L	<1
1122Tetrachloroethan	ug/L	<1
Chlorobenzene	ug/L	<1
Ethyl Benzene	ug/L	2
Styrene	ug/L	<1
o Xylene	ug/L	4
m + p Xylene	ug/L	18
Xylene	ug/L	22

cc:

REMARKS: Analysis was performed by GC/MS, EPA Method 624.

DIRECTOR

rn= 32300 NYSDOH ID# 10320 Page 1 of 3

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING
377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (631) 422-5777• FAX (631) 422-5770
Email: ecotestlab@aol.com Website: www.ecotestlabs.com

LAB NO:215694.02 11/12/01

Laurel Environmental Associates, Ltd.
3 Lyn Court
Huntington, NY 11743
ATTN: Scott Yanuck

SOURCE OF SAMPLE: 1101 Linwood Street, Brooklyn, #01.067.1
COLLECTED BY: Client DATE COL'D:10/30/01 RECEIVED:10/31/01

SAMPLE: Water sample, GW-2 14'-16'
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS
Phenol	<1	
2-Chlorophenol	<1	
2-Methylphenol (o-cresol)	<1	
4-Methylphenol (p-cresol)	<1	
2-Nitrophenol	<1	
2,4-Dimethylphenol	2	
2,4-Dichlorophenol	<1	
4-Chloro-3-methylphenol	<1	
2,4,6-Trichlorophenol	<1	
2,4,5-Trichlorophenol	<1	
2,4-Dinitrophenol	<10	
4-Nitrophenol	<10	
2-Methyl-4,6-dinitrophenol	<10	
Pentachlorophenol	<10	

cc:

REMARKS: Method: EPA 8270

DIRECTOR

rn= 32301 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING
377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (631) 422-5777• FAX (631) 422-5770
Email: ecotestlab@aol.com Website: www.ecotestlabs.com

LAB NO:215694.02 11/12/01

Laurel Environmental Associates, Ltd.
3 Lyn Court
Huntington, NY 11743
ATTN: Scott Yanuck

SOURCE OF SAMPLE: 1101 Linwood Street. Brooklyn, #01.067.1
COLLECTED BY: Client DATE COL'D:10/30/01 RECEIVED:10/31/01

SAMPLE: Water sample, GW-2 14'-16'
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS	
Bis(2-chloroethyl)ether	<1	2,4-Dinitrotoluene	<1
1,3 Dichlorobenzene(sv)	<1	Diethyl Phthalate	<1
1,4 Dichlorobenzene(sv)	<1	4-Chlorophenyl phenyl ether	<1
Carbazole	<1	Fluorene	<1
1,2 Dichlorobenzene(sv)	<1	4-Nitroaniline	<1
Bis(2-chloroisopropyl)ether	<1	N-Nitrosodiphenylamine	<1
N-Nitrosodi-n-propylamine	<1	4-Bromophenyl phenyl ether	<1
Hexachloroethane	<1	Hexachlorobenzene	<1
Nitrobenzene	<1	Phenanthrene	3
Isophorone	<1	Anthracene	<1
Bis(2-chloroethoxy)methane	<1	Di-n-Butyl Phthalate	2
124-Trichlorobenzene	<1	Fluoranthene	3
Naphthalene(sv)	22	Pyrene	3
4-Chloroaniline	<1	BenzylButylPhthalate	<1
Hexachlorobutadiene	<1	3,3'-Dichlorobenzidine	<10
2-Methylnaphthalene	1	Benzo(a)anthracene	1
Hexachlorocyclopentadiene	<10	Chrysene	1
2-Chloronaphthalene	<1	Bis(2-ethylhexyl)phthalate	11
2-Nitroaniline	<1	Di-n-octyl Phthalate	<1
Dimethyl Phthalate	<1	Benzo(b)fluoranthene	<1
Acenaphthylene	<1	Benzo(k)fluoranthene	<1
2,6-Dinitrotoluene	<1	Benzo(a)pyrene	<1
3-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<1
Acenaphthene	<1	Dibenzo(a,h)anthracene	<1
Dibenzofuran	<1	Benzo(ghi)perylene	<1

cc:

REMARKS: Method: EPA 8270

DIRECTOR

rn= 32302 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING
377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (631) 422-5777• FAX (631) 422-5770
Email: ecotestlab@aol.com Website: www.ecotestlabs.com

LAB NO:215694.06 11/12/01

Laurel Environmental Associates, Ltd.
3 Lyn Court
Huntington, NY 11743
ATTN: Scott Yanuck

SOURCE OF SAMPLE: 1101 Linwood Street, Brooklyn, #01.067.1
COLLECTED BY: Client DATE COL'D:10/30/01 RECEIVED:10/31/01

SAMPLE: Soil sample, SB-3 12'-16'

ANALYTICAL PARAMETERS		
Chloromethane	ug/Kg	<2
Bromomethane	ug/Kg	<2
Vinyl Chloride	ug/Kg	<2
Chloroethane	ug/Kg	<2
Methylene Chloride	ug/Kg	<2
Acetone	ug/Kg	<20
Carbon disulfide	ug/Kg	<2
1,1 Dichloroethene	ug/Kg	<20
1,1 Dichloroethane	ug/Kg	<2
1,2 Dichloroethene	ug/Kg	<2
Chloroform	ug/Kg	<2
1,2 Dichloroethane	ug/Kg	<2
2-Butanone	ug/Kg	<20
111 Trichloroethane	ug/Kg	<2
Carbon Tetrachloride	ug/Kg	<2
Bromodichloromethane	ug/Kg	<2
1,2 Dichloropropane	ug/Kg	<2
c-1,3Dichloropropene	ug/Kg	<2
Trichloroethene	ug/Kg	<2
Chlorodibromomethane	ug/Kg	<2
112 Trichloroethane	ug/Kg	<2
Benzene	ug/Kg	<2
t-1,3Dichloropropene	ug/Kg	<2
Bromoform	ug/Kg	<2
4-Methyl-2-Pentanone	ug/Kg	<20

ANALYTICAL PARAMETERS		
2-Hexanone	ug/Kg	<20
Tetrachloroethene	ug/Kg	<2
Toluene	ug/Kg	<2
1122Tetrachloroethan	ug/Kg	<2
Chlorobenzene	ug/Kg	<2
Ethyl Benzene	ug/Kg	<2
Styrene	ug/Kg	<2
o Xylene	ug/Kg	<2
m + p Xylene	ug/Kg	<4
Xylene	ug/Kg	<6
% Solids		87

cc:

REMARKS: Analysis was performed by GC/MS, EPA Method 8260.

DIRECTOR

rn= 32313 NYSDOH ID# 10320 Page 1 of 3

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING
377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (631) 422-5777• FAX (631) 422-5770
Email: ecotestlab@aol.com Website: www.ecotestlabs.com

LAB NO:215694.06 11/12/01

Laurel Environmental Associates, Ltd.
3 Lyn Court
Huntington, NY 11743
ATTN: Scott Yanuck

SOURCE OF SAMPLE: 1101 Linwood Street, Brooklyn, #01.067.1
COLLECTED BY: Client DATE COL'D:10/30/01 RECEIVED:10/31/01

SAMPLE: Soil sample, SB-3 12'-16'
UNITS: ug/Kg

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS
Phenol	<30	
2-Chlorophenol	<30	
2-Methylphenol (o-cresol)	<30	
4-Methylphenol (p-cresol)	<30	
2-Nitrophenol	<30	
2,4-Dimethylphenol	<30	
2,4-Dichlorophenol	<30	
4-Chloro-3-methylphenol	<30	
2,4,6-Trichlorophenol	<30	
2,4,5-Trichlorophenol	<30	
2,4-Dinitrophenol	<300	
4-Nitrophenol	<300	
2-Methyl-4,6-dinitrophenol	<300	
Pentachlorophenol	<300	

cc:

REMARKS: EPa Method 8270.

DIRECTOR

rn= 32314 NYSDOH ID# 10320 Page 2 of 3

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING
377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (631) 422-5777• FAX (631) 422-5770
Email: ecotestlab@aol.com Website: www.ecotestlabs.com

LAB NO:215694.06 11/12/01

Laurel Environmental Associates, Ltd.
3 Lyn Court
Huntington, NY 11743
ATTN: Scott Yanuck

SOURCE OF SAMPLE: 1101 Linwood Street, Brooklyn, #01.067.1
COLLECTED BY: Client DATE COL'D:10/30/01 RECEIVED:10/31/01

SAMPLE: Soil sample, SB-3 12'-16'
UNITS: ug/Kg

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS	
Bis(2-chloroethyl)ether	<30	2,4-Dinitrotoluene	<30
1,3 Dichlorobenzene(sv)	<30	Diethyl Phthalate	<30
1,4 Dichlorobenzene(sv)	<30	4-Chlorophenyl phenyl ether	<30
Carbazole	<30	Fluorene	<30
1,2 Dichlorobenzene(sv)	<30	4-Nitroaniline	<30
Bis(2-chloroisopropyl)ether	<30	N-Nitrosodiphenylamine	<30
N-Nitrosodi-n-propylamine	<30	4-Bromophenyl phenyl ether	<30
Hexachloroethane	<30	Hexachlorobenzene	<30
Nitrobenzene	<30	Phenanthrene	<30
Isophorone	<30	Anthracene	<30
Bis(2-chloroethoxy)methane	<30	Di-n-Butyl Phthalate	<30
124-Trichlorobenzene	<30	Fluoranthene	<30
Naphthalene(sv)	<30	Pyrene	<30
4-Chloroaniline	<30	BenzylButylPhthalate	<30
Hexachlorobutadiene	<30	3,3'-Dichlorobenzidine	<300
2-Methylnaphthalene	<30	Benzo(a)anthracene	<30
Hexachlorocyclopentadiene	<300	Chrysene	<30
2-Chloronaphthalene	<30	Bis(2-ethylhexyl)phthalate	38
2-Nitroaniline	<30	Di-n-octyl Phthalate	<30
Dimethyl Phthalate	<30	Benzo(b)fluoranthene	<30
Acenaphthylene	<30	Benzo(k)fluoranthene	<30
2,6-Dinitrotoluene	<30	Benzo(a)pyrene	<30
3-Nitroaniline	<30	Indeno(1,2,3-cd)pyrene	<30
Acenaphthene	<30	Dibenzo(a,h)anthracene	<30
Dibenzofuran	<30	Benzo(ghi)perylene	<30

cc:

REMARKS: EPA 8270.

DIRECTOR

rn= 32315 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING
377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (631) 422-5777• FAX (631) 422-5770
Email: ecotestlab@aol.com Website: www.ecotestlabs.com

LAB NO:215694.03 11/12/01

Laurel Environmental Associates, Ltd.
3 Lyn Court
Huntington, NY 11743
ATTN: Scott Yanuck

SOURCE OF SAMPLE: 1101 Linwood Street, Brooklyn, #01.067.1
COLLECTED BY: Client DATE COL'D:10/30/01 RECEIVED:10/31/01

SAMPLE: Water sample, GW-3 14'-16'

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Bromomethane	ug/L	<1
Vinyl Chloride	ug/L	<1
Chloroethane	ug/L	<1
Methylene Chloride	ug/L	<1
Acetone	ug/L	<10
Carbon disulfide	ug/L	<1
1,1 Dichloroethene	ug/L	<1
1,1 Dichloroethane	ug/L	<1
1,2 Dichloroethene	ug/L	<2
Chloroform	ug/L	<1
1,2 Dichloroethane	ug/L	<1
2-Butanone	ug/L	<10
111 Trichloroethane	ug/L	<1
Carbon Tetrachloride	ug/L	<1
Bromodichloromethane	ug/L	<1
1,2 Dichloropropane	ug/L	<1
c-1,3Dichloropropene	ug/L	<1
Trichloroethene	ug/L	<1
Chlorodibromomethane	ug/L	<1
112 Trichloroethane	ug/L	<1
Benzene	ug/L	<1
t-1,3Dichloropropene	ug/L	<1
Bromoform	ug/L	<1
4-Methyl-2-Pentanone	ug/L	<10

ANALYTICAL PARAMETERS		
2-Hexanone	ug/L	<10
Tetrachloroethene	ug/L	<1
Toluene	ug/L	<1
1122Tetrachloroethan	ug/L	<1
Chlorobenzene	ug/L	<1
Ethyl Benzene	ug/L	<1
Styrene	ug/L	<1
o Xylene	ug/L	<1
m + p Xylene	ug/L	<3
Xylene	ug/L	<3

cc:

REMARKS: Analysis was performed by GC/MS, EPA Method 624.

DIRECTOR

rm= 32303 NYSDOH ID# 10320 Page 1 of 3

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING
377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (631) 422-5777• FAX (631) 422-5770
Email: ecotestlab@aol.com Website: www.ecotestlabs.com

LAB NO:215694.03 11/12/01

Laurel Environmental Associates, Ltd.
3 Lyn Court
Huntington, NY 11743
ATTN: Scott Yanuck

SOURCE OF SAMPLE: 1101 Linwood Street, Brooklyn, #01.067.1
COLLECTED BY: Client DATE COL'D:10/30/01 RECEIVED:10/31/01

SAMPLE: Water sample, GW-3 14'-16'
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS
Phenol	<1	
2-Chlorophenol	<1	
2-Methylphenol (o-cresol)	<1	
4-Methylphenol (p-cresol)	<1	
2-Nitrophenol	<1	
2,4-Dimethylphenol	<1	
2,4-Dichlorophenol	<1	
4-Chloro-3-methylphenol	<1	
2,4,6-Trichlorophenol	<1	
2,4,5-Trichlorophenol	<1	
2,4-Dinitrophenol	<10	
4-Nitrophenol	<10	
2-Methyl-4,6-dinitrophenol	<10	
Pentachlorophenol	<10	

cc:

REMARKS: Method: EPA 8270

DIRECTOR

rn= 32304 NYSDOH ID# 10320 Page 2 of 3

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING
377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (631) 422-5777• FAX (631) 422-5770
Email: ecotestlab@aol.com Website: www.ecotestlabs.com

LAB NO:215694.03 11/12/01

Laurel Environmental Associates, Ltd.
3 Lyn Court
Huntington, NY 11743
ATTN: Scott Yanuck

SOURCE OF SAMPLE: 1101 Linwood Street, Brooklyn, #01.067.1
COLLECTED BY: Client DATE COL'D:10/30/01 RECEIVED:10/31/01

SAMPLE: Water sample, GW-3 14'-16'
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS	
Bis(2-chloroethyl)ether	<1	2,4-Dinitrotoluene	<1
1,3 Dichlorobenzene(sv)	<1	Diethyl Phthalate	<1
1,4 Dichlorobenzene(sv)	<1	4-Chlorophenyl phenyl ether	<1
Carbazole	<1	Fluorene	<1
1,2 Dichlorobenzene(sv)	<1	4-Nitroaniline	<1
Bis(2-chloroisopropyl)ether	<1	N-Nitrosodiphenylamine	<1
N-Nitrosodi-n-propylamine	<1	4-Bromophenyl phenyl ether	<1
Hexachloroethane	<1	Hexachlorobenzene	<1
Nitrobenzene	<1	Phenanthrene	<1
Isophorone	<1	Anthracene	<1
Bis(2-chloroethoxy)methane	<1	Di-n-Butyl Phthalate	<1
124-Trichlorobenzene	<1	Fluoranthene	1
Naphthalene(sv)	2	Pyrene	1
4-Chloroaniline	<1	BenzylButylPhthalate	<1
Hexachlorobutadiene	<1	3,3'-Dichlorobenzidine	<10
2-Methylnaphthalene	<1	Benzo(a)anthracene	<1
Hexachlorocyclopentadiene	<10	Chrysene	<1
2-Chloronaphthalene	<1	Bis(2-ethylhexyl)phthalate	11
2-Nitroaniline	<1	Di-n-octyl Phthalate	<1
Dimethyl Phthalate	<1	Benzo(b)fluoranthene	<1
Acenaphthylene	<1	Benzo(k)fluoranthene	<1
2,6-Dinitrotoluene	<1	Benzo(a)pyrene	<1
3-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<1
Acenaphthene	<1	Dibenzo(a,h)anthracene	<1
Dibenzofuran	<1	Benzo(ghi)perylene	<1

cc:

REMARKS: Method: EPA 8270

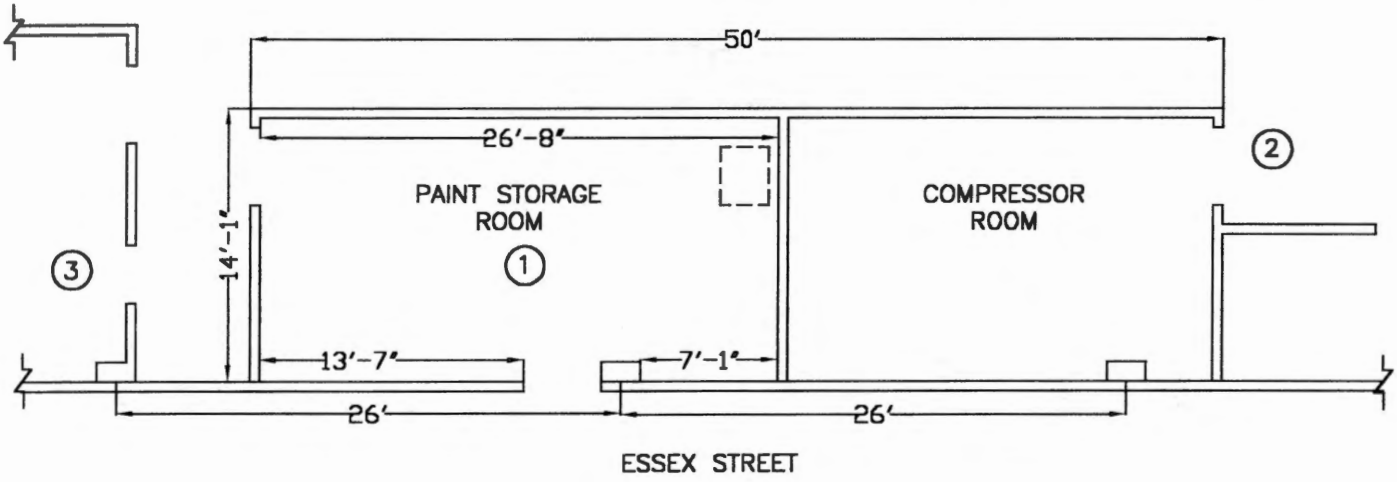
DIRECTOR

rn= 32305 NYSDOH ID# 10320 Page 3 of 3

LSUCHKOVA, SHAPIRO ENGINEERING, P.C. 1/22/02 10:50 AM 01-44 PLOT PLAN.dwg

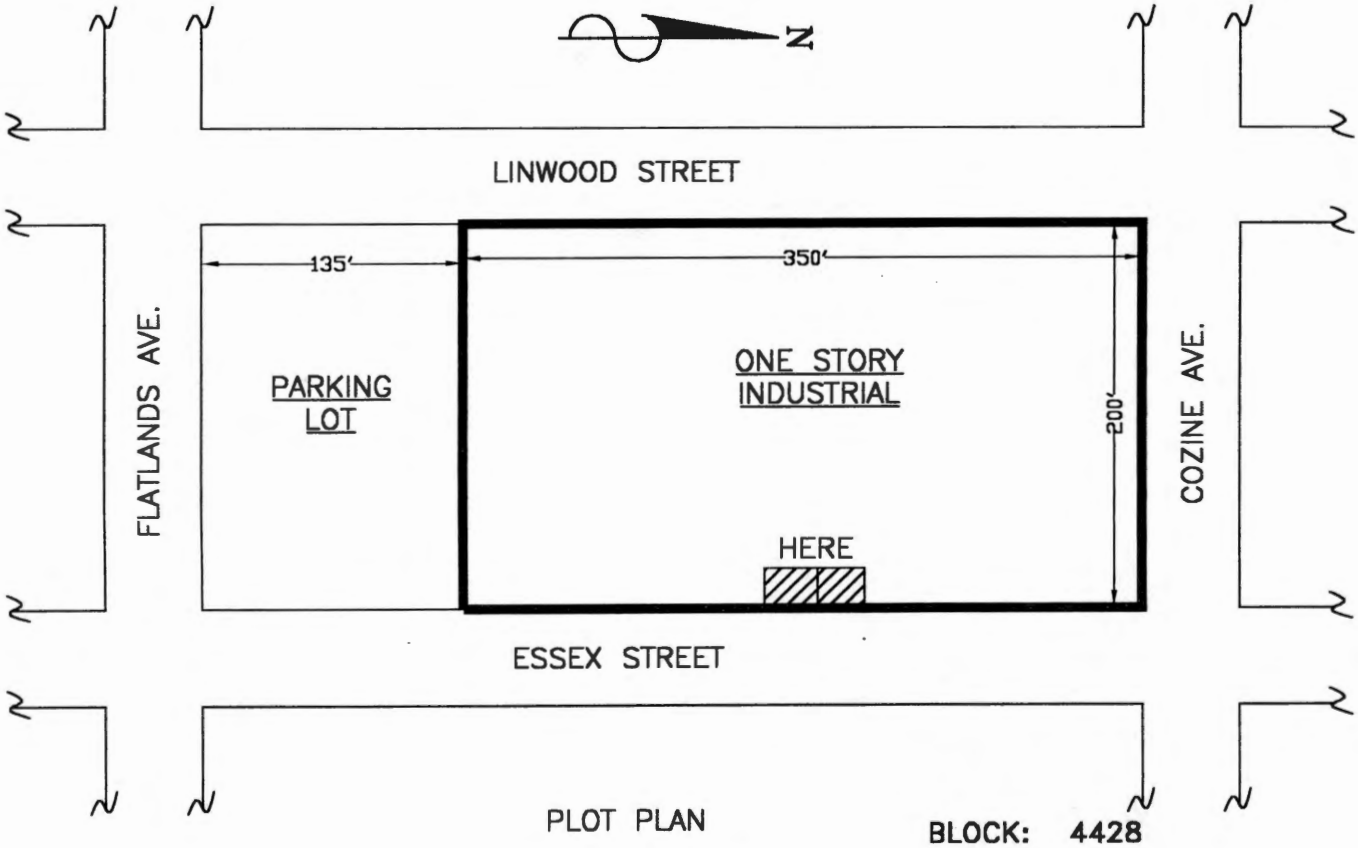
LEGEND:

(#) – SAMPLE LOCATION



PARTIAL FLOOR PLAN

SCALE: 1"=10'-0"



PLOT PLAN

SCALE: 1"=100'

BLOCK: 4428
LOT : 1
ZONING: M1-1

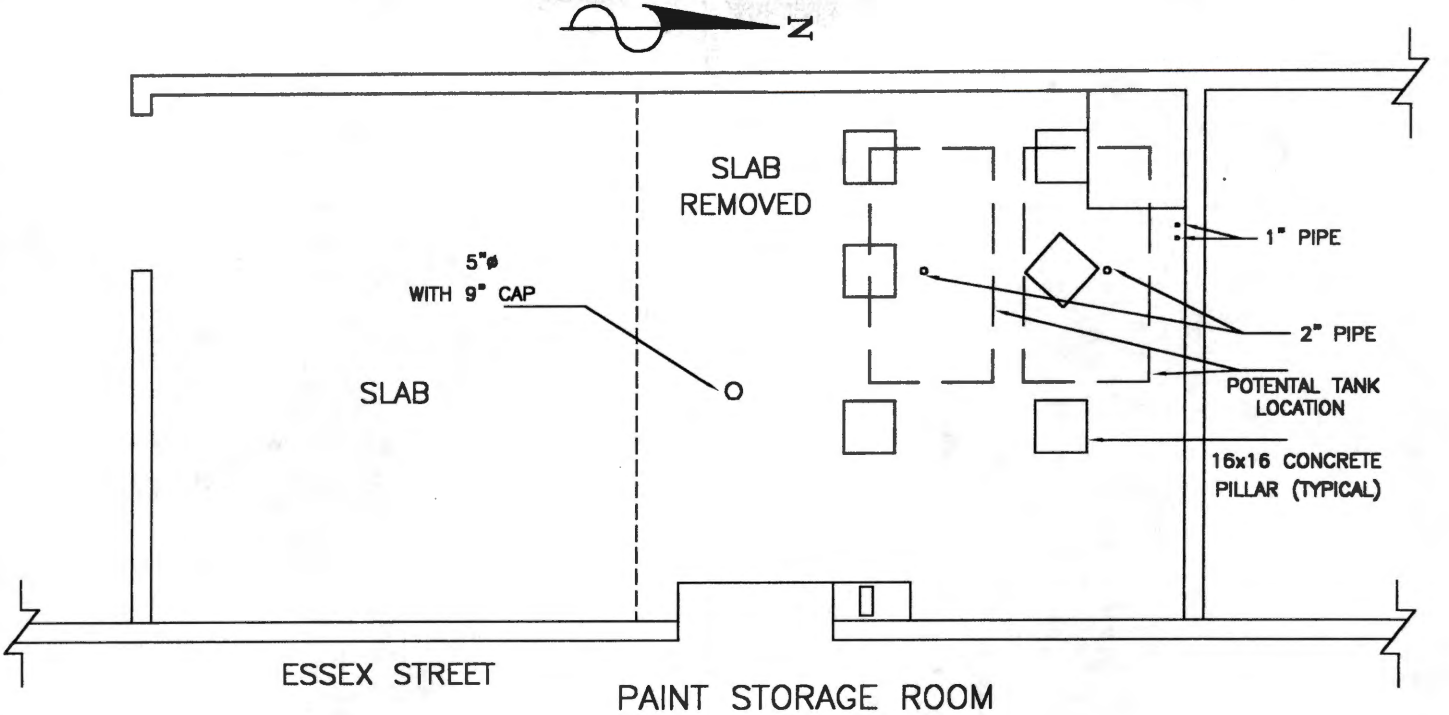
8.5 x 11

Sheet 1 of 2 Sheets	DWG. 01-44 PLOT PLAN	Job: 01-44	Drawn by: AS	Scale: AS NOTED	Date: 1/22/02

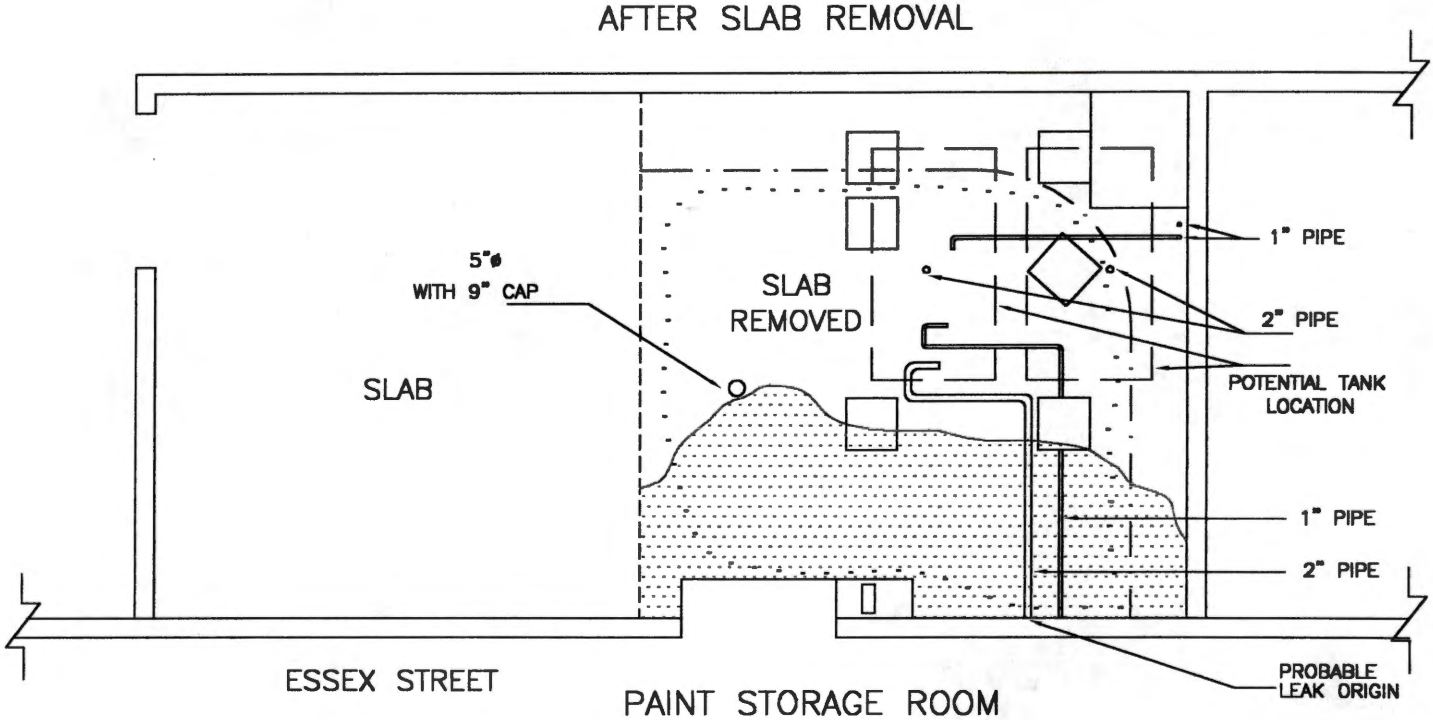
SHAPIRO ENGINEERING, P.C
CONSULTING ENGINEERS
181 South Franklin Avenue, Suite 305, Valley Stream, N.Y. 11581-1101
(516) 791-2300 FAX: (516) 791-0782 e-mail: shapiroengineers@worldnet.att.net

S & S X-RAY PRODUCTS, INC.
1101 LINWOOD STREET
BROOKLYN, NEW YORK 11208

PLOT PLAN



PAINT STORAGE ROOM
AFTER SLAB REMOVAL



PAINT STORAGE ROOM
EXISTING EXCAVATION

8.5 x 11

SCALE: 1" = 5'-0"

BLOCK: 4428
LOT : 1
ZONING: M1-1

LEGEND

- EXCAVATION AT SURFACE
- EXCAVATION AT 7' BELOW GRADE
- POTENTIALLY CONTAMINATED AREA

Sheet 2 of 2 Sheets	Dwg. 01-44TANK ROOM	Job: 01-44	Drawn by: AS	Scale: AS NOTED	Date: 1/22/02	

SHAPIRO ENGINEERING, P.C

CONSULTING ENGINEERS
181 South Franklin Avenue, Suite 305, Valley Stream, N.Y. 11581-1101
(516) 791-2300 FAX: (516) 791-0762 e-mail: shapiroengineers@worldnet.att.net

S & S X-RAY PRODUCTS, INC.
1101 LINWOOD STREET
BROOKLYN, NEW YORK 11208

PAINT STORAGE ROOM & BURIED TANK LOCATION PLAN

1101 LINWOOD STREET
BROOKLYN, NY 11208

PAINT STORAGE ROOM

PAINT STORAGE ROOM

EXCAVATION SHOWING LEAK SOURCE

EXCAVATION BY LEAK SOURCE

1101 LAWOOD STREET
BROOKLYN, NY 11208

EXCAVATION REVEALING PIPES

EXCAVATION TO TOP OF TANKS

BREAKING CONCRETE AROUND TANK

SOUTHERN TANK EXPOSED

1 LINWOOD STREET
BROOKLYN, NY 11208

SOUTHERN TANK BEING REMOVED

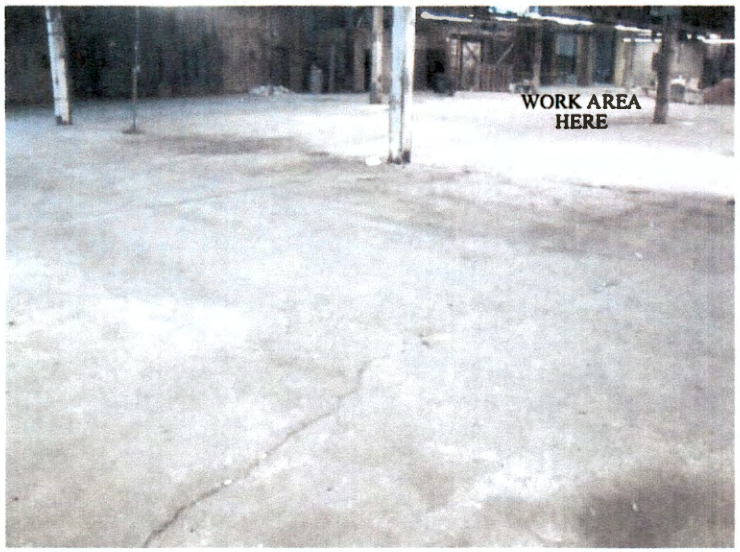
NORTHERN TANK EXPOSED

EXCAVATION WITH TANKS REMOVED

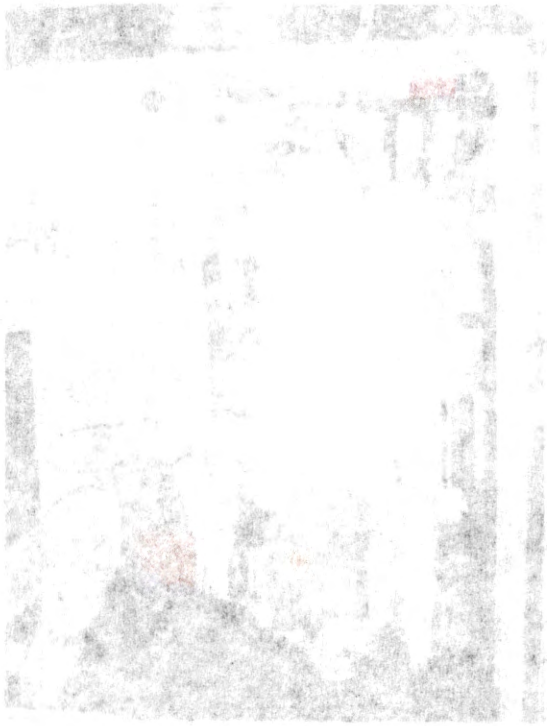
SAMPLING

1101 LINWOOD STREET
BROOKLYN, NY 11208

FIELD ANALYSIS



PARTIAL BUILDING INTERIOR



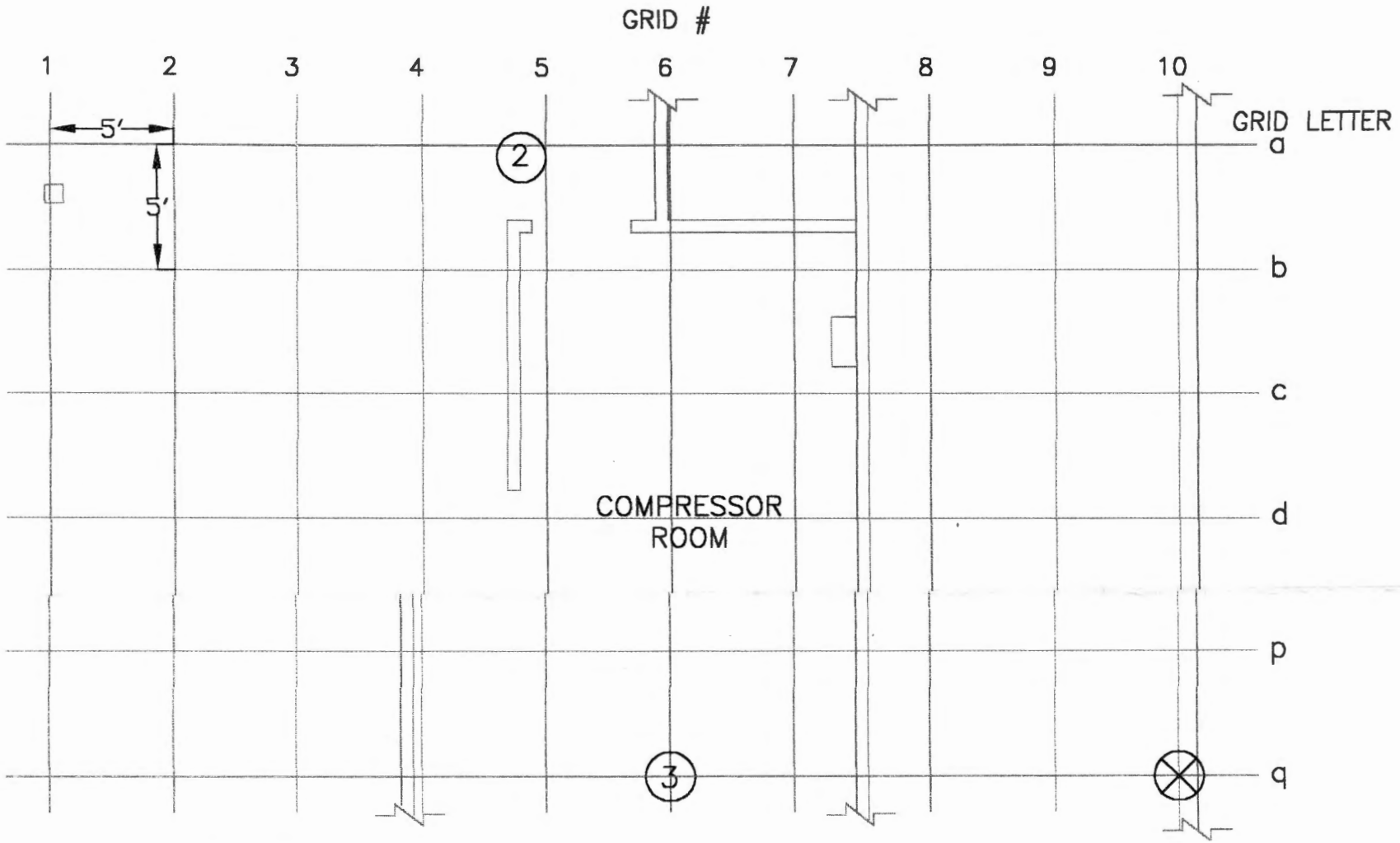
S & S X-RAY PRODUCTS, INC.

COMPARISON OF LABORATORY RESULTS, CONCENTRATIONS IN PPB

			BERNINGER ENVIRONMENTAL					ECOTEST LABORATORIES				
SAMPLE DATE	SAMPLE LOCATION	DEPTH FEET	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENE	METHYL TERT BUTYL ETHER	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENE	METHYL TERT BUTYL ETHER
02/14/2002	GW-10Q	16	ND	ND	ND	ND	ND	<10	<10	<10	<30	<10
02/08/2002	GW-3G	16	ND	44	ND	2	ND	<1	<1	14	120	<1
02/08/2002	GW-3G	26	ND	ND	ND	ND	ND					
02/07/2002	GW-4F	16	ND	ND	37	108	ND	<1	<1	12	68	<1
02/08/2002	GW-4H	16	ND	16	ND	163	ND					
02/08/2002	GW-4H	26	ND	11	ND	ND	10					
02/08/2002	GW-4H	36	ND	ND	ND	ND	17					
02/06/2002	GW-4J	16	ND	ND	286	1227	ND					
02/06/2002	GW-4J	21	ND	ND	21	143	ND					
02/06/2002	GW-4J	36	ND	3	33	232	ND					
02/14/2002	GW-5I	16	ND	440	ND	51300	215	<500	<500	31000	380000	<500
02/14/2002	GW-5I	26	ND	ND	76200	5932	292	<10	<10	190	1400	<10
02/06/2002	GW-5J	16	64	656	ND	354668	ND					
02/06/2002	GW-5J	21	66	394	ND	128892	ND					
02/06/2002	GW-5J	26	45	124	ND	88400	ND					
02/15/2002	GW-5L	16	ND	82	73	8168	2					
02/14/2002	GW-6E	16	ND	14	12	9	ND					
02/15/2002	GW-6F	16	ND	3	9	373	ND	<1	2	13	70	<1
02/06/2002	GW-6J	16	32	322	ND	158894	ND					
02/06/2002	GW-6J	21	140	1433	ND	87600	ND					
02/07/2002	GW-6K	16	42	244	ND	204402	ND					
02/07/2002	GW-6K	26	11	8	49800	2824	ND					
02/07/2002	GW-6K	36	ND	9	39100	4894	ND					
02/06/2002	GW-6L	16	21	85	ND	97900	ND	20	31	8400	48000	<10
02/06/2002	GW-6L	26	2	ND	70	55	ND					
02/06/2002	GW-6L	36	1	15	84	72	ND					
02/15/2002	GW-6M	16	ND	182	153	23900	ND	<200	<200	8000	34000	<200
02/07/2002	GW-7L	16	4	604	ND	179686	ND	<10	310	9200	56000	<10
02/07/2002	GW-7L	26	26	23	181000	40496	ND	24	3	2000	6700	<1
02/07/2002	GW-7L	36	ND	7	25200	3549	ND	<1	2	420	3000	<1
02/07/2002	GW-7L	46	ND	ND	4469	1543	ND	ND	1	190	1300	<1
02/14/2002	GW-7N	46	54	ND	ND	189	ND					
02/08/2002	GW-8F	16	ND	5	ND	ND	ND	<1	<1	7	25	<1
02/15/2002	GW-8G	16	ND	626	ND	35600	292	<200	410	11000	89000	<200
02/15/2002	GW-8G	26	ND	118	442	ND	8					
02/15/2002	GW-8G	36	ND	ND	8636	ND	12					
02/15/2002	GW-8G	46	ND	ND	11800	ND	9					
02/15/2002	GW-9H	16	ND	462	290	42000	ND					
02/11/2002	GW-9J	16	ND	194	ND	358	493	<200	<200	10000	68000	<200
02/11/2002	GW-9J	26	ND	1412	ND	96	31					
02/11/2002	GW-9J	36	ND	1718	ND	47	147					
02/11/2002	GW-9L	16	ND	186	ND	32	603	<200	<200	10000	52000	<200
02/11/2002	GW-9L	26	ND	1317	ND	172	139					
02/11/2002	GW-9L	36	ND	446	ND	4	204					
02/11/2002	GW-9L	46	ND	ND	42	62	103					
02/15/2002	GW-9M	16	ND	ND	192	504	ND	<1	<1	140	10	<1
02/15/2002	GW-9M	26	ND	ND	3425	ND	4					
02/14/2002	SB-10Q	16	ND	7.5	120	90	ND	<1.2	<1.2	<1.2	<3.6	<1.2
02/08/2002	SB-3G	16	ND	ND	ND	ND	ND					
02/08/2002	SB-4H	16	ND	75	ND	ND	ND	<5.5	<5.5	16	82	<5.5
02/06/2002	SB-4J	0-04	ND	ND	1299	ND	ND					
02/06/2002	SB-4J	04-08	ND	975	ND	ND	ND					

COMPARISON OF LABORATORY RESULTS, CONCENTRATIONS IN PPB

			BERNINGER ENVIRONMENTAL					ECOTEST LABORATORIES				
SAMPLE DATE	SAMPLE LOCATION	DEPTH FEET	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENE	METHYL TERT BUTYL ETHER	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENE	METHYL TERT BUTYL ETHER
02/06/2002	SB-4J	08-12	ND	ND	68	62	ND					
02/06/2002	SB-4J	12-16	ND	ND	56	63	ND	<1.1	<1.1	<1.1	<3.3	<1.1
02/14/2002	SB-5I	12	ND	200	368	1584	72					
02/14/2002	SB-5I	16	ND	ND	ND	538500	60	<1200	<1200	270000	1800000	<1200
02/06/2002	SB-5J	0-04	ND	15	ND	ND	ND					
02/06/2002	SB-5J	04-08	ND	ND	ND	ND	ND					
02/06/2002	SB-5J	08-12	ND	39	2951	6207	ND					
02/06/2002	SB-5J	12-16	ND	178	ND	717767	ND					
02/15/2002	SB-5L	12	ND	ND	ND	ND	ND					
02/15/2002	SB-5L	16	ND	ND	35	2278	ND					
02/14/2002	SB-6E	16	ND	ND	1888	ND	28					
02/15/2002	SB-6F	16	ND	ND	43	ND	ND					
02/06/2002	SB-6J	0-04	ND	ND	30	ND	ND					
02/06/2002	SB-6J	04-08	ND	1744	658	ND	4521					
02/06/2002	SB-6J	08-12	ND	284	1815000	228000	ND					
02/07/2002	SB-6K	12	13	483	ND	614790	ND					
02/07/2002	SB-6K	16	ND	13977	ND	686	982					
02/06/2002	SB-6L	0-04	ND	ND	ND	ND	ND					
02/06/2002	SB-6L	04-08	ND	ND	ND	ND	ND					
02/06/2002	SB-6L	08-12	ND	ND	ND	ND	ND					
02/06/2002	SB-6L	12-15	ND	ND	63	326	ND					
02/06/2002	SB-6L	15-16	ND	ND	147	723	ND					
02/15/2002	SB-6M	16	ND	ND	ND	938	ND					
02/08/2002	SB-6N	06	ND	ND	600	ND	ND					
02/06/2002	SB-7J	0-04	ND	ND	ND	ND	ND					
02/06/2002	SB-7K	0-04	ND	ND	277	2700	ND					
02/06/2002	SB-7K	04-05	ND	112	285040	42644	ND					
02/07/2002	SB-7L	12	ND	5.8	15874	10973	ND	<1100	<1100	13000	110000	<1100
02/07/2002	SB-7L	16	ND	5607	ND	1281	356	<1300	<1300	100000	388000	<1300
02/07/2002	SB-7L	07	ND	ND	187	683	ND					
02/08/2002	SB-8F	16	ND	19948	ND	2160	ND	<590	<590	75000	780000	<590
02/15/2002	SB-8G	12	ND	ND	1225	ND	ND					
02/15/2002	SB-8G	16	ND	ND	211200	80856	ND					
02/15/2002	SB-8G	04	ND	ND	1157	14	14					
02/15/2002	SB-8G	05	ND	ND	1717	ND	ND					
02/08/2002	SB-8J	04	ND	ND	253920	48210	ND					
02/15/2002	SB-9H	12	ND	ND	15463	ND	ND					
02/15/2002	SB-9H	16	ND	4465	111120	157567	75					
02/15/2002	SB-9H	02	ND	ND	ND	ND	ND					
02/11/2002	SB-9J	8	ND	ND	83	ND	ND					
02/11/2002	SB-9J	12	ND	ND	841	ND	75					
02/11/2002	SB-9J	16	ND	19958	ND	1072	2463	<1.2	<1.2	2.3	7	<1.2
02/11/2002	SB-9J	04	ND	ND	268	153	9.6					
02/11/2002	SB-9L	13	ND	ND	ND	1614	1981	<2.2	<2.2	<2.2	<6.5	<2.2
02/11/2002	SB-9L	16	ND	36176	ND	1040	6576	<130	<130	1100	6000	<130
02/11/2002	SB-9L	03	ND	ND	ND	ND	ND					
02/15/2002	SB-9M	16	ND	45	885	ND	ND	<1.3	<1.3	<1.3	<3.8	<1.3
02/15/2002	SB-9M	03	ND	270	892	1177	30					
02/15/2002	SB-9N	04	ND	ND	9547	ND	ND					
02/08/2002	UST #1		ND	659000	ND	ND	1737000	<2500	180000	<2500	<7500	<2500
02/13/2002	UST #2							<2500	200000	<2500	<7500	<2500
02/13/2002	UST #3							<2500	200000	<2500	<7500	<2500



LEGEND:

(#) – SAMPLE LOCATION (OCTOBER)
⊗ – SAMPLING LOCATION (FEBRUARY)
(R) – SAMPLING REFUSED

SCALE: 5/32"= 1'–0"

A-32

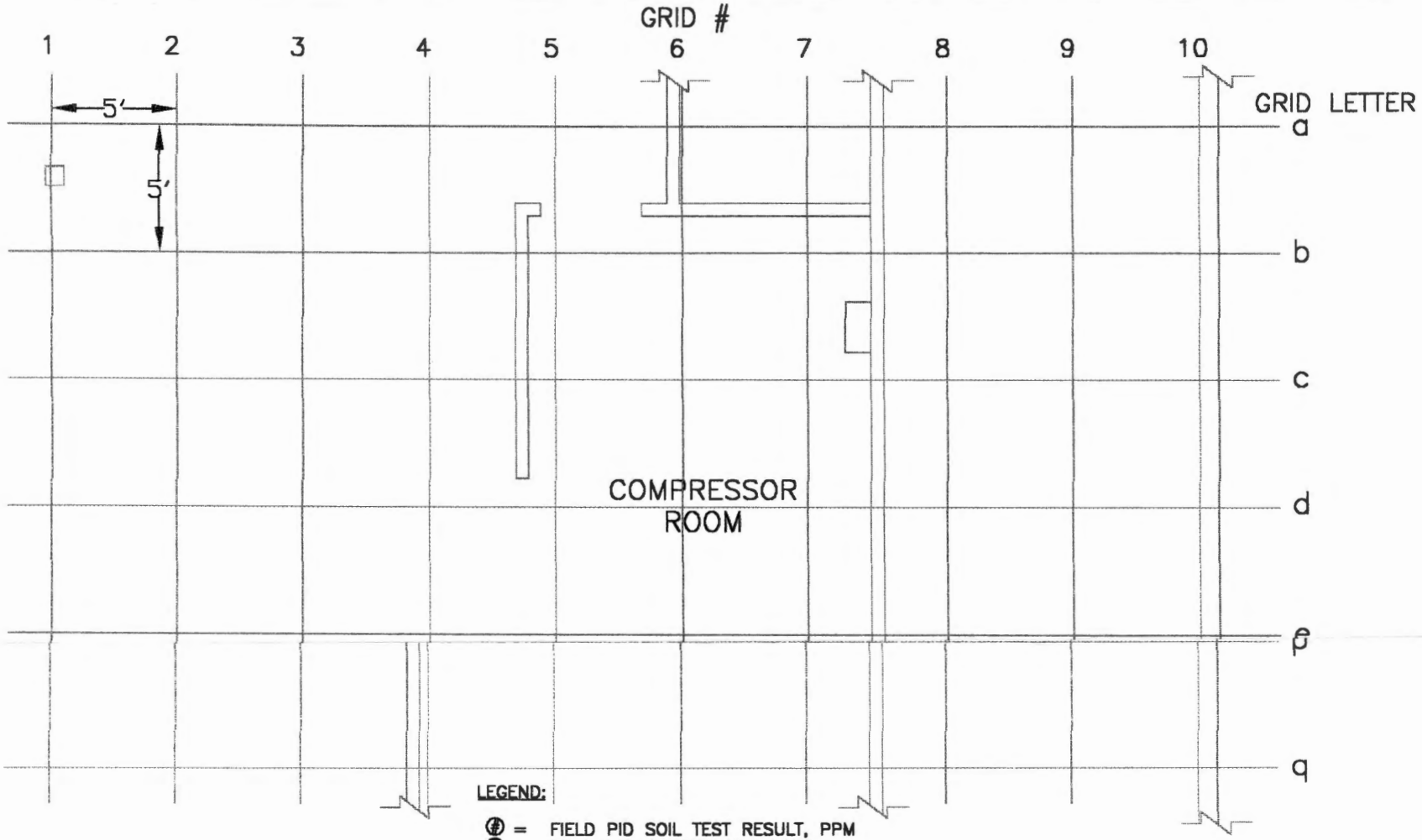
Sheet 1 of 1 Sheets	
Dwg: 01-44SAMPLING PLAN	
Job: 01-44	
Drawn by: JS	
Scale: AS NOTED	
Date: 10/21/02	

SHAPIRO ENGINEERING, P.C.

CONSULTING ENGINEERS
181 South Franklin Avenue, Suite 305, Valley Stream, N.Y. 11581–1101
(516) 791–2300 FAX: (516) 791–0782 e–mail: shapiroengineers@worldnet.att.net

S&S X-RAY PRODUCTS, INC.
1101 LINWOOD STREET
BROOKLYN, NY 11208

SAMPLING LOCATION PLAN



LEGEND:

- ⓟ = FIELD PID SOIL TEST RESULT, PPM
- ● = FIELD LAB SCREENING RESULT
- FIELD= FIELD LAB RESULT
- EB = ETHYL BENZENE, PPB
- T = TOLUENE, PPB
- XYL= XYLENE, PPB
- B = BENZENE, PPB
- MTBE= METHYL TERT BUTYL ETHER, PPB
- ND = NONE DETECTED

SCALE: 5/32"= 1'-0"

LSUCHKOVA, SHAPIRO ENGINEERING, P.C. 10/21/02 4:28 PM 01-44 SAMPLING 11X17

A-33

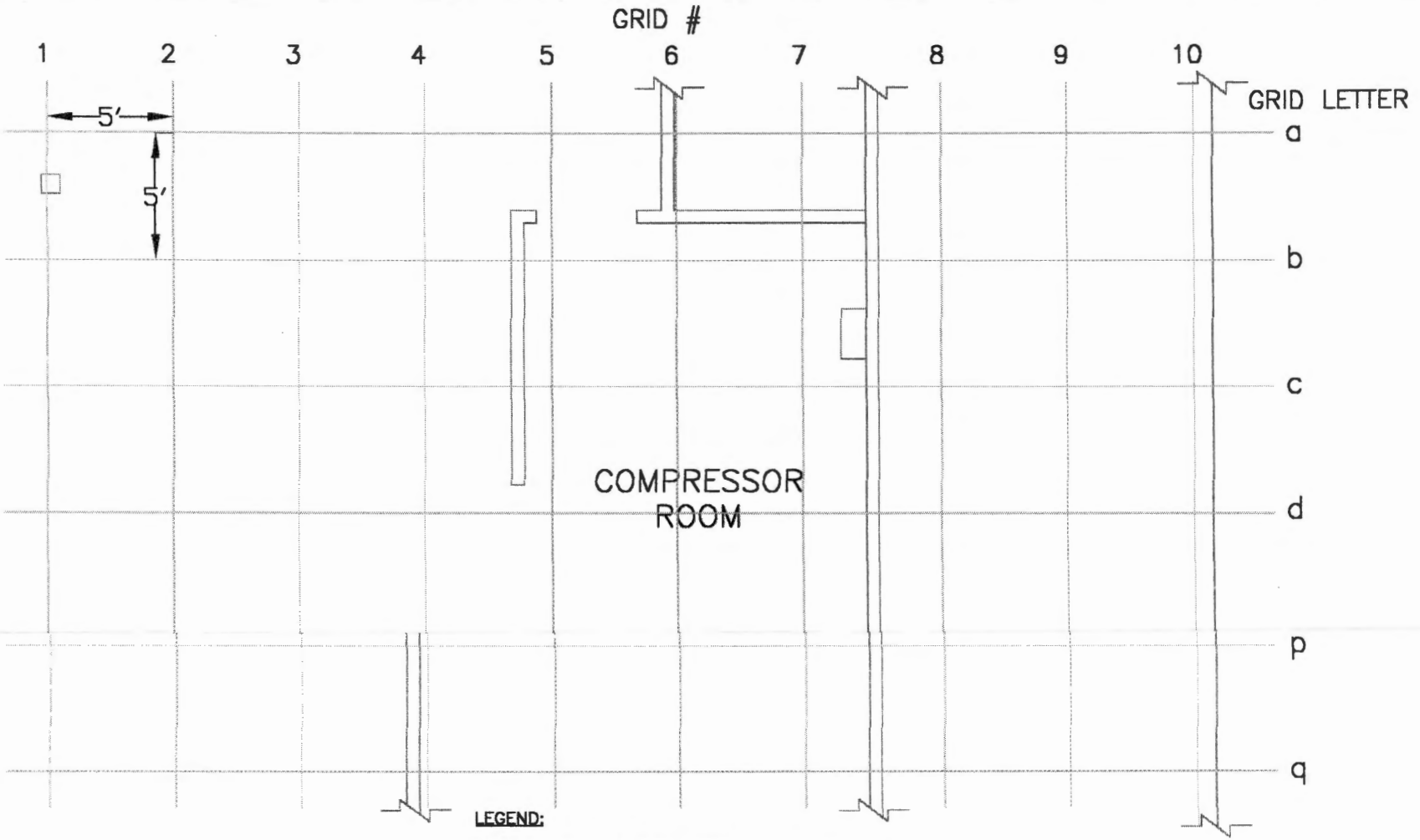
Sheet 1 of 1 Sheets | Dwg: 01-44SAMPLING-SB4 | Job: 01-44 | Drawn by: JS | Scale: AS NOTED | Date: 10/21/02

SHAPIRO ENGINEERING, P.C.

CONSULTING ENGINEERS
181 South Franklin Avenue, Suite 305, Valley Stream, N.Y. 11581-1101
(516) 791-2300 FAX: (516) 791-0782 e-mail: shapiroengineers@worldnet.att.net

S&S X-RAY PRODUCTS, INC.
1101 LINWOOD STREET
BROOKLYN, NY 11208

SAMPLING RESULTS
PLAN
SB-3.5 TO -4 FEET



LEGEND:

Ⓟ = FIELD PID SOIL TEST RESULT, PPM
● = FIELD LAB SCREENING RESULT
FIELD= FIELD LAB RESULT
EB = ETHYL BENZENE, PPB
T = TOLUENE, PPB
XYL= XYLENE, PPB
B = BENZENE, PPB
MTBE= METHYL TERT BUTYL ETHER, PPB
ND = NONE DETECTED

SCALE: 5/32"= 1'-0"

LSUCHKOVA, SHAPIRO ENGINEERING, P.C. 10/21/02 4:33 PM 01-44 SAMPLIN

11X17

A-34

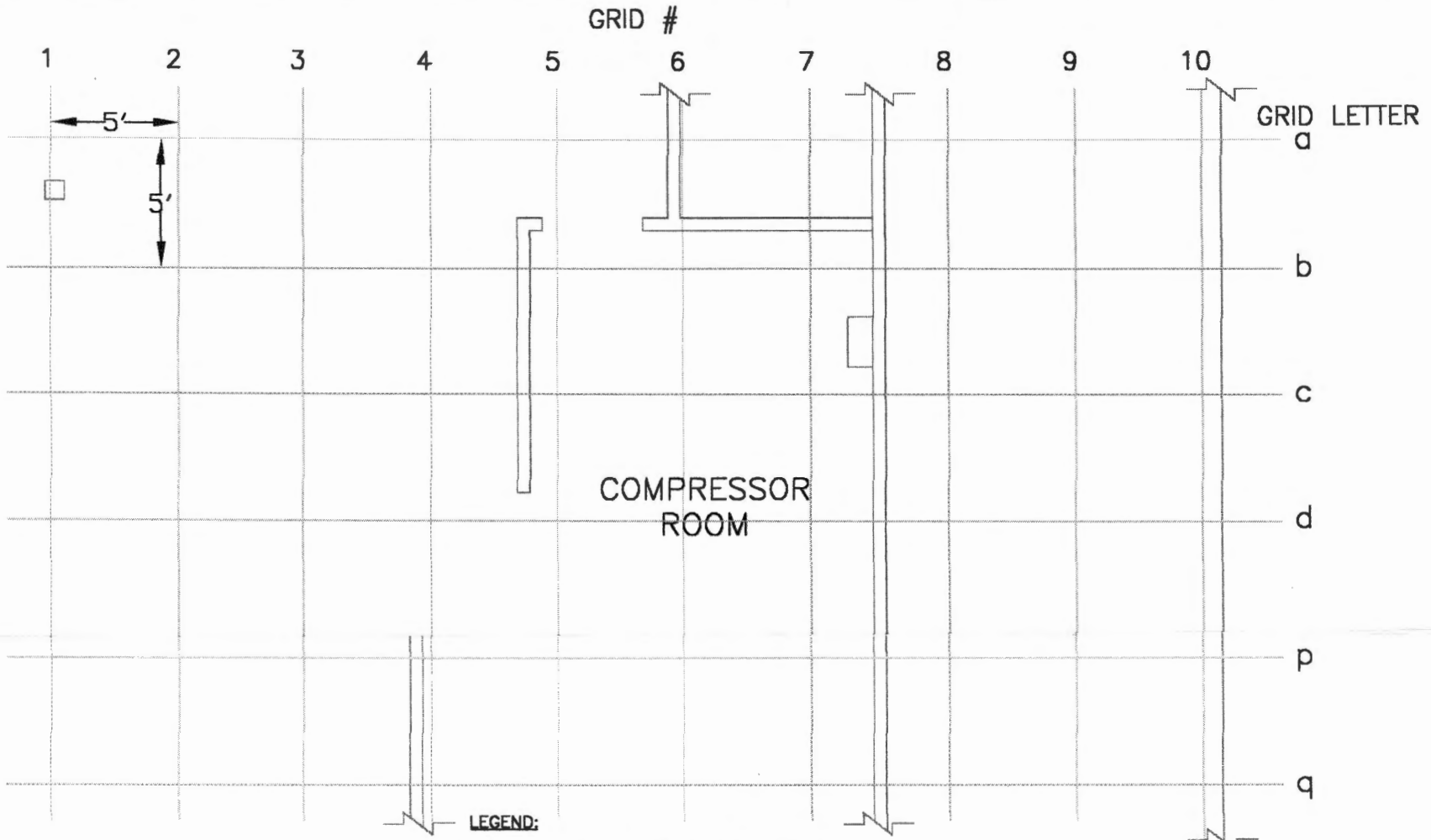
Sheet 1 of 1 Sheets	
Dwg: 01-44 SAMPLING-SB6	
Job: 01-44	
Drawn by: AS	
Scale: AS NOTED	
Date: 10/21/10	

SHAPIRO ENGINEERING, P.C.

CONSULTING ENGINEERS
181 South Franklin Avenue, Suite 305, Valley Stream, N.Y. 11581-1101
(516) 791-2300 FAX: (516) 791-0782 e-mail: shapiroengineers@worldnet.att.net

S&S X-RAY PRODUCTS, INC.
1101 LINWOOD STREET
BROOKLYN, NY 11208

SAMPLING RESULTS
PLAN
SB-5 TO -6 FEET



LEGEND:

⊕ = FIELD PID SOIL TEST RESULT, PPM
● = FIELD LAB SCREENING RESULT
FIELD= FIELD LAB RESULT
EB = ETHYL BENZENE, PPB
T = TOLUENE, PPB
XYL= XYLENE, PPB
B = BENZENE, PPB
MTBE= METHYL TERT BUTYL ETHER, PPB
ND = NONE DETECTED

SCALE: 5/32"= 1'-0"

LSUCHKOVA, SHAPIRO ENGINEERING, P.C. 10/21/02 4:37 PM 01-44 SAMPLING 11X17

A-35

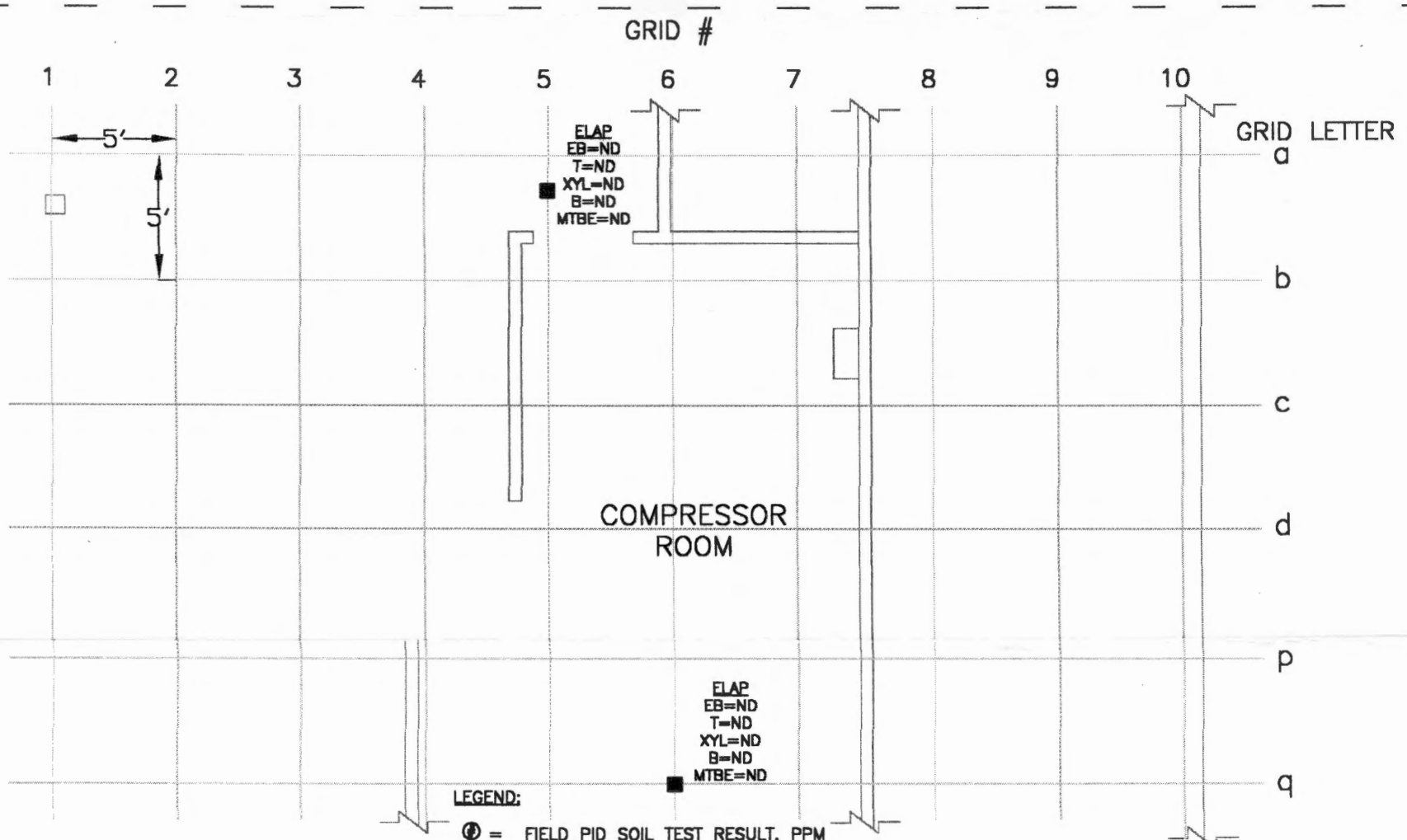
Sheet 1 of 1 Sheets	
Dwg: 01-44SAMPLING-SB9	
Job: 01-44	
Drawn by: JS	
Scale: AS NOTED	
Date: 10/21/02	

SHAPIRO ENGINEERING, P.C.

CONSULTING ENGINEERS
181 South Franklin Avenue, Suite 305, Valley Stream, N.Y. 11581-1101
(516) 791-2300 FAX: (516) 791-0782 e-mail: shapiroengineers@worldnet.att.net

S&S X-RAY PRODUCTS, INC.
1101 LINWOOD STREET
BROOKLYN, NY 11208

SAMPLING RESULTS
PLAN
SB -7 TO -9 FEET



SCALE: 5/32"= 1'-0"

LSUCHKOVA, SHAPIRO ENGINEERING, P.C. 10/21/02 4:05 PM 01-44 SAMPLING 11X17

A-36

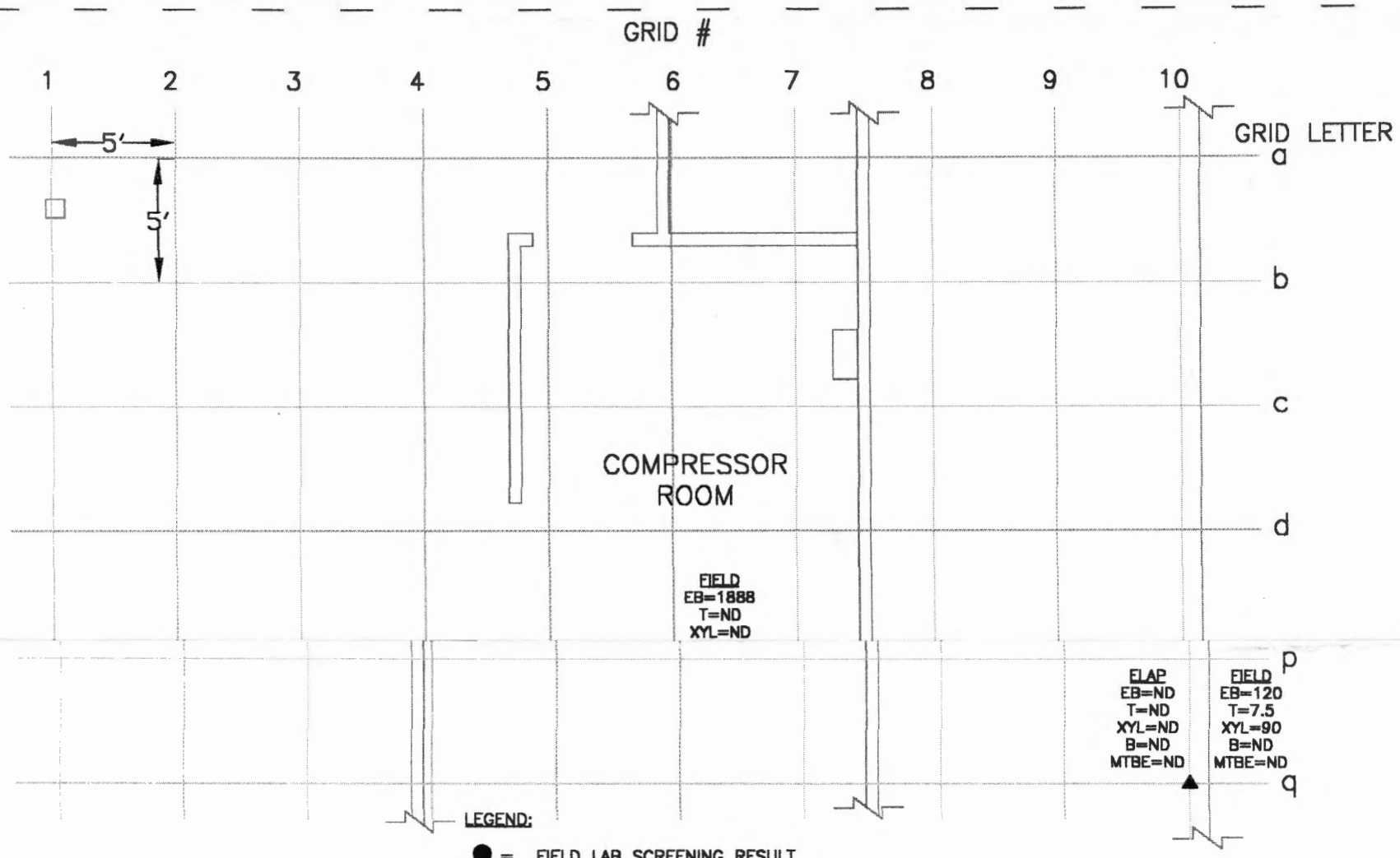
Date:	10/21/02
Scale:	AS NOTED
Drawn by:	AS
Job:	01-44
Dwg:	01-44SAMPLING-SB13
Sheet	1 of 1 Sheets

SHAPIRO ENGINEERING, P.C.

CONSULTING ENGINEERS
181 South Franklin Avenue, Suite 305, Valley Stream, N.Y. 11581-1101
(516) 791-2300 FAX: (516) 791-0782 e-mail: shapiroengineers@worldnet.att.net

S&S X-RAY PRODUCTS, INC.
1101 LINWOOD STREET
BROOKLYN, NY 11208

SAMPLING RESULTS
PLAN
SB -11.5 TO -13 FEET



LEGEND:

● = FIELD LAB SCREENING RESULT
▲ = FIELD & ELAP LAB RESULT
FIELD= FIELD LAB RESULT
ELAP= ELAP LAB RESULTS
EB = ETHYL BENZENE, PPB
T = TOLUENE, PPB
XYL= XYLENE, PPB
B = BENZENE, PPB
MTBE= METHYL TERT BUTYL ETHER, PPB
ND = NONE DETECTED

SCALE: 5/32"= 1'-0"

LSUCHKOVA, SHAPIRO ENGINEERING, P.C. 10/21/02 4:1 PM 01-44 SAMPLIN

A-37

11X17

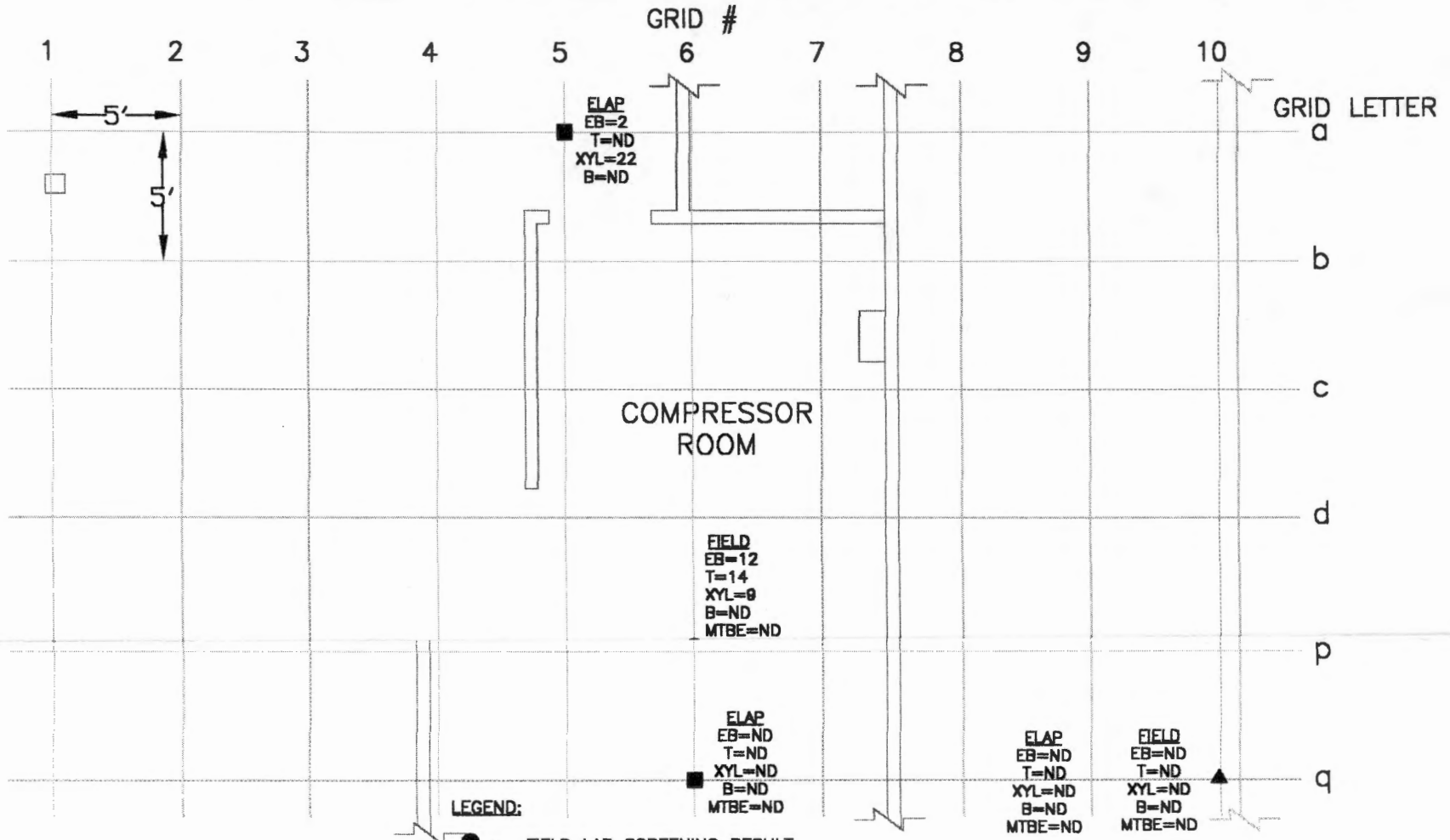
SHAPIRO ENGINEERING, P.C.

CONSULTING ENGINEERS
181 South Franklin Avenue, Suite 305, Valley Stream, N.Y. 11581-1101
(516) 791-2300 FAX: (516) 791-0782 e-mail: shapiroengineers@worldnet.att.net

S&S X-RAY PRODUCTS, INC.
1101 LINWOOD STREET
BROOKLYN, NY 11208

SAMPLING RESULTS
PLAN
SB -12 TO -16 FEET

Date: 10/21/02
Scale: AS NOTED
Drawn by: JS
Job: 01-44
Dwg: 01-44SAMPLING-SB16
Sheet 1 of 1 Sheets



LEGEND:

● = FIELD LAB SCREENING RESULT
▲ = FIELD & ELAP LAB RESULT
■ = ELAP LAB RESULTS
FIELD= FIELD LAB RESULT
ELAP= ELAP LAB RESULTS
EB = ETHYL BENZENE, PPB
T = TOLUENE, PPB
XYL= XYLENE, PPB
B = BENZENE, PPB
MTBE= METHYL TERT BUTYL ETHER, PPB
ND = NONE DETECTED

SCALE: 5/32"= 1'-0"

LSUCHKOVA, SHAPIRO ENGINEERING, P.C. 10/21/02 4:43 PM 01-44 SAMPLING

A-38

11X17

Sheet 1 of 1 Sheets

Dwg: 01-44SAMPLING-GW16

Job: 01-44

Drawn by: AS

Scale: AS NOTED

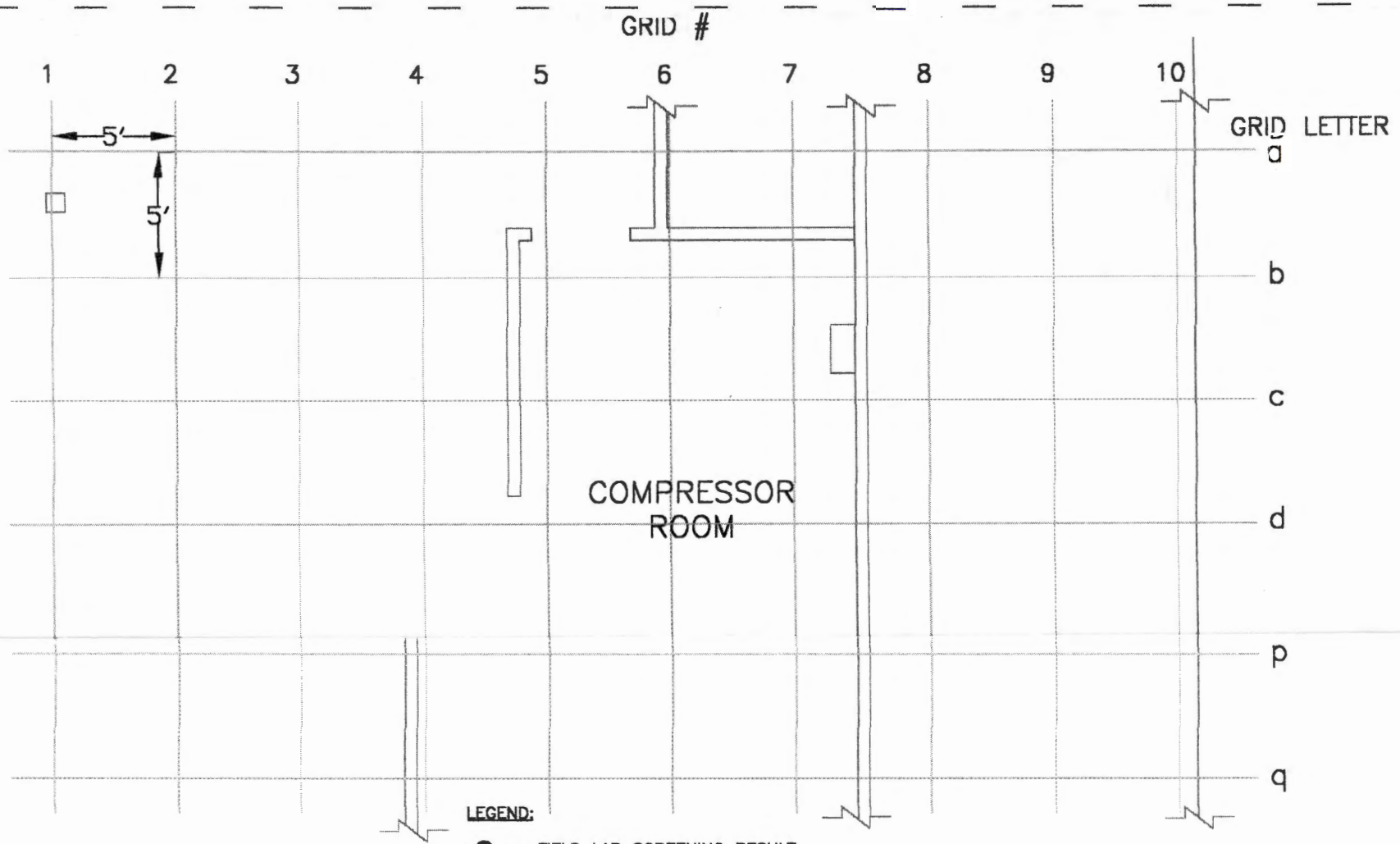
Date: 10/21/02

SHAPIRO ENGINEERING, P.C.

CONSULTING ENGINEERS
181 South Franklin Avenue, Suite 305, Valley Stream, N.Y. 11581-1101
(516) 791-2300 FAX: (516) 791-0782 e-mail: shapiroengineers@worldnet.att.net

S&S X-RAY PRODUCTS, INC.
1101 LINWOOD STREET
BROOKLYN, NY 11208

SAMPLING RESULTS
PLAN
GW -16 FEET



LEGEND:

● = FIELD LAB SCREENING RESULT
FIELD= FIELD LAB RESULT
EB = ETHYL BENZENE, PPB
T = TOLUENE, PPB
XYL= XYLENE, PPB
B = BENZENE, PPB
MTBE= METHYL TERT BUTYL ETHER, PPB
ND = NONE DETECTED

SCALE: 5/32"= 1'-0"

LSUCHKOVA, SHAPIRO ENGINEERING, P.C. 10/21/02 4:47 PM 01-44 SAMPLING

11X17

A-39

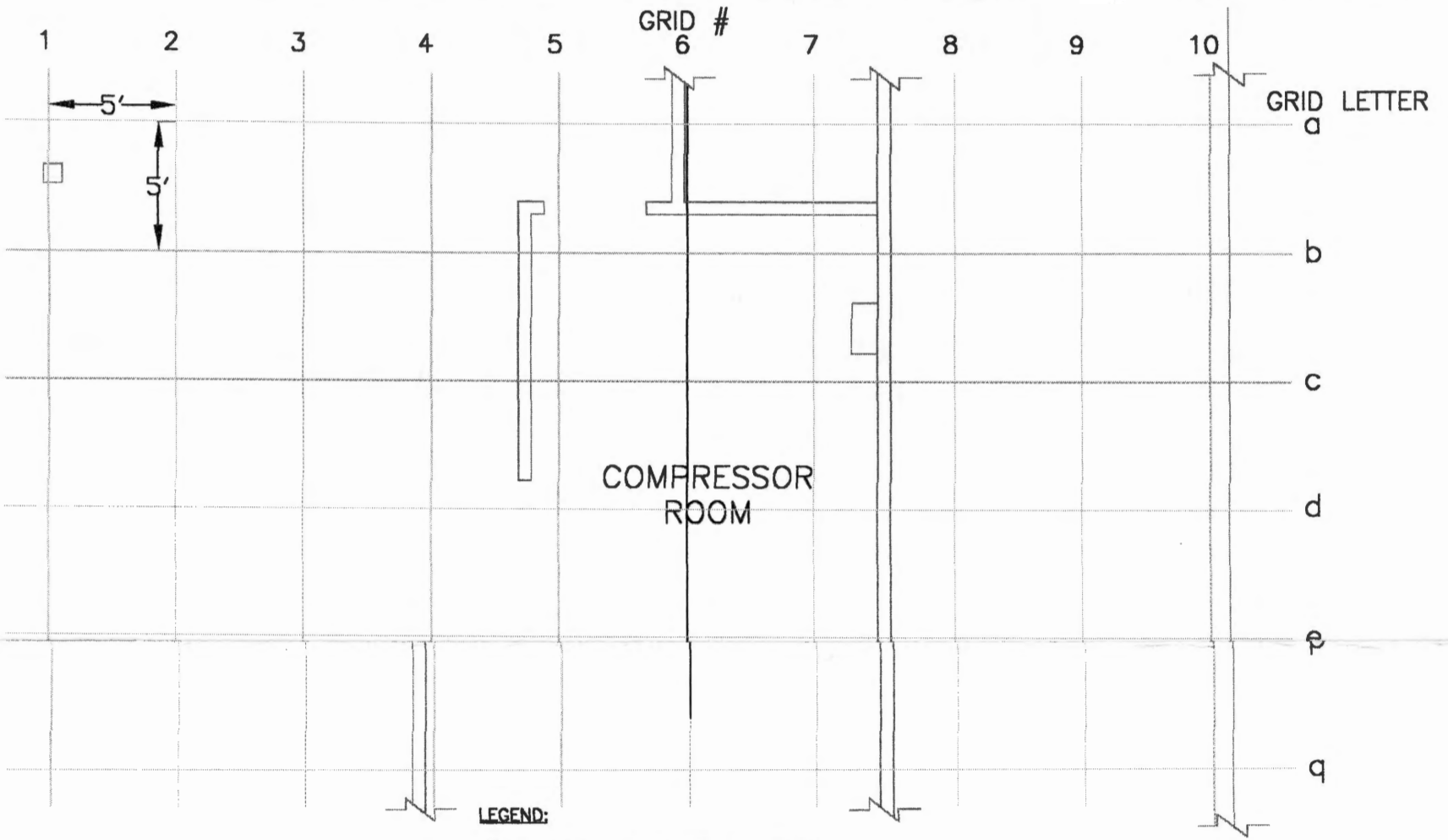
SHAPIRO ENGINEERING, P.C.

CONSULTING ENGINEERS
181 South Franklin Avenue, Suite 305, Valley Stream, N.Y. 11581-1101
(516) 791-2300 FAX: (516) 791-0782 e-mail: shapiroengineers@worldnet.att.net

S&S X-RAY PRODUCTS, INC.
1101 LINWOOD STREET
BROOKLYN, NY 11208

SAMPLING RESULTS
PLAN
GW -21 FEET

Date: 10/21/02
Scale: AS NOTED
Drawn by: AA
Job: 01-44
Dwg: 01-44SAMPLING-GW21
Sheet 1 of 1 Sheets



LEGEND:

● = FIELD LAB SCREENING RESULT
▲ = FIELD & ELAP LAB RESULT
■ = ELAP LAB RESULTS
FIELD= FIELD LAB RESULT
ELAP= ELAP LAB RESULTS
EB = ETHYL BENZENE, PPB
T = TOLUENE, PPB
XYL= XYLENE, PPB
B = BENZENE, PPB
MTBE= METHYL TERT BUTYL ETHER, PPB
ND = NONE DETECTED

SCALE: 5/32"= 1'-0"

LSUCHKOVA, SHAPIRO ENGINEERING, P.C. 10/21/02 4:49 PM 01-44 SAMPLING

A-40

11X17

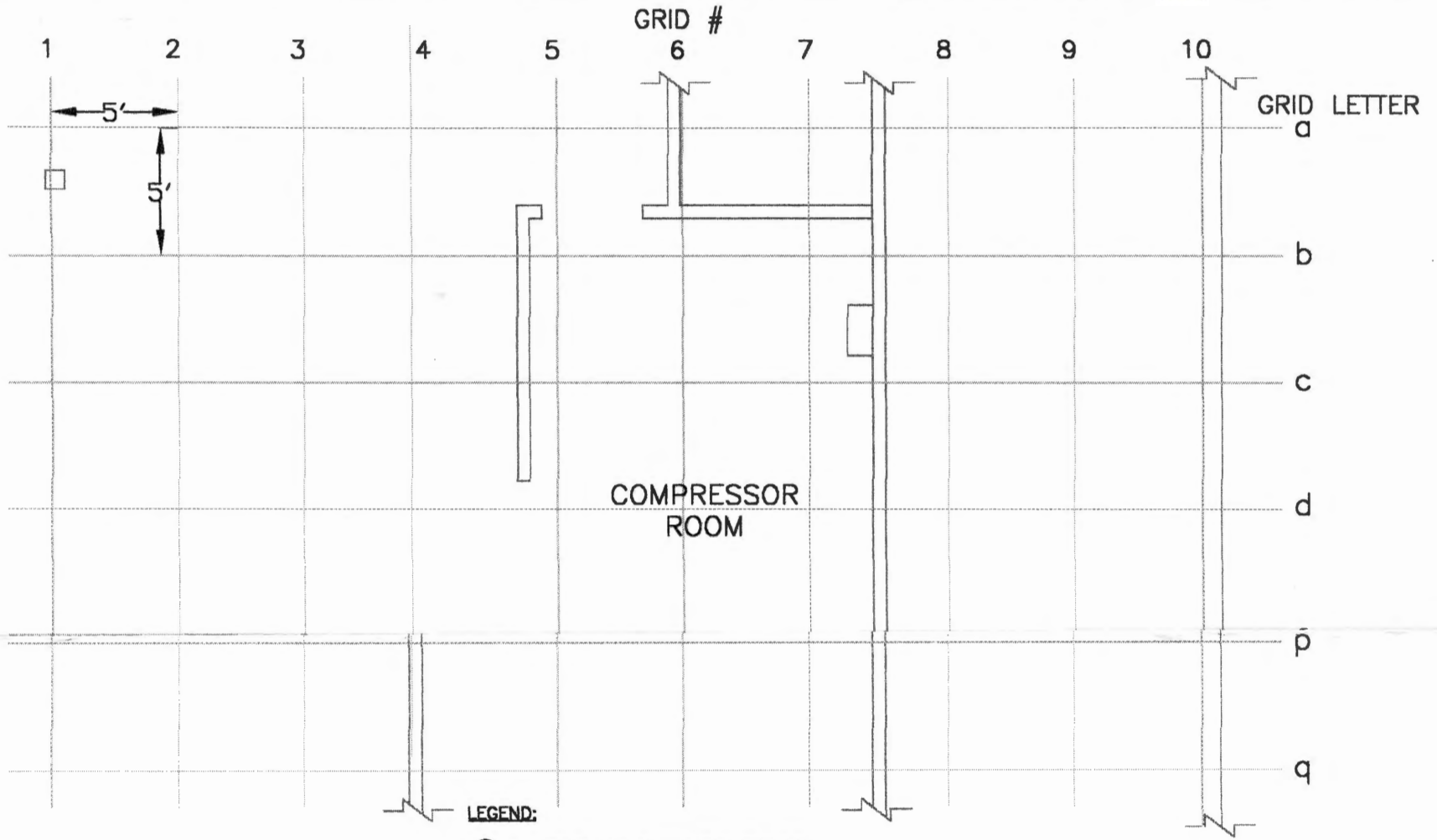
SHAPIRO ENGINEERING, P.C.

CONSULTING ENGINEERS
181 South Franklin Avenue, Suite 305, Valley Stream, N.Y. 11581-1101
(516) 791-2300 FAX: (516) 791-0782 e-mail: shapiroengineers@worldnet.att.net

S&S X-RAY PRODUCTS, INC.
1101 LINWOOD STREET
BROOKLYN, NY 11208

SAMPLING RESULTS
PLAN
GW -26 FEET

Date: 10/21/02
Scale: AS NOTED
Drawn by: JS
Job: 01-44
Dwg: 01-44SAMPLING-GW26
Sheet 1 of 1 Sheets



LEGEND:

● = FIELD LAB SCREENING RESULT
▲ = FIELD & ELAP LAB RESULT
FIELD= FIELD LAB RESULT
ELAP= ELAP LAB RESULTS
EB = ETHYL BENZENE, PPB
T = TOLUENE, PPB
XYL= XYLENE, PPB
B = BENZENE, PPB
MTBE= METHYL TERT BUTYL ETHER, PPB
ND = NONE DETECTED

SCALE: 5/32"= 1'-0"

LSUCHKOVA, SHAPIRO ENGINEERING, P.C. 10/21/02 4:58 PM 01-44 SAMPLING 11X17

A-41

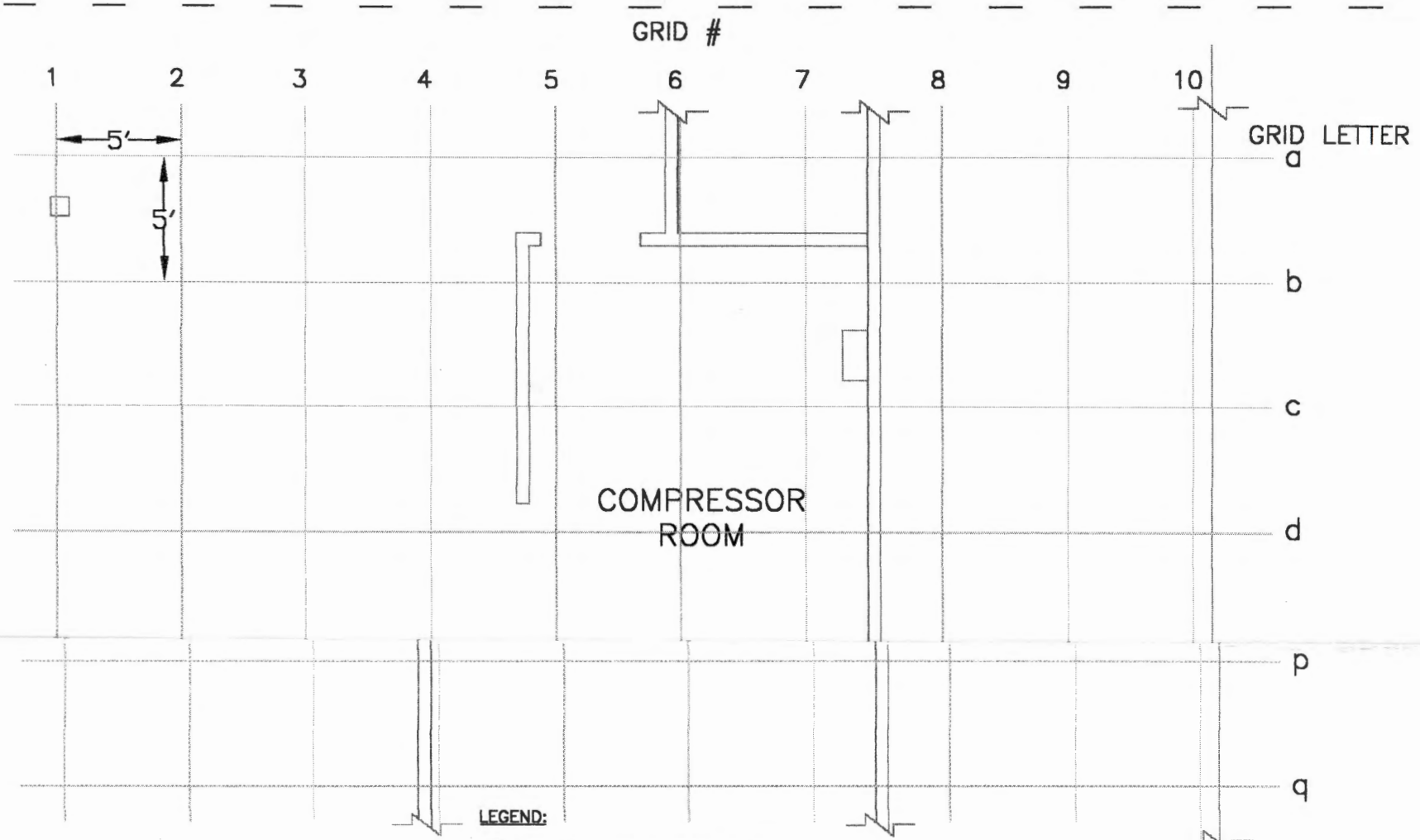
Sheet 1 of 1 Sheets | Dwg: 01-44SAMPLING-GW38 | Job: 01-44 | Drawn by: JS | Scale: AS NOTED | Date: 10/21/02

SHAPIRO ENGINEERING, P.C.

CONSULTING ENGINEERS
181 South Franklin Avenue, Suite 305, Valley Stream, N.Y. 11581-1101
(516) 791-2300 FAX: (516) 791-0782 e-mail: shapiroengineers@worldnet.att.net

S&S X-RAY PRODUCTS, INC.
1101 LINWOOD STREET
BROOKLYN, NY 11208

SAMPLING RESULTS
PLAN
GW -38 FEET



LEGEND:

● = FIELD LAB SCREENING RESULT
▲ = FIELD & ELAP LAB RESULT
FIELD= FIELD LAB RESULT
ELAP= ELAP LAB RESULTS
EB = ETHYL BENZENE, PPB
T = TOLUENE, PPB
XYL= XYLENE, PPB
B = BENZENE, PPB
MTBE= METHYL TERT BUTYL ETHER, PPB
ND = NONE DETECTED

SCALE: 5/32"= 1'-0"

LSuchkova, SHAPIRO ENGINEERING, P.C. 3/12/03 12:02 PM 01-44 SAMPLIN

11X17

A - 42

Date:	3/12/03
Scale:	AS NOTED
Drawn by:	AS
Job:	01-44
Dwg:	01-44SAMPLING-GW46
Sheet	1 of 1 Sheets

SHAPIRO ENGINEERING, P.C.

CONSULTING ENGINEERS
181 South Franklin Avenue, Suite 305, Valley Stream, N.Y. 11581-1101
(516) 791-2300 FAX: (516) 791-0782 e-mail: shapiroengineers@worldnet.att.net

S&S X-RAY PRODUCTS, INC.
1101 LINWOOD STREET
BROOKLYN, NY 11208

SAMPLING RESULTS
PLAN
GW -46 FEET

1101 LINWOOD STREET
BROOKLYN, NEW YORK 11208

APPENDIX "B"

HEALTH & SAFETY PLAN (HASP)

TABLE OF CONTENTS

13. STANDARD OPERATING SAFETY PROCEDURES, ENGINEERING CONTROLS AND WORK PRACTICES

    13.1 Informational Program
    13.2 Hazard Control
    13.3 Operating Procedures
    13.4 Severe Weather Plan

14. SITE CONTROL MEASURES

    14.1 Communication Procedures
    14.2 Hazard Communication

15. DECONTAMINATION

    15.1 Personnel Decontamination Procedures

16. LOGS, REPORTS AND RECORD KEEPING

17. RECORD OF HASP REVIEW

18. CONFINED SPACE ENTRY PROCEDURES

19. SPILL CONTAINMENT PROGRAM

20. COMMUNITY AIR MONITORING PLAN

    MAP OF ROUTE TO NEAREST HOSPITAL

    ATTACHMENT - 1 COMMUNITY AIR MONITORING PLAN

1. PROJECT DESCRIPTION

This Site-Specific Health and Safety Plan (HASP) covers major issues associated with the interim remedial measures work to be performed for S&S X-Ray Products Inc. on the property at 1101 Linwood Street, Brooklyn, New York 11208.

The project involves reducing the level of contaminants on site, to an acceptable level to protect human health and safety. All companies and personnel present on the job site are responsible for implementing and incorporating this HASP and standard work practices into work activities for this project.

The HASP at hand follows OSHA 29CFR1910.120(b)(4) Guidelines. This Plan is designed to address Safety and Health Hazards, and includes the requirements and procedures for employee protection, and thus is OSHA compliant. A Community Air Monitoring Plan (CAMP) is included herein, as Section 20 of the HASP.

2. SCOPE OF WORK

The objective of the entire project is to reduce the level of contaminants to an acceptable level to protect human health and safety.

The project will entail the following Interim Remedial Measure Actions:

1. Five Soil Gas Sampling Wells will be installed, and Soil Gas will be collected and analyzed at three different depths at each location.
2. Four wells will be installed in the contaminated groundwater plume and used to pump out contaminated groundwater.
3. Two sets of wells will be installed, one upgradient and one downgradient of the plume for monitoring purposes.
4. Groundwater samples will be collected prior to start of pumping from all wells.
5. Thickness of free products will be measured at each well before and during pumping.
6. Each location will be pumped in succession until recharge is needed, continuing from well to well until the measured free product is negligible.
7. Measure free product depths.
8. Upon "Completion" collect groundwater samples.
9. One week later, measure free product depth and groundwater sampling.
10. Evaluate need for additional product removal.
11. If necessary, repeat Steps 6-10.
12. When "Completion" is achieved, measure groundwater at 1 month, 3 month and 6 month intervals
13. Report Findings.

3. EQUIPMENT LIST

The following equipment is associated with the project at hand:

1. Drilling Rig
2. Vacuum Truck

3. Corer
4. Purging & Sampling Pumps
5. Photoionization Detector
6. Hand Tools

4. ORGANIZATIONAL STRUCTURE

The following companies and personnel are the main parties involved with the project at hand.

POSITION/TITLE/AFFILIATION	NAME	PHONE NUMBER/PAGER
General Supervisor	Robert A. Lo Pinto, P.E Shapiro Engineering, P.C.	516-791-2300 (Office) 917-808-3234 (Pager)
Project Manager/Field Team Leader	Brian Costello Branch Services,Inc.	800-734-9947 (Office) 917-559-7053 (Mobile)
Drillers	Aggressive Environmental	631-224-1680 (Office)
Vacuum Truck	AB Oil Service LTD	800-226-4570 (Office)

4.1 GENERAL SUPERVISOR

The General Supervisor has the responsibility and authority to direct Waste Operations related to this Project.

4.2 SITE SAFETY AND HEALTH SUPERVISOR

The Site Safety and Health Supervisor (SSHS) is the individual located on the Hazardous Waste Site who is responsible to the employer and has the authority and knowledge necessary to implement the HASP and verify compliance with Applicable Safety and Health Requirements.

The Site Safety and Health Supervisor will be responsible for Volatile Organic Compound (VOC) Monitoring, as well as organization of on-site safety meetings. This individual will enforce this Health and Safety Plan ensuring required safety equipment is on site, clean and operable.

The SSHS will coordinate all health and safety issues relevant to the project, and may conduct specialized training as required. It will be the duty of the Site Safety and Health Supervisor to provide emergency training to the personnel associated with the project. In the event of an emergency situation, it is the duty of the SSHS to inform the Local Authorities as to the nature of the incident.

The SSHS will inspect the work site on any given occasion in order to determine the effectiveness of the HASP.

In case of an emergency incident, the SSHS will be contacted immediately. The designated Site Safety and Health Supervisor is:

AFFILIATION	NAME	PHONE NUMBER/CELL
Branch Services, Inc.	Brian Costello	800-734-9947/917-559-7053

The General Supervisor and the SSHS are responsible for periodically reviewing the HASP (and in particular the Emergency Response Plan) and, as necessary, amending it, to keep it current with new or changing site conditions.

5. EMERGENCY FACILITIES

Prior to the start of this project, S&S X-Ray, other companies, and personnel involved with the project will obtain the phone numbers and addresses of the local emergency facilities, such as the police, fire and hospital. The parties involved with the project will establish the most direct route from the facility to the nearest medical facility or hospital.

The hospital closest to the S&S Facility is Brookdale Hospital located at 564 Rockaway Parkway, Brooklyn, New York 11212. A map of the route to Brookdale Hospital is provided at the end of this Plan.

6. EMERGENCY TELEPHONE LIST

COMPANY	NAME	PHONE #
Shapiro Engineering, P.C.	Robert A. Lo Pinto, P.E.	516-791-2300 (Office) 917-808-3234 (Pager)
Branch Services Inc.	Brian Costello	800-734-9947 (Office) 917-559-7053 (Mobile)
S&S X-Ray Products Inc.	Norman Shoenfeld, MD	973-479-3542 (Office)
NYC Emergency Response	Police/Fire/Medical	911
Brookdale Hospital		718 240-5363

7. EMERGENCY RESPONSE PLAN

The General Supervisor and the Site Safety and Health Supervisor will coordinate any and all emergency situations with the proper local medical/emergency organizations and personnel on the job site. After contacting the proper medical/emergency organizations, immediately contact S&S X-Ray Products Inc., Branch Services Corp., and Shapiro Engineering, P.C. The personnel on site will coordinate evacuation procedures (if necessary) and remain a safe distance away from the area of health and safety concern. Personnel on site may need to perform basic first aid as warranted by the emergency situation. Do not move personnel with suspected neck or back injuries. Provide a detailed written report of the emergency situation within 24 hours to Shapiro Engineering, P.C. Site security and control will be enforced by the SSHS with consent for undertaken measures from the employer and the General Supervisor.

The SSHS is responsible for pre-emergency planning, as well as emergency recognition and prevention.

7.1 EVACUATION PROCEDURES

In the event of an emergency which necessitates an evacuation of the work site, personnel will sound an evacuation alarm using three (3) quick blasts by vehicle horn or air horn or by using loud verbal commands. All personnel will immediately evacuate the work site to a predetermined safe area. The predetermined safe area will be shown to all personnel prior to the start of field work. Personnel will not re-enter the work site until all health and safety issues return to a satisfactory level. The SSHS is responsible for selecting the most effective evacuation route, as well as designate safe distances and places of refuge. An employee alarm system should be installed in accordance with 29CFR1910.165 to notify employees of an emergency situation, in order to begin evacuation procedures.

7.2 PERSONNEL PROTECTIVE EQUIPMENT

This HASP is based on basic site maps of the work area and in accordance with OSHA 29CFR 1910.120(G). The following PPE will be required at all times by each person in the work area:

1. Head protection.
2. Foot protection
3. Hand protection.
4. Eye protection
5. First Aid kit.

Head Protection

All workers and individuals within the work areas must wear protective helmets. The protective helmets will reduce the potential for injury to the head from permanent, falling, and/or sharp edged objects. The head protection shall comply with the American National Standard Institute

(ANSI) Z89.1-1986, "American National Standard for Personnel Protection - Protective Headwear for Industrial Workers".

Foot Protection

All personnel and individuals in the work areas will wear steel-toed or equivalent protective footwear to help prevent foot injuries from falling or rolling objects, objects piercing the footwear sole, and/or exposure to electrical hazards. The footwear will be properly secured to the feet at all times. Protective disposable clothing will be worn over the protective footwear or the footwear should be made of a rubber type material. Protective footwear will comply with ANSI Standard Z.41.1-1967 through 1991.

Hand Protection

All workers entering the work areas will use hand protection to prevent injuries caused from abrasions, lacerations, and burns of any type, The performance characteristics of the hand protection will reflect the task(s) of the individual worker. If worn, protective disposable clothing will cover the hand protection as mush as possible and the hand protection/protective disposable clothing interface will be sealed with duct tape.

Eye Protection

All workers and individuals within the work areas will use appropriate eye protection to reduce the potential of damage caused by falling or flying objects/materials. The eye protection should fit securely on the face so the objects/materials will not enter from any side of the protection (goggles that seal to the face using an elastic headband are recommended). Eye protection will comply with ANSI Standard Z87.1-1968 through 1989.

First Aid Kit

A basic first aid kit will be at the facility. At a minimum the first aid kit will include the following: aspirin, bandages, medical tape, gausses, scissors, sterilization lotion/cream, and antibacterial lotion/soap.

8. POTENTIAL CHEMICAL HAZARDS-SAFETY AND HEALTH HAZARD ANALYSIS

The following table lists potential chemicals that personnel could contact during this project. This list should not be considered as the total or complete potential chemical list for this project.

Chemical Hazard	Major Pathway To Body	Phase of Chemical	Systems of Overexposure*
Naphthalene	Absorption	Liquid, Solid	Skin and eye irritation.
Benzene	Inhalation,	Liquid, Gas	Skin and eye irritation.

	Absorption		Headache, nausea, tremors, and fatigue.
Ethylbenzene	Absorption	Liquid	Eye, skin and Respiratory Irritation with a Narcosis effect.
Toluene	Inhalation, Absorption	Liquid, Gas	Eye irritation, Headache, nausea, dizziness, and fatigue.
Xylene	Inhalation, Absorption	Liquid, Gas	Eye, nose, throat, and skin irritation. Headache, nausea, and fatigue.
Metals (Pb, Fe, etc.)	Absorption	Liquid	Nausea and headache

*Respiratory protection equipment, personnel protective equipment (PPE), engineering controls and good work practices can help prevent hazardous chemical exposure and overexposure.

Protective measures taken to mitigate exposure will also provide adequate and appropriate protection against known chemical contaminants detected on site. If the recommended PPE is used properly according to this plan, and Standard Operating Procedures (SOP) and decontamination procedures followed, unhealthy exposures should not occur.

9. POTENTIAL PHYSICAL HAZARDS-SAFETY AND HEALTH HAZARD ANALYSIS

Tasks required for activities associated with this project may involve exposure to slipping, falling, heat/cold stress, noise, and other physical hazards associated with intrusive activities which generate airborne particulates and/or release toxic vapors into the breathing zone of the workers. Skin absorption and ingestion may occur from contaminated soils. Since there is an excavated area on site, slipping and falling hazards must be avoided.

During operations of heavy equipment associated with the installation of bore holes, there is the potential for personnel to be cut, struck, or pinned by equipment. The following standard procedures will be required during drilling operations:

1. Drilling equipment will be inspected, operated, and maintained in accordance with the manufacturer's operating manual. A copy of the manufacturer's manual will be maintained on site.

2. Overhead electrical hazards will be identified prior to bringing the drill rig on-site.

3. Drilling crews will be trained in the operation, inspection, maintenance, and safety features of the equipment based on the equipment's operating manual.

4. Outriggers, if applicable will be extended in accordance with the manufacturer's specifications.

5. Weather conditions will be monitored. Work will stop during electrical storms or when electrical storms are imminent.

6. Loose clothing, jewelry, or equipment that can get caught in moving machinery will not be worn on site.

Site Mobilization/Demobilization: The hazards of this phase of activity are those associated with equipment movement, manual materials handling, and manual site preparation. Manual materials handling and manual site preparation may cause blisters, sore muscles, joint and skeletal injuries and may present the potential for eye hazards, contusions and lacerations. Slippery work surfaces can increase the likelihood of back injuries, overexertion injuries, slips and falls.

Drilling Operation: On-site excavated area may lead to slips and falls.

Sample Collection: The primary hazard of this task could be the potential for inhalation of contaminated organic vapors discharged during intrusive activities if hot spots are encountered.

Decontamination Activities: Personnel involved in decontamination activities may be exposed to contaminated soil from heavily contaminated soil boring equipment, high pressure water spray, noise, and cold exposure from the water spray.

10. PERSONAL PROTECTIVE EQUIPMENT PROGRAM

Appendix B to OSHA 29CFR1910.120 provides a detailed account of the PPE Program. Specific levels of protection and necessary components for each level are divided into four (4) main categories. PPE will be required when work activities generate and/or involve known or suspected atmospheric vapors, gases, liquids, or particulates at or above satisfactory health and safety levels or regulatory action limits. Personnel in the work areas should be ready to respond and work within any protection category. Based upon the scope of work for this project, the PPE should not exceed Level C protection.

Personal Protection Categories:

Level A

Wear the highest level of respiratory, skin and eye protection. Positive-Pressure Tested Totally-Encapsulating Chemical Protective Suits shall be worn.

Level B

Wear highest level of respiratory protection, but possibly a lesser level of skin or eye protection. Level B is the primary level of choice when encountering unknown or possible contaminated areas. Positive Pressure Self-Contained Breathing Apparatus or Positive Pressure Air-Line Respirators equipped with an Escape Air Supply shall be worn.

Level C

Wear respiratory protection when only air-purifying or filtering respirators are required, and a lesser level of skin and eye protection.

Level D

No respiratory or skin hazards in the work area. Wear uniforms or coveralls to provide minimal skin protection against chemical hazards.

Modification of the protection levels is permitted so that personnel are protected while minimizing project costs and maximizing efficiency. As an example, Level C respiratory protection and Level D skin and eye protection may be required for a project due to specific contaminants and/or concentrations. Chemical hazard protection equipment is dependent upon contaminants, concentration, and degree of personnel interface/contact.

11. MEDICAL SURVEILLANCE AND PERSONNEL TRAINING REQUIREMENTS

OSHA has established requirements for a medical surveillance program designed to monitor and reduce health risks for employees who may potentially be exposed to hazardous materials. For the activities related to well drilling and sampling, this potential has been limited to on-site activities. This program has been designed to provide baseline medical data for each employee involved in hazardous waste operations. Each employee must undergo testing and training, and a determination of his/her ability to wear personal protective equipment. The medical examinations must be administered on a pre-employment, annual basis, employment termination and as warranted for chemicals for which the employee may have been exposed. These examinations shall be provided by employers without cost or loss of pay to the employee.

In accordance with 29 CFR 1910.120, the contractors should maintain all medical surveillance records for 30 years past employment and shall make these records available to the employee, Owner or regulatory agencies, as required.

11.1 MEDICAL SURVEILLANCE REQUIREMENTS

Due to potential exposure to hazardous materials, all contractors, employees, subcontractors and other prime contractors involved in on-site well drilling and sampling activities should participate in a medical monitoring program meeting specifications of 29 CFR Part 1910.120, Hazardous Waste Operations and Emergency Response (HAZWOPER). The examining licensed physician is required to provide a written report to the employer of any medical

condition that would place employees at increased risk of wearing a respirator or other personal protective equipment. A physician will specify respiratory protection clearance, or the user's ability to wear a respirator of any type for a Work shift. Each subcontractor involved in well drilling and sampling activities shall assume the responsibility of maintaining a medical surveillance program as well as maintaining worker personnel medical records as regulated by 29 CFR 1910.20, provided for all personnel, including subcontractors, who will be on-site.

A medical examination program is required for all those employees who wear or may wear respiratory protection as specified by 29 CFR 1910.134, Respiratory Protection and 29 CFR 1910.120, HAZWOPER. Disposable dust type respirators are included under these regulations. This program must determine an individual's ability to wear respiratory protection while performing designated duties. All elements of 29 CFR 1910.134, Respiratory Protection, must be complied with.

11.2 EMPLOYEE AND OTHER PERSONNEL TRAINING

All personnel associated with well drilling and sampling should have participated in a health and safety training program that complies with OSHA 29 CFR 1910.120, HAZWOPER, prior to mobilization. This program instructs employees on the intent of the standard, health and safety principles and procedures, proper operation of monitoring instruments, use of personal protective equipment, decontamination, and specific emergency plans. All personnel must have an initial 40 hour training course. This course is supplemented by an annual 8 hour refresher course. Any chemical specific training that may be required will be based upon compliance with 29 CFR 1910.1200, Hazard Communication. Personnel responsible for supervision and on-site management relative to the work activities described in this work plan should receive an additional 8 hours of specialized training.

Additional training is given to those employees responsible for responding to emergencies.

A copy of this HASP will also be made available to all personnel for review. All employees will complete a Health and Safety Plan review form (given herein as Section 17 of the HASP) to verify they have reviewed this plan. Any subcontractors involved in implementing the VCP work plan are required to certify that their employees have received medical exams, training and are capable of respirator usage.

All on-Site personnel involved with the excavation and sampling project will attend a pre-entry briefing on the chemical and physical hazards associated with the property.

The initial health and safety briefing will consist of the following information:

a. Names of personnel and alternates responsible for worker safety and health;

b. Injury, Illness, and other hazards present on the property;

c. Safe use of engineering controls and equipment on-site;

d. Work practices by which the employee can minimize risks from hazards;

e. Selection, use, care, and maintenance of Personal Protection Equipment (PPE);

f. Access control procedures, including log-in and log-out;

g. Decontamination procedures;

h. Standard operation safety procedures; and

i. Review of the Emergency Response Plan.

Documentation of all training, fit test and medical monitoring certificates will be maintained by the contractors.

A daily tailgate meeting will be conducted prior to the start of the day's activities during performance of sampling activities. The topics covered will include a reminder of work area hazards, target activities for the day's work, changes in observed exposure levels, staff changes (e.g., due to illness) and responsibilities.

11.3 VISITOR TRAINING

All visitors to the work areas described in this project will be informed of the hazards associated with the work areas. Emergency procedures will be explained and they will be trained in the use of personal protective equipment required during the visit.

12. EXPOSURE MONITORING/AIR SAMPLING PROGRAM

This work plan has no excavation activities. Only the placement of the wells would involve activities where contact with the soil can occur. This, though should result in a minimum amount of soil contamination becoming airborne. The groundwater sampling will also generate no, or only a minimal amount of airborne contamination. Therefore it is expected that there will be no potential airborne contamination, and therefore the use of respirators may not be required. Furthermore, there will be no need for Air Monitoring in order to identify and quantify airborne levels of Hazardous Substances and Safety and Health Hazards in order to determine the appropriate level of employee protection needed on site, pursuant to 29CFR1910.120(h).

12.1 CHEMICAL CONTAMINANTS

However, VOC monitoring will be conducted by the Site Safety and Health Supervisor during all ground-intrusive activities and all sampling activities, including concrete covering, well drilling andf installation, Soil Gas Sampling and Groundwater Sampling. Exposure monitoring will be conducted for VOCs using a photoionization detector (PID). The worker's breathing zone near the intrusive activities will be checked with the PID.

At any time when concentrations measured with the PID in the breathing zone exceed 100 ppm, (the lowest OSHA PEL for the expected chemicals of concern (Ethylbenzene and Toluene)) work activities will cease and the use of respirators (Level C Personal Protection Category) will be required.

A single spike on the PID should not stop work, but a sustained reading (longer than ten seconds) or repetitive spikes (5 within 10 minutes) shall stop work .

Notations of momentary spikes, high readings, and actions taken will be recorded on the borings logs and in the intrusive activities logbook. The PID will be calibrated daily according to the manufacturers instructions and recorded in the logbook.

Prior to performing field activities in dry, dusty areas where contaminated soils are likely to be encountered, workers will wet down the area of activity with water in order to decrease dust generation. If the wetting process is expected to result in potentially contaminated runoff, measures will be taken to contain the runoff.

12.2 NOISE

With some soil borings installed with the use of drill rig equipment as part of this project, the potential for elevated noise levels in excess of 85 dBA is probable. A hearing protection program will be instituted if either continuous or impact noise levels exceed 85 dBA (slow response) for an 8-hour work shift, in accordance with 29 CFR 1910 and 1926. If unable to carry out conversation at an arm length, or at 3 ft. distance, hearing protection, such as ear plugs and muffs, or administrative controls will be used if engineering controls are not feasible.

13. STANDARD OPERATING SAFETY PROCEDURES, ENGINEERING CONTROLS AND WORK PRACTICES

The following procedures will be followed by all personnel working on this project:

13.1 INFORMATIONAL PROGRAM

The Site Safety and Health Supervisor (SSHS) will conduct an informational safety meeting at the start of each workday. Additional meetings may be conducted, as required. Meetings will include pertinent information regarding the day's work and include, but is not limited to, any of the following areas:

a. The whereabouts of any hazardous chemicals near specific work areas.

b. Methods used to detect the presence or release of hazardous chemicals at the site.

c. The physical and chemical health hazards of the project site.

d. Protective measures such as safe work practices, emergency procedures, and personal protective equipment (PPE).

e. Details regarding the proper use of protective measures and material safety data sheets.

13.2 HAZARD CONTROL

Work shall comply with all Federal, State and local health and safety requirements including: OSHA 29 CFR 1904, 1910 and 1926, EPA 40 CFR 260-270, and all District safety directives and policies.

All intrusive activity sites will be inspected for health and safety hazards by SSHS prior to entering the site for the intrusive activity. The SSHS will then take all corrective measures necessary to safely work at the site. This inspection and all corrective measures will be documented and communicated to all site workers at the initial safety meeting and subsequent safety meetings held.

13.3 OPERATING PROCEDURES

a. No eating or drinking is permitted within the work area. An exception is made for the replacement of fluids as a preventive measure for heat stress, however hands and face must be washed with potable water prior to drinking replacement fluids.

b. No tabacco use is permitted within the work area.

c. No beards or facial hair is allowed on site that may interfere with the seal of a negative pressure respirator.

d. No contact lenses will be worn on site.

e. Contamination avoidance shall be practiced to include not walking through puddles or mud unnecessarily, avoiding kneeling on ground or leaning on equipment whenever possible. Weather conditions that may escalate potential site hazards such as lightning, rain or extreme temperatures will be logged.

f. If evidence of illegal dumping or other suspicious fill is encountered within the project area, work at the location will stop. The area will be designated an Exclusion Zone and encircled with caution tape. The SSHS will be notified immediately.

g. Noise-Hearing protection devices will be worn by all field personnel in work areas where noise levels are at or above 85 dBA. The wearing of hearing devices is a condition of employment.

h. Employees and visitors will use extreme caution in inclined areas of the work site. Ground surfaces may be wet, slippery and have hazardous objects protruding from the surface.

i. Dependent on the season in which the work will be performed, employees should exercise caution when encountering hazardous plants (poison ivy) and animals (snakes, spiders, bees, wasps, ticks, mosquitoes, ants, etc.) at the work site. Employees who are known to be highly sensitive to insect stings should carry a "sting kit" and notify the SSHS at the work site. All employees are encouraged to use permethrin (0.50%) clothing repellent and DEET (30%) skin repellent for protection against ticks and mosquitoes.

j. Electrical equipment will be grounded.

k. Employees and visitors will exercise extreme caution in the vicinity of open excavations, if present. Under no circumstances will employees enter excavations or other confined spaces.

l. Thermal stress - All personnel will be assigned a "buddy" who will observe the employee for signs of thermal stress, although personnel should be alert for heat or cold related injuries. Water, Gatorade, or similar electrolyte liquid should be available on site.

m. Fire - No heaters or open flames will be allowed in the work area. If a heater is to be used, it will be a constructive type (i.e. salamander). Flammable liquids will be stored in appropriate containers.

13.4 SEVERE WEATHER PLAN

For activities occurring outdoors, the following conditions will be observed:

Condition #1 - Storm threat within 24 hours: stow non essential gear indoors and maintain a six hour weather watch.

Condition #2 - Storm threat within 12 hours: all moveable gear, drums, pipes, tools, etc. shall be securely lashed down and maintain a three hour weather watch.

14. SITE CONTROL MEASURES

The work site will be zoned to reduce the spread of hazardous substances to clean areas. An Exclusion Zone (EZ) will be established with a radius of 25 feet, when feasible, around the sampling operations and other areas of intrusive activities. No unauthorized person will be allowed within the EZ, nor will any authorized person remain unnecessarily in this zone. This zone will be delineated by yellow caution tape, where appropriate. Since this area has the highest potential for exposure to hazardous chemicals, the proper PPE must be worn in this area.

The Contamination Reduction Zone (CRZ) will be located just outside the EZ. Personnel in this area will be required to wear PPE which is one level less than that worn in the EZ. During intrusive field activities, the exact layout will depend on the wind direction, the day of work, and site conditions. The CRZ will have only one accessible point to the EZ.

Site access will be denied to the general public by the SSHS or designated personnel and the caution barriers. All equipment and materials will be secured during non-work hours. Continuous Communications (i.e. Portable Radios, Hand Signals, Telephones) shall be maintained between the SSHS and key personnel associated with this project at all times during site operations.

14.1 COMMUNICATION PROCEDURES

a. Personnel will be informed of all known site hazards during an initial safety meeting and will be kept informed of hazards discovered during the site investigation.

b. Personnel in the EZ will remain in constant communication or within sight of the other personnel. Failure of communication requires evacuation of the EZ until communication is reestablished.

c. A mobile (cellular) telephone will be on-site whenever intrusive work is performed in the project area.

d. The emergency signal will be one of the following:

(1) Any blast from a pressurized air horn or vehicle horn.
(2) Verbal notification.

e. The following standard hand signals will be used:

(1) Hand gripping throat -- Out of air and cannot breathe.
(2) Grip buddy's wrist -- Leave area immediately.
(3) Both hands on buddy's waist -- Leave area immediately.
(4) Hands on top of head -- Need assistance.
(5) Thumb down -- No/negative
(6) Thumb up -- Yes/I'm OK/I am all right.

14.2 HAZARD COMMUNICATION

Pursuant to OSHA 29CFR1926.59 and 1910.120 , Material Safety Data Sheets (MSDS) along with a list for those materials covered by the MSDS will be available for all hazardous substances brought on site. Personnel will also be briefed by the SSHS regarding hazardous chemicals present at the work site prior to starting work that personnel could be exposed to. The SSHS will also have the Emergency Response Plan on hand, in case of ensuing emergency incidents.

15. DECONTAMINATION

Work personnel involved with the work may be exposed to constituents in a number of ways, despite the most stringent protective procedures. While performing on-Site duties, work personnel may come in contact with hazardous substances. Equipment and monitoring

instruments may also be exposed to hazardous substances. Decontamination shall be performed in Geographical Areas (away from the work site) that will minimize the exposure of uncontaminated employees, or equipment to contaminated employees or equipment.
In general, decontamination involves scrubbing with a detergent/water solution followed by clean water rinses. All disposable items shall be disposed of in designated lined containers to be sent for off-Site disposal. Non-disposable equipment will be decontaminated each time it leaves the exclusion zone. Certain parts of equipment, such as respirator harness assemblies and cloth components, are difficult to decontaminate. If grossly contaminated, they may have to be soaked for a period of time in a cleaning solution.

Rubber components shall be soaked in detergent/water and scrubbed with a brush. In addition to decontamination, all respirators, non-disposable protective clothing and personal articles soiled from exhalation or perspiration, must be sanitized before they can be used again. Each respirator user will be responsible for the proper maintenance, decontamination, and sanitizing of his/her own respirator and non-disposable personal protective equipment.

All PPE and decontamination water will be contained in 55 gallon drums for sampling and a determination of appropriate disposal.

15.1 DECONTAMINATION PROCEDURES

The following procedures have been established to provide Work site personnel with minimum guidelines for proper decontamination. These minimum procedures must be followed by personnel leaving the EZ (see Section 14). The decontamination process shall take place at a reasonable distance from any area of potential contamination.

Designated stations will be established within the decontamination area and include at least wash basins, scrub brushes, detergent/water and rinse water. Portable sprayer units filled with detergent/water solution and potable water shall also be available to wash and rinse off grossly contaminated boots, gloves and equipment. Non-disposable equipment will be cleaned and staged for the next use. Wash stations shall consist of a potable water supply, hand soap and clean towels. In most instances, employees will perform self decontamination. In cases where assistance is necessary, an employee will be designated to work the decontamination area.

The SSHS will monitor decontamination procedures to ensure their effectiveness. Modifications of the decontamination procedures may be necessary as determined by SSHS. Decontamination solutions will be contained in 55-gallon drums, sampled and disposed of consistent with regulatory guidance and applicable regulations. When such decontamination procedures are found to be ineffective, appropriate steps shall be taken to correct any deficiencies.

16. LOGS, REPORTS & RECORDKEEPING

The SSHS will ensure that all records are kept up to date and maintained in accordance with applicable regulations. The following items will be recorded in the daily field log:

1. Daily list of field personnel,

2. Record of all visitors,
3. Training logs (site specific and visitors)
4. Daily air monitoring results,
5. Levels of personal protection worn by workers and, as appropriate, visitors,
6. Exposure work-hours and a log of occupational injuries and illnesses,
7. Accident investigations
8. Daily record of all first aid treatments not otherwise reportable, and
9. Daily Health and Safety inspection report.

17. RECORD OF HASP REVIEW

I certify that I have thoroughly read and fully understand the information in the HASP for the project at hand. I understand the potential health and safety hazards and issues associated with this project.

I certify that I have been trained in the use, care, and limitations of the PPE that could be used during this project.

My signature below is official record that I comply with provisions of the HASP and federal, state, and local health and safety regulations and guidelines.

Name: _____

Signature: _____

Company: _____

Position: _____

Date: _____

Name: _____

Signature: _____

Company: _____

Position: _____

Date: _____

Name: _____

Signature: _____

Company: _____

Position: _____

Date: _____

18. CONFINED SPACE ENTRY PROCEDURES

The Project at hand may not feature confined space entry operations. However, the following set of procedures are to be applied in case of confined entry:

1. A posted sign shall mark the confined space, reading: " Danger - - Permit Required Confined Space - - Do Not Enter."

2. The SSHS or General Supervisor must follow the entry procedures described in the Entry Permit and ensure that breathing and rescue equipment are present at the entry site.

3. All Personnel must be trained and equipment, such as ladders, needed for safe ingress or egress shall be used.

4. Lighting equipment shall be available to enable personnel to see well enough to work safely and to exit the space in case of emergency.

5. A self contained breathing apparatus shall be worn by any person entering the confined entry space.

6. The SSHS shall designate an attendant whose task is to give assistance to any person in case of emergency.

7. Continuous voice and visual communications shall be maintained between the person entering the confined space and standby personnel (including the SSHS).

19. SPILL CONTAINMENT PROGRAM

For this project, possible leakage at the work site, can result from the Tanker Truck and the hose used in clean-up operations.

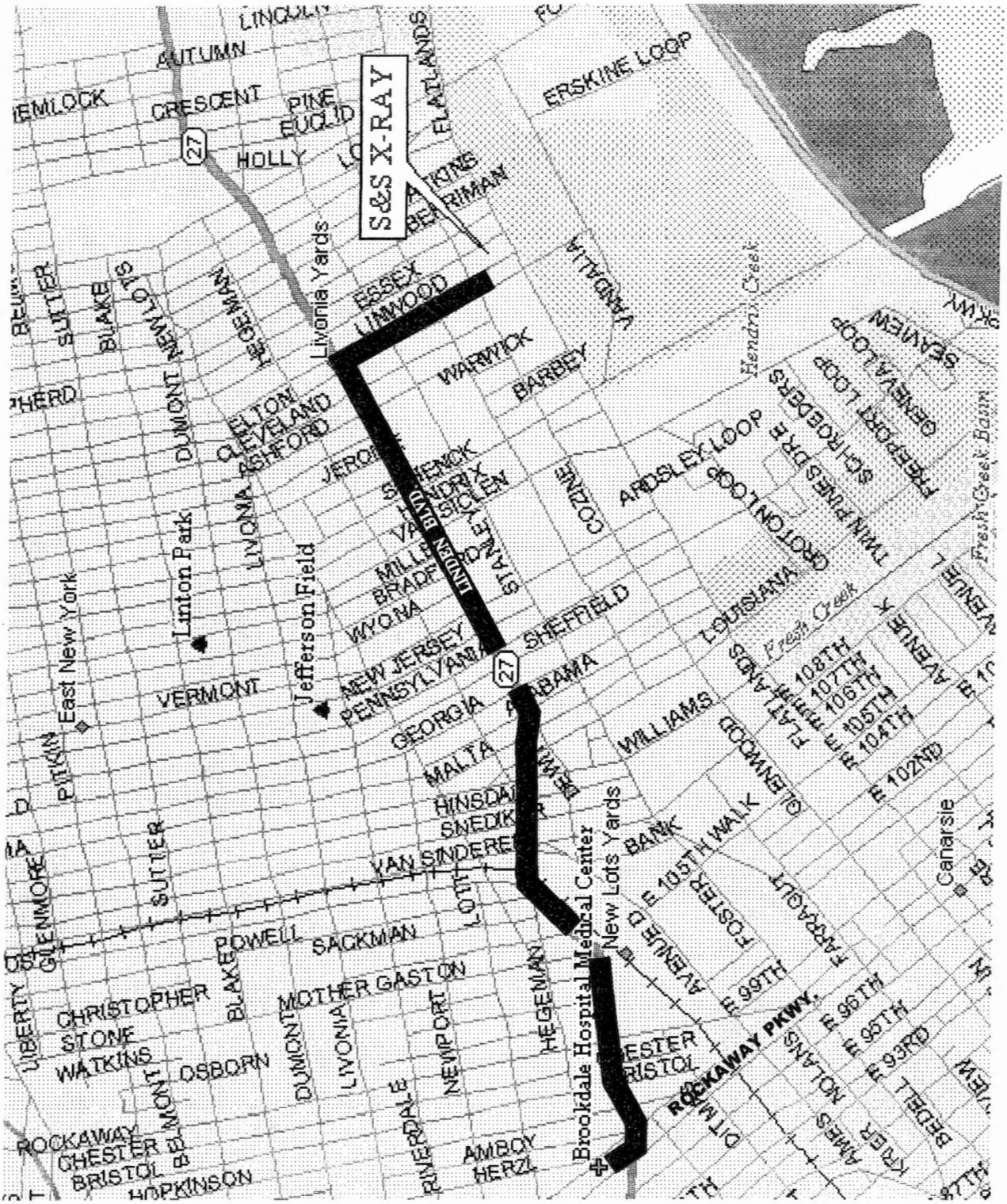
In case of spills at the work site, Hydrocarbon Absorbent Spill Socks and/or Mats (Lab Safety Supply) shall be used to absorb any spilled free product.

20. COMMUNITY AIR MONITORING PLAN

The Community Air Monitoring Plan (CAMP), requires real-time periodic monitoring for Volatile Organic Compounds (VOCs) at the downwind perimeter of the designated work area when activities are in progress at the contamination site. This Plan is not intended for use in establishing action levels for respiratory protection. The CAMP provides a measure of protection for the downwind community from potential VOC Releases as a direct result of remedial work activities. The action levels specified within the CAMP require increased monitoring, corrective actions to abate emissions and/or work shutdown.

Furthermore, the CAMP aïds in confirming that work activities do not spread contamination off site through the air. Reliance on this Plan should not replace simple, commonsense measures to keep VOCs at a minimum around the work site.

The Community Air Monitoring Plan is presented as Attachment 1.



LEGEND:

ROUTE FROM 1101 LINWOOD ST.
TO BROOKDALE HOSPITAL MEDICAL CENTER

NOT TO SCALE

L:SUCHKOVA SHAPIRO ENGINEERING, P.C. 12/20/02 11:30 AM 01-44 EMERGENCY ROUTE.dwg

R 5 x 11

Date: 12/20/02	
Scale: AS NOTED	
Drawn by: AS	
Job: 01-44	
DWG 01-44 EMERG. ROUTE	
Sheet 1 of 1 Sheets	

SHAPIRO ENGINEERING, P.C.

CONSULTING ENGINEERS
181 South Franklin Avenue, Suite 305, Valley Stream, N.Y. 11581-1101
(516) 791-2300 FAX: (516) 791-0782 e-mail: shapiroengineers@worldnet.att.net

S & S X-RAY PRODUCTS, INC.
1101 LINWOOD STREET
BROOKLYN, NEW YORK 11208

EMERGENCY MEDICAL ROUTE

ATTACHMENT 1

COMMUNITY AIR MONITORING PLAN

Real-time air monitoring for Volatile Organic Compounds (VOCs) at the downwind perimeter of the designated work area (Exclusion Zone) is necessary to determine that the health and safety of onsite workers and the Community is protected.

Frequency of Monitoring

VOCs shall be periodically monitored with a Photo Ionization Detector (PID) at the downwind perimeter of the Exclusion Zone daily at 15 minute intervals. If total organic vapor levels exceed 5 ppm above background levels, minimally intrusive work activities (such as collection of Groundwater Samples from the Monitoring Wells) must be halted and monitoring continued under the provisions of a VOC Emission Response Plan described below. All readings must be recorded and be available for NYSDEC and NYSDOH personnel to review. Upwind concentrations shall be measured at the start of each workday to establish background conditions, and during the day as required. The PID will be calibrated daily for VOC's of concern.

VOC Emission Response Plan

If the ambient air concentration of VOCs exceeds 5 ppm above background at the perimeter of the Exclusion Zone, minimally intrusive activities will be temporarily halted and monitoring continued. If the organic vapor level decreases below 5 ppm above background, minimally intrusive activities can resume but more frequent intervals of monitoring, as directed by the Site Safety and Health Supervisor (SSHS), must be conducted. The conditions will be discussed with the General Supervisor and appropriate vapor suppression techniques will be employed if deemed necessary. It may be necessary to use a carbon adsorbtion device on the vent of the pump truck's tank, as it is filled with the extracted groundwater. If the VOC levels are greater than 5 ppm over background but less than 25 ppm over background at the perimeter of the Exclusion Zone, minimally intrusive work activities can resume provided:

- The VOC level 200 ft. downwind of the Exclusion Zone or half the distance to the nearest residential or commercial structure, whichever is less, is below 5 ppm over background; and

- More frequent intervals of monitoring, as directed by the SSHS, are conducted.

If the VOC level is above 25 ppm over the background at the perimeter of the Exclusion Zone, all work activities must be shut down. When work shut down occurs, downwind air monitoring, as directed by the SSHS, shall be implemented to ensure that VOC Emission does not impact the nearest residential or commercial structure at levels exceeding those specified in the Major VOC Emission Section below.

Major VOC Emission

If VOC levels greater than 5 ppm over background are identified 200 ft. downwind from the Work Site or half the distance to the nearest residential or commercial property, whichever is less, all work activities must be halted.

If VOC levels persist greater than 5 ppm above background 200 ft. downwind, or half the distance to the nearest residential or commercial property from the Exclusion Zone, (whichever is less) VOCs must be monitored within 20 feet of the perimeter of the nearest residential or commercial structure (20 Feet Zone).

If either of the following criteria is exceeded in the 20 Feet Zone, then the Major VOC Emission Response Plan shall be automatically implemented:

- Organic Vapor levels approaching 5 ppm above background for a period of more than 15 minutes.

- Organic Vapor levels greater than 10 ppm above background for any time period.

Major VOC Emission Response Plan

Upon activation, the following activities will be undertaken:

- The local police authorities will immediately be contacted by the SSHS and advised of the situation.

- Air Monitoring will be conducted at 15 minute intervals within the 20 Feet Zone. If two successive readings below action levels are measured, air monitoring may be stopped or modified by the SSHS or the General Supervisor.

- All Emergency contacts will go into effect as appropriate.

1101 LINWOOD STREET
BROOKLYN, NEW YORK 11208

APPENDIX "C"

QUALITY ASSURANCE/QUALITY CONTROL PLAN

TABLE OF CONTENTS

8. DATA USABILITY SUMMARY REPORT

8.1 Background
8.2 Review
8.3 Preparation of a Data Usability Summary Report

ATTACHMENT 1

Resume - QA/QC Officer - Elliot J. Shapiro, P.E.
Daily Quality Control Report Form
Well Purging and Sampling Form
Photographic Log Form
Sample Labels
Chain of Custody Form

1. PURPOSE

The purpose of this Quality Assurance/Quality Control Plan (QA/QCP) is to enumerate the procedures and actions to be taken by Personnel to ensure that the objective of a proper and safe remediation of the site is achieved, and that proper, quality data is generated. In order to facilitate this goal, the following procedures have been established.

2. QUALITY ASSURANCE OBJECTIVES

2.1 DATA REQUIREMENTS

The object of the project sampling program is to produce representative, defendable data to identify if chemical contamination exists, and to determine if any health hazards will be harmful to human life and the site environment. Chemical analysis of the samples will enable contaminated materials removal, conforming with all federal and state regulations.

2.2 DATA QUALITY OBJECTIVES

The data quality objectives (DQOs) presented in the Work Plan need to be supported by a certain level of quality which is based on the intended use of the data. The level of analytical quality control for the project laboratory work is NYS DEC ASP Category B for the Groundwater and any future Soil Sampling. This QA/QCP is written for this Sampling.

The samples collected will be analyzed by methods defined in the EPA Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846, 3rd edition, including UPDATE II, September 1994 and Methods for Chemical Analyisis of Water & Wastes, EPA 8260. In addition to the collection of the various samples, Field Quality Assurance and Quality Control samples will be analyzed by the Contract Laboratory. Internal Laboratory QC Samples, as specified by the method, will be used and analyzed. The Contract Laboratory is H2M Laboratories, 575 Broad Hollow Road, Melville, NY 11747. Branch Services, Inc., 101-2 Colin Drive, Holbrook, New York 11714 is the project contractor for the Boring and sampling.

In addition to the Groundwater Sampling, Soil Gas Sampling will be performed. These samples, though, only require a Standard Data Package A Report. As such, many of the specific requirements listed in this QA/QCP are not applicable to the Soil Gas Sampling. Soil Gas Samples will be analyzed by ECOTest Laboratories, Inc., 377 Sheffield Avenue, North Babylon, New York 11703. Even though many of the specific procedures in this QA/QCP are not required for the Soil Gas Analysis, Good Laboratory Procedures will be followed, along with the requirements of NIOSH Method 1501, Hydrocarbons, Aromatic.

2.3 QUALITY ASSURANCE OBJECTIVES FOR MEASUREMENT

The primary goal of this QA/QCP is to define procedures that will ensure the quality and integrity of samples, accuracy and precision of analyses, and representativeness, comparability and completeness of results for the field work.

The precision, accuracy, representativeness, completeness, and comparability (PARCC) parameters are indicators of data quality. The following procedures and criteria will be used to evaluate data precision, accuracy, and analytical completeness for the analyses conducted.

2.3.1 PRECISION

Precision measures the reproducibility of measurements under a given set of conditions. It is a quantitative measure of the variability of a group of measurements compared to their average value. The overall precision of data is a mixture of sampling and analytical factors.

Quality Control duplicate environmental samples will be collected and analyzed and the precision will be determined by calculating the relative percent difference (RPD). Duplicate internal control samples (as specified by the analytical method), shall be analyzed by the contract laboratory and reported. The following formula is used for calculating RPD:

$$RPD\ (\%) = \frac{(X_1 - X_2)}{(X_1 + X_2)/2} \times 100$$

where X_1 = the reported concentration for the first sample

X_2 = the reported concentration of duplicate sample

Duplicate QA samples will be collected from the same sampling location from which the QC sample is collected, and sent to the contract Laboratory for analysis. This is the basis for the overall data evaluation of the contract laboratory. A chemical quality assurance report will be produced on the contract laboratory's precision and accuracy for the data generated.

2.3.2 ACCURACY

Accuracy measures the bias in a measurement system. Sources of error are the sampling process, field contamination, preservation, handling, sample matrix, sample preparation and analysis techniques.

The accuracy of the sample will be determined by evaluating the recoveries of the surrogate standards and the laboratory control sample which are run with the method. Accuracy will be expressed as percent recovery for laboratory control samples and surrogates as follows:

$$\text{Percent Recovery} = 100\ (XT)$$

where X = the observed value of measurement
T = the "true" value

These recoveries will be evaluated against with the control limits reported by the laboratory.

Matrix spike and matrix spike duplicates samples results will be used to calculate the percent recovery as an indicator of matrix effects as follows:

$$\text{Percent Recovery} = 100(X-S/R)$$
(for matrix spikes)

where X = observed value after spike
S = sample value
T = amount spiked

Sampling accuracy is assessed by evaluating the results of field and/or trips blanks. Analytical accuracy is accessed through use of QC samples and/or matrix spikes.

The matrix spike and matrix spike duplicate percent recoveries will be compared against the control limits reported by the laboratory.

2.3.3 REPRESENTATIVENESS

Respresentativeness expresses the degree to which sample data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, or an environmental condition.

Water samples will be collected at locations potentially containing chemical contamination based on the results of a preliminary assessment conducted at the project site. All sampling will be performed in compliance with the procedures described in the Work Plan.

2.3.4 COMPLETENESS

Completeness is defined as the ratio of acceptable, valid results to the total number of analytical results requested on samples submitted for analysis. The overall analytical completeness goal for this project will be 90%.

$$\% \text{ Completeness} = \frac{\text{Accepted Analytical Results + Estimated Analytical Results}}{\text{Total Number of Analytical Results Requested}}$$

2.3.5 COMPARABILITY

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared to another. Comparability can be related to accuracy and precision, quantities which are measures of data reliability. Data should be comparable if sample location considerations, collection techniques and measurement procedures, analytical methods, and reporting are equivalent for the samples within a sample set.

By using standard, equivalent, sampling and analytical methods, plus the use of QC samples as described above, data of known quality is ensured. This data set can then be compared with any other data of known quality. A qualitative assessment of data comparability will be made of applicable data sets.

2.4 FIELD SAMPLING QUALITY ASSURANCE/QUALITY CONTROL CHECKS

Field duplicates, field splits, field blanks, field blind duplicates , and trip blanks will be collected and submitted to the analytical laboratory to provide a means to assess the quality of the data resulting from the field sampling program. Types of samples collected and used for the assessment of chemical quality assurance are defined in the sub-sections which follow. The field personnel for the project shall collect all field, QC, and QA samples and send them to the contract laboratory. Some attempt should be made to select contaminated samples for QA/QC, based on physical evidence such as appearance, odor, or field screening tests.

2.4.1 QUALITY ASSURANCE/QUALITY CONTROL SAMPLES

The QA and QC samples are duplicate or split samples which are analyzed at the laboratory. QA and QC samples will be collected at a minimal rate of 10% of the total samples. The duplicate sample or split aliquots are processed separately and the results compared to evaluate the effects of the matrix on the precision of the analysis. Results are expressed as relative percent difference between the duplicate aliquots analyzed.

A comparison between the QA and QC sample results by the Laboratory is used to assess the quality and validity of the data along with the contract laboratory's internal quality control measures. A report of findings shall be presented in the Chemical Quality Assurance Report (CQAR) from the Laboratory.

2.4.2 TRIP BLANKS

A trip blank is prepared by the laboratory. It is sent to the field along with all the other sample containers. One trip blank will be used per set of 8 groundwater samples collected, and returned to the laboratory for analysis with all the other samples.

2.4.3 FIELD BLANKS

Field blanks are defined as samples which are obtained by pouring analyte-free deionized water through the sample collection equipment (bailer, pump, auger, etc.) after decontamination, and placing it in appropriate sample containers for analysis. A field blank is used to determine if decontamination procedures are effective. One field blank will be collected per set of 8 groundwater samples collected, and returned to the laboratory for analysis with all the other samples.

2.4.4 DUPLICATES

Duplicate samples are multiple grab samples, collected separately, that equally represent a medium at a given time and location. This is the type of co-located sample required for volatile organic analyses. Duplicate samples collected in the field provide precision information for the entire measurement system including sampling, homogeneity, handling, shipping, storage, preparation, and analysis. These Samples will be utilized as the matrix spike sample and matrix spike duplicate sample. Samples for duplicate analyses will be selected at locations with suspected contamination. One set of two duplicates will be collected from one of the 8 groundwater sampling locations for each set of 8 groundwater samples collected, and returned to the laboratory for analysis with all the other samples.

2.4.5 FIELD BLIND DUPLICATE SAMPLES

A Field Blind Duplicate Sample is a duplicate sample as described above, except it is delivered to the laboratory without the sampling location identified. One field blind duplicate sample will be collected for each set of 8 groundwater samples collected.

2.4.6 SPLIT SAMPLES

Split samples are those collected as a single sample, mixed, divided into two or more equal parts, and placed in separate containers. Samples to be analyzed for volatiles are never split samples because the VOCs can volatilize. The samples shall be split in the field prior to delivery to the laboratory for analysis. Split samples are subjected to the same environmental conditions and steps in the measurement process. This serves as an oversight function in assessing the analytical portion of the measurement system.

2.5 METHOD DETECTION LIMITS

Contract Required Quantitation Limits (CRQLs) set forth by the State of New York and Risk-Based Concentrations (RBCs) of U.S. Environmental Protection Agency (EPA) will be used as guidelines on detection limits for chemical parameters investigated in this project. New York State Department of Environmental Conservation (NYSDEC) Technical Administrative Guidance Memorandum (TAGM), HWR-94-4046, Determination of Soil Cleanup Levels, revised January 24, 1994 and U.S. EPA Region III Risk-Based Concentration Table, April 19, 1996 contain the necessary regulatory criteria and containment levels needed for imposing the detection limits required for this project.

2.6 FIELD QA/QC:

Due to the nature of the project, the only field equipment which will be utilized will be a portable PID (Photoionization Detector) Meter, which will be calibrated daily prior to use. This

equipment will be employed for Safety and Health Monitoring only and not for Analytical Testing for data evaluation.

3. PROJECT STAFFING

All personnel involved in an investigation and in the generation of data are implicitly a part of the overall project and quality assurance program. In addition, certain individuals have specifically delegated responsibilities. Persons with specific QA/QC roles during these investigations including the Project Director, the Project Manager and the Quality Assurance Officer (QAO). The following section lists the roles and responsibilities of key personnel.

Project Name:	Voluntary Cleanup Program for S&S X-Ray Products Inc.
Project Director:	Robert A. Lo Pinto, P.E., Shapiro Engineering, P.C.
Project Manager/ Field Team Leader:	Brian Costello, Branch Services, Inc.
QA/QC Officer:	Elliot J. Shapiro, P.E., Shapiro Engineering, P.C.

3.1 PROJECT DIRECTOR

The Project Director has the overall responsibility of the project. It is the responsibility of the Project Director to ensure that all quality assurance procedures are being adhered to. In addition, the Project Director will review all data generated and attest that they were reviewed.

3.2 PROJECT MANAGER/FIELD TEAM LEADER:

The Project Manager/Field Team Leader will report to Shapiro Engineering, P.C. (SEPC) and the Project Director. The Project Manager/FieldTeam Leader will be responsible for scheduling, communicating to the SEPC representatives, technical review of field activities and the overall quality of the project and project deliverables. He is also responsible for the day to day management and coordination of field staff, for the quality of the field activities and will be experienced in field investigation projects and the Management of Multi-disciplinary projects

3.3 QA/QC OFFICER

The QA/QC Officer will have the overall responsibility for QA/QC review of all analytical data generated during the field investigation; data validation; and qualification of analytical results in terms of data usability. The QA/QC Officer should be experienced in the validation of analytical data and the protocols and QC requirements of the analytical methods listed in the NYSDEC ASP and the data validation guidance, USEPA CLP National Functional Guidelines for Organic

Data review (February 1994) and USEPA Region II CLP Data Review SOP. The QA/QC Officer for this project will be Elliot J. Shapiro, P.E. His resume is included in Attachment 1.

4.0 SAMPLING PROCEDURES

4.1 WELL DRILLING AND DEVELOPMENT

Each installed well must be developed; that is, the well must be purged of drilling fluids and sediment that may have moved through the filter pack and well screen. Otherwise, the presence of these fluids and sediment may restrict the flow of water and product from the aquifer materials into the well.

Well development will be accomplished by cyclic removal of water from the well using a low flow pump. A Well Purging and Sampling Form will be used to record the required information. A copy of the Form is in Attachment 1.

Development of the well continues until there is no sediment in the removed water or until there seems to be no further improvement in water quality. Make note of the well water levels, and the clarity, color, and odor of the development water. The total volume of water and any product removed during development should be recorded. Development water must be managed in compliance with local, state, and federal regulations.

Before sampling a well (Monitoring well or supply well), first measure the water level and product level, if product is present. It is then necessary to purge the well of the standing water in order to obtain a "representative" groundwater sample.

When sampling a well, it is important to:

a. Select sampling devices constructed of inert materials such as stainless steel, non flexible PVC, or Teflon;

b. Place plastic sheeting around the wellhead so that sampling equipment does not come into contact with the soil or drilling fluids;

c. Measure and record the water level and free product thickness, if product is present, to the nearest 0.1 inch;

d. Use a sampling technique suited to the contaminants of interest (e.g., do not use methods or pump at a rate that would liberate volatiles, if you are sampling for volatiles).

4.2 SAMPLING PROCEDURES

Sampling locations and procedures for the Interim Remedial Measures Work Plan are described in detail in the Interim Remedial Measures Work Plan Drawing, and in Section III.

4.3 SAMPLING CONTAINER

All water samples will be collected in a precleaned glass 40 ml VOC Container.

4.4 SAMPLING PROTOCOL

Section III of the IRM Work Plan details the methods to be used to collect groundwater samples, and all QA/QC samples.

4.5 DECONTAMINATION SUPPLIES

The following items are likely to be needed as decontamination supplies: basin, scrub brush, 5 gallon buckets, flat bladed scrapers, garden type water sprayers, disposal drums (55 gallon with secure lids), sponges, paper towels, Nalgene squirt bottles, plastic sheeting, trash bags, disposable gloves, non-phosphate detergent, potable tap water, pesticide grade isopropanol, reagent grade nitric acid, and distilled/deionized water. This is not intended to be an exhaustive list and other supplies may be needed.

4.6 DECONTAMINATION/CLEANING PROCEDURES

All sampling and drilling equipment that has the potential to come in direct contact with the sample (i.e. split spoon samplers, sampling spatulas, bowls and spoons), will be decontaminated at the start of work and between sampling increments.

A sufficient field cleaning procedure is outlined for routine decontamination of such equipment:

a. Wash the equipment thoroughly with phosphate-free detergent and tap water. Use a brush to remove any particulate matter or surface film.

b. Rinse the equipment thoroughly with potable water.

c. Thoroughly rinse equipment with distilled/deionized water and allow to air dry.

d. Wrap sampling equipment completely with aluminum foil or plastic wrap to prevent contamination during storage and/or transport.

4.7 SAMPLE PRESERVATION

After collection, each sample will be placed in a cooler with ice and cooled to approximately 4°C.

4.8 HOLDING TIMES

All samples will be delivered to the contract laboratory at the end of each day or shipped for overnight delivery. The laboratory will perform the required analyses within the method required holding time.

5. SAMPLE DOCUMENTATION, CUSTODY AND TRANSPORT

5.1 FIELD DOCUMENTATION

5.1.1 FIELD NOTEBOOK

A permanently bound field notebook shall be maintained by the field team leader to document all pertinent project activities. The notebook will be bound so that pages can not be torn out. The following guidelines will be followed when entering information into the logbook:

a. All entries will be made legibly with indelible, dark blue or black ink.

b. All time will be reported as local military time. (24 hour clock)

c. All pages in the log will be numbered consecutively, signed and dated.

d. No blank pages or sections will be allowed. If a page is not completely filled in, a line will be drawn through the blank portion and initialed by the person keeping the log.

e. Errors will be corrected by drawing a single line through the error and initialing dating the change.

f. At the end of each day, the log book will be signed and dated.

The field notebook will contain the following:

a. Record the start of each day, the date, time and weather.

b. Note the people present throughout the day.

c. Record Personal Protective Equipment (PPE) levels and any changes made during the day.

d. Also note field instrument measurements and calibration.

e. Record action taken, project progress and observations.

f. Documentation of sample collection to include sample identification number (including QA/QC samples), description of the sampling method, sampling matrix, sample location

(including depths), time of collection, sampling depth, sample description, and type of analysis requested.

g. Record the photographs taken.

h. Any deviation from the sampling plan shall be noted and explained.

i. Record any unusual incidents, problems and accidents.

The Field Notebook serves as a permanent and traceable record of all field activities related to a project and it will become part of the project files.

5.1.2 DAILY QUALITY CONTROL REPORT

During field investigation activities Daily Quality Control Reports (DQCR) will be completed, dated and signed by the sampling technician at the end of each work day. Copies will be distributed to the Project Manager on a daily basis. These DQCR's shall include, but not be limited to, the minimum information described and listed below:

a. Weather conditions at the time of sampling.

b. Level of Personal Protective Equipment.

c. Samples collected.

d. any deviations from the QAPP, problems identified, and corrective actions taken.

If A significant problem occurs during sampling, the DQCR will be provided to the Project Director within 24 hours with a corrective action summary report. The DQCR will be written by the sampling technician and will be cross-checked against the field logbook, for completeness at the end of the each day. For a copy of a Sample DQCR Form See Attachment 1.

5.1.3 PHOTOGRAPHIC DOCUMENTATION

Typical examples of intrusive activities as well as other pertinent activities will be documented with representative photographs. The picture number, roll number and a brief description of the view will be logged in the Field Notebook. The developed prints will have the following information put on the back: 1) project name, 2) picture location (soil boring, well or building coring number, 3) geographic direction of view, 4) picture number and 5) roll number.

If a digital camera is used, a Photograph Log with the same information as for developed prints will be recorded. A copy of the Photographic Log Form is in Attachment 1.

5.1.4 DEPARTURE FROM APPROVED PLANS

Any deviation from the approved work plan shall be reported on the DQCR to the Project Manager within 24 hours of the occurrence. These reports shall be supplied by the Project Manager and include problems identified, corrective actions taken, and verbal/written instructions for sampling or re-analysis.

5.1.5 UNUSUAL INCIDENTS AND ACCIDENTS

Any unusual event or accident involving personal injury shall be reported on the DQCR to the Project Manager within 24 hours of the occurrence. These Reports shall be supplied by the Project Manager and include a description of the incident, name and severity of person(s) injured, status of injured, if known, and corrective actions taken to prevent reoccurrence.

5.1.6 SAMPLE IDENTIFICATION

All field samples, including QA and QC duplicates/splits, trip blanks, and field blanks, shall be identified using a unique sample identification scheme suitable to the project and sampling protocol. This unique sample number shall be recorded in indelible ink on the sample label and chain of custody form. The QA/QC sample I.D. and labels will be written so that they can be submitted "blind" to the laboratory; that is their labels and I.D. numbers must be indistinguishable from that of any regular sample.

The S&S X-Ray Products Investigation sample numbering will be in the format AA-BB-CC-XX.

Where AA = Sample Location
BB = Sample Type
CC = Depth of Sample
XX = Sample Number

Sample location AA from sampling work plan grid.
Sample location A1 will be used to identify a sample as a quality control sample

Type of Sample BB	SS	=	Surface Soil	TB = Field Trip Blank
	SB	=	Soil Boring	FB = Field Blank
	SW	=	Surface Water	MS = Matrix Spike
	GW	=	Groundwater	MD = Matrix Spiked Duplicate
	SG	=	Soil Gas	BD = Field Blind Duplicate

Depth of Sample CC or 00 for non-sampled quality control samples.

Sample Number XX, consecutive numbering of all samples.

5.1.7 SAMPLE LABELS

Field personnel are responsible for uniquely identifying and labeling all samples collected during a field investigation. All labeling will be completed in indelible ink and be securely affixed to the sample container. An example of a sample label is in Attachment 1. All sample labels should contain the following information:

a. Project name

b. Unique sample identification number

c. Sample status (grab or composite)

d. Chemical analysis parameters (analytes and EPA SW-846 method number).

e. Sampling date and time

f. Initials of person collecting samples.

g. Method of Sample preservation

h. Remarks

5.2 CHAIN OF CUSTODY

5.2.1 CHAIN OF CUSTODY PROCEDURES

The purpose of sample custody procedures is to document the history of sample containers and samples from the time of preparation of sample containers through sample collection, shipment, and analysis.

An essential consideration for the validation of environmental data is demonstrating that samples have been obtained from the locations stated and that they have reached the laboratory without alteration. Evidence of sample traceability from collection to shipment, to laboratory receipt and custody while in the laboratory, until proper disposal, must be documented. A sample is considered to be in a person's custody if the sample is:

a. In a person's actual possession

b. In view after being in a person's possession

c. Locked up so that no one can tamper with it after having been in physical custody.

d. In a secured area, restricted to authorized personnel.

Chain of custody procedures are initiated in the field following sample collection. The procedures consist of:

a. Preparing and attaching a unique sample label to each sample collected.

b. Completing the chain of custody form.

c. Preparing and packaging the samples for shipment.

5.2.2 CHAIN OF CUSTODY FORM

Documentation will be accomplished through a Chain of Custody form that records each sample and the individuals responsible for sample collection, transfer, shipment and receipt by the laboratory. This form must also contain pertinent information about sampling location, date, and times, signature of sampling technician, types and numbers of samples collected and shipped for analysis in each lot, parameters to be analyzed per sample, sample identification number and the project name.

Samples shall be accompanies by an approved and completed chain of custody form during each step of custody, transfer, and shipment. When physical possession of samples is transferred, both the individual relinquishing the samples and the individual receiving them shall sign, date and record the time on the chain of custody form. A sample of the Chain of Custody record is in Attachment 1.

5.3 SAMPLE TRANSPORTATION

5.3.1 PACKING AND TRANSPORTATION

Samples will be placed in individual containers compatible with the intended analysis, properly preserved, and sealed with a Teflon-lined screw cap prior to shipment to the laboratory. Sample labels, field notebook information, and chain of custody forms are checked to be sure there are no errors in sample identification and to verify that all the required information has been supplied. The samples are then packaged to prevent breakage and/or leakage.

As soon as the environmental sampler is ready to transport samples from the field to the Contract Laboratory, they shall notify the laboratory by telephone of the shipment along with the estimated time of arrival. In addition, the environmental sampler shall coordinate with a point of contract (POC) at the laboratory, advising them of the number and type of samples/analyses and the estimated time of arrival.

No chemical analytical samples shall be held on site for more than 24 hours. Samples will be shipped to the laboratory via overnight delivery or by hand delivery. See Sample Shipping below.

5.3.2 SAMPLE PACKING INSTRUCTIONS

In order to maintain chain of custody protocol and to prevent breakage of the sample containers, package the samples as follows:

a. After Sample collection, make sure the lids are securely affixed to the properly labeled sample containers, to prevent loosening and possible leakage of contents.

b. Enclose the bottles in clear plastic ZipLoc-type bags, through which labels are visible, and seal the bag. Place the bottles so that they will remain upright, cushioned and separated in the cooler during the shipment.

c. Put additional packing material to partially cover sample bottles (more than halfway), to ensure that they do shift during transport.

d. Place sealed plastic bags of ice (double bagged in "Ziploc" bags") around and on top of the sample bottles. If chemical ice is used (i.e. blue ice), bag similarly. NOTE: Use enough ice in order to maintain samples at a temperature of 4°C during shipment. Fill the cooler the rest of the way with ice or packing material to prevent shifting and breakage of contents.

e. Seal the appropropriate chain of custody form(s) in a ZipLoc-type plastic bag, and tape it securely to the inside lid of the cooler.

f. Tape the cooler/ice chest drain shut.

g. Close and secure the cooler. Secure the lid by taping. Wrap the cooler completely with strapping tape at a minimum of two locations. Do not cover any labels.

h. Attach a completed shipping label to the top of the cooler. While packing each cooler for shipment, remember not to exceed the weight limit set by the shipper if using overnight shipping.

5.3.3 SAMPLE SHIPPING

a. Samples will either be shipped overnight express or be hand delivered to the laboratory every day. A copy of the chain of custody form showing proper turnover to be the lab will be returned to the Project Director at the completion of the project.

b. Samples collected on Friday and going to the contract laboratory will be marked on the shipping label **For Saturday Delivery** and sent by overnight express or hand delivered. The Field Team Leader will contact the laboratory to expect a Saturday delivery.

c. It is preferred that chemical analytical samples be shipped to the lab within 24 hours. Therefore, the Field Team Leader must obtain specific prior approval from the Project Director for samples collected on Saturday, which will be shipped to the laboratory on Monday. In that case the temperature of 4° C must be maintained inside the cooler throughout the weekend and until the samples have been turned over to the laboratory.

e. Shipping Addresses: Samples collected will be sent to H2M Laboratories, 575 Broad Hollow Road, Melville, NY 11747.

6. LABORATORY QUALITY ASSURANCE

6.1 INCOMING SAMPLES

Upon sample receipt, the laboratory representative responsible for accepting incoming sample shipments must compare the samples received against the list on the chain of custody form. All samples will be examined to verify the condition of the samples upon receipt, and verify that sample holding times have not been exceeded.

Laboratory personnel shall measure the surface temperature of the samples to determine if the proper temperature was maintained during shipment. If any samples are observed as improperly preserved or damaged during transit, The Project Director and Project Manager shall be notified with 24 hours to decide if resampling will be required:

Project Director:	Robert A. Lo Pinto, P.E., Phone: 516 791-2300
Project Manager:	Brian Costello, Phone: 800-734-9947

6.2 INSTRUMENT PREVENTIVE MAINTENANCE, CALIBRATION AND FREQUENCY

The analytical instrumentation to be used for sample analysis shall have preventive maintenance performed and calibrations done at a frequency that is specified and in accordance with the procedures documented in the Laboratory's QA Manual. These shall be consistent with the requirements of the analytical method.

6.3 LABORATORY ANALYTICAL METHODS

Samples for volatiles will be analyzed by EPA Method 8260. Method 8260 is a gas chromatographic/mass spectroscopy (GC/MS) method that detects a wide range of volatile organic compounds (VOCs).

6.4 QUALITY CONTROL PROCEDURES

Two types of quality assurance checks will be used to assess the production of analytical data of known and documented quality: program quality assurance and analytical method quality control. The objectives of the lab QA/QC program are to:

a. Verify that all administrative and/or technical procedures are documented.

b. Document that all analytical procedures comply with sound scientific principles and have been validated.

c. Monitor performance of the lab by a systematic inspection program and provide for corrective action as necessary.

d. Verify that all data are properly recorded and archived.

In each data package provided, the lab will document that analytical QC functions have been met. Internal quality control procedures for analytical services should comply with the standard operating procedures of the analytical method and QA/QC plan. Any samples analyzed that are not in conformance with the QC criteria will be reanalyzed by the lab if the lab procedures were not in control as assessed by lab control procedures and, if sufficient sample volume is available for reanalysis.

Quality Control check samples (method blanks, Matrix Spike/Matrix Spike Duplicate, duplicates, etc.) will be analyzed concurrently with the sample batch to which they are assigned. Any deviations or modification from the published EPA procedures must be documented and clearly noted in the case narrative.

6.5 INTERNAL QUALITY CONTROL CHECKS

Quality control checks are necessary to evaluate performance reliability for each measured parameter. The lab will perform internal quality control checks on the method and instrument blanks, surrogate spike samples, matrix spike samples, laboratory duplicates and/or matrix spike duplicates and laboratory control samples in order to assess the precision, accuracy, and completeness of each measurement. At a minimum, these shall be run at rates specified within the individual methods.

6.6 CORRECTIVE ACTION

The laboratory department supervisors will review the data generated to verify that all quality control samples have been run as specified in the protocol. Recoveries of matrix spikes samples, for consistency with method accuracy and matrix spike duplicate samples, for method precision, will be evaluated using the data quality goals discussed in the Quality Assurance Objective

Section. Analytical data generated with laboratory control samples which fall with the established control limits are judged to be in control. Data generated with laboratory control samples that do not fall within the control limits are considered suspect and the analysis is repeated or the results reported with qualifiers if this is not possible.

Corrective actions are necessary if:

a. QC data are outside the warning or acceptable windows for precision and accuracy established for lab control samples.

b. Blanks contain contaminants at concentrations above the level specified in the QC plan for the target compound.

c. There are unusual changes in detection limits.

d. Undesirable trends are detected in matrix spike recoveries or relative percent difference (RPD) between matrix spike duplicates.

In any nonconformances in analytical methodologies, quality control sample results, etc., are identified by the analyst, corrective actions will be implemented immediately. Corrective actions may include, but will not be limited to:

a. Reanalyzing suspect samples;

b. Evaluating and amending sampling and/or analytical procedures;

c. Accepting data with an acknowledged level of uncertainty;

d. Recalibrating analytical instruments, and/or

e. Discarding the data.

Additional samples will be collected for laboratory analysis if the 90% completeness of PARCC parameters is not met.

Performance and systems audits may be conducted to verify the documentation or implementation of the QA program, assess the effectiveness of the project QA/QCP, identify any nonconformances, and verify correction of identified deficiencies. The Project Manager will be responsible for initiating audits, selecting the audit team, and overseeing audit implementation.

6.7 DATA REDUCTION, EVALUATION AND DOCUMENTATION

Data evaluation shall be performed in accordance with the procedures of the approved laboratory's QA manual and shall adhere to the protocols described in Test Methods for

Evaluating Solid Waste: Physical/Chemical Methods, SW-846, Third Edition, U.S. EPA, including UPDATE III, September 1994 and EPA 600/4-79-020, Methods for Chemical Analysis of Water and Wastes, March 1983.

Data evaluation serves 3 main purposes:

a. It qualifies data for further use to ensure data are not inappropriately used;

b. It serves as a check on a laboratory to ensure they are meeting contractual deliverables and regulatory requirements;

c. It establishes due diligence and allows errors to be addressed sooner in a program, so that the impact will be less than if the errors were detected later.

The laboratory will present all the data in the data quality package, along with QC supporting data. The laboratory will send a copy of this data quality package to SEPC. The details of this package are delineated in the Section "Analytical results".

7. CHEMICAL DATA DELIVERABLES

During the project, the chemical data deliverables to be submitted are listed in the Section "Laboratory Analytical Data Report Package".

7.1 ANALYTICAL RESULTS

Chemical analysis results will be formatted and submitted to SEPC. Analytical results with laboratory quality control/internal check data will be delivered within 21 days of receipt of samples.

7.2 LABORATORY ANALYTICAL DATA REPORT PACKAGE

This deliverable shall contain at a minimum all of the items listed below to allow the Project Director to perform an adequate data evaluation. (Data shall be presented in tabular format whenever possible):

a. Sample Identification - Prepare a tabular presentation which matches the contract laboratory sample identifications to the field identification numbers assigned to each sample. This list shall identify all field splits/duplicates.

b. Chain of Custody Record Forms - Provide copies from all sample shipments received by the contract laboratory.

c. General Organic Reports - For each analytical method run, report results of all analyses for each sample (concentration detected or less than the specific

quantitation limit). On the sample's data sheets, clearly identify the specific analytical batch the sample belongs to and the corresponding QC data reported. Report any dilution factors, as well as date of extraction (if applicable) and date of analysis for each sample.

d. Internal Quality Control (QC Reports) - For each analytical batch, report a complete set of QC results. At a minimum, Internal QC samples shall be analyzed at rates specified in the methods. The following Internal QC results shall be submitted:

(1) Laboratory Blanks (Method and Instrument Blanks) - Report all analytes for each laboratory blank analyzed per sample batch.

(2) Surrogate Spike Samples - Report recoveries with all organic method reports, where applicable (i.e. when the method requires surrogate spikes). Also specify the control limits for surrogate spike results, and the concentration used for the spike.

(3) Matrix Spike Samples - Report recoveries for all organic analyses. Also specify the control limits for matrix spike results, each method, and matrix. General sample results shall be designated as corresponding to a particular matrix spike sample.

(4) Laboratory Duplicates and/or Matrix Spike Duplicates Pairs - Report the Relative Percent Difference (RPD) for each duplicate pair and the analyte/matrix specific control limits.

(5) Laboratory Control Samples - When run for a method's internal QC, report the results of the laboratory control sample (LCS) with the corresponding project sample data. Also specify the control limits for the LCSs.

(6) Field Duplicates and Field Blanks - Report the Relative Percent Difference for all field duplicate pairs.

7.3 LABORATORY QUALITY CONTROL SUMMARY REPORT

This report shall address QC practices employed throughout the project. Include a discussion of all data points which may have been influenced or compromised and their impact on the DQOs.

7.4 CHEMICAL QUALITY ASSURANCE REPORT

The laboratory will generate a Chemical Quality Assurance Report (CQAR). This will compare QA versus primary and QC sample results, and thus access the quality and validity of the data along with the contract laboratory's internal quality control measures.

7.5 FINAL INVESTIGATION REPORT

The final investigation report will be developed to compile the results of S&S X-Ray Products investigation, laboratory analyses, and associated background research. This will include a summary of findings, a tabulation of chemical analysis performed, an assessment of the environmental conditions at the site, a risk assessment and recommendations for any further action.

8. DATA USABILITY SUMMARY REPORT

8.1 BACKGROUND

The Data Usability Summary Report (DUSR) provides a thorough evaluation of analytical data in an efficient, cost effective method. The primary objective of a DUSR is to determine whether or not the data, as presented, meets the site/project specific criteria for data quality and data use. The development of the DUSR will be carried out by the project QA/QC Officer, who is fully capable of conducting a full data validation. The DUSR is developed from the New York State Department of Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category B Laboratory Report Package.

8.2 REVIEW

If the DUSR and the data deliverables package indicates significant problems with some or all of the data in the package, the data should be either rejected or validated to determine if it can be used. This decision will be based upon several factors and should be made with advice from the QA/QC Officer, the Project Manager and the Project Director. In some cases, the data may be usable for screening purposes only.

8.3 PREPARATION OF A DUSR

The DUSR is developed by reviewing and evaluating the analytical data package. During the course of this review the following questions must be asked and answered:

a. Is the data package complete as defined under the requirements for the NYSDEC ASP Category B?

b. Have all holding times been met?

c. Do all the QC data (i.e., blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analyses, laboratory controls and sample data) fall within the protocol required limits and specifications?

d. Have all of the data been generated using established and agreed upon analytical protocols?

e. Does an evaluation of the raw data confirm the results provided in the data summary sheets and quality control verification forms?

f. Have the correct data qualifiers been used?

Once the data package has been reviewed and the questions given above have been answered, the DUSR proceeds to describe the samples and the analytical parameters. Data deficiencies, analytical protocol deviations, and quality control problems are identified and their effect on the data is discussed. The DUSR shall also include recommendations on resampling and/or reanalysis. All data qualifications must be documented following the latest NYSDEC ASP guidelines.

ATTACHMENT 1

TO

APPENDIX "C"

RESUME - QA/QC OFFICER, ELLIOT J. SHAPIRO, P.E.

DAILY QUALITY CONTROL REPORT FORM

WELL PURGING AND SAMPLING FORM

PHOTOGRAPHIC LOG FORM

SAMPLE LABELS

CHAIN OF CUSTODY FORM

RESUME

NAME: ELLIOT J. SHAPIRO, P.E.

DATE OF BIRTH: December 16, 1929

EMPLOYMENT: Chief Executive Officer, Laboratory Director
Shapiro Engineering, P.C.
181 S. Franklin Avenue - Suite 305
Valley stream, N.Y. 11581

EDUCATION & LICENSURE: U.S. Merchant Marine Academy, King Point, B.S. 1951
Licensed Professional Engineer
New York #38645 11/6/61
New Jersey #17251 9/9/69
California #16566 8/14/74
U.S. Merchant Marine Officer, Third Assistant Engineer
Steam and Diesel, Any Horsepower, 12/3/51-12/3/69

OCCUPATION: MECHANICAL ENGINEER
Practicing in the fields of Mechanical and Environmental Engineering:

1/51-12/52 United States Lines, Junior Third Assistant Engineer, S.S. America: Watch Engineer (Boiler Room), Watch Electrical Engineer.

1/53-6/53 U.S. NAVY, Brooklyn Navy Yard: Test Engineer, writing test procedures for Hydraulic Elevators and Hydraulic Catapults on Air Craft Carriers. Write test procedures for Boiler Feed Water Controller. Design steam powered detergent heater for use in cleaning trace quantities of oil from liquid oxygen lines.

7/53-7/54 U.S. Navy, U.S.S. Bowers APD-40: Damage Control Officer, Nuclear, Biological & Chemical Defense Officer.

8/54-7/55 Chief Engineer

9/55 to Present Private Practice, Charles M. Shapiro, P.E. and Successors Charles M. Shapiro and Sons, P.C. and Shapiro Engineering, P.C

Design of Industrial Buildings, Sprinkler Systems, Heating and Air Conditioning Systems, Industrial Exhaust Systems, Air Pollution Control Systems, Afterburners, Wastewater Treatment Systems. Conduct Inplant Air Tests and Studies to determine worker exposure to Chemicals. Conduct Ambient Air Tests and Studies to

determine levels of Air Pollution. Test and measure soil for hazardous waste constituents and determine remedial procedures.

Forensic Engineering relating to Building Contamination Remediation and Wastewater Treatment. Evaluation of Analytical Procedures.

Established the Environmental Services Laboratory and at the inception of the Program secured New York State Department of Health Environmental Laboratory Approval Program Certification for Metals and Organics in Drinking Water, Wastewater, Air Emissions and Solid Wastes.

Laboratory Director.

PROFESSIONAL AND TECHNICAL SOCIETIES:

Member American Institute of Plant-Engineers 1966
Member American Institute of Chemical Engineers 1980
Member American Chemical Society 1988
Member Air Pollution Control Association
Diplomate American Academy of Environmental Engineers
(Air Pollution Control Engineer, Industrial Hygiene Engineer)
Trustee, New York State Society of Professional Engineers (1995-Present)
Member, N.Y.C. Buildings Commissioner's Advisory Cabinet (1994-1996)
Member N.Y.C. Environmental Protection Commissioner's Advisory Cabinet (1996-Present)
President, N.Y.S.S.P.E. (1993-1994)
Director, NSPE (1993-1995)
Member NSPE Legislative & Government Affairs Committee (1996-Present)
Chairman, Board of Directors of the Professional Design Center of New York (1998)
Director, Professional Design Center of N.Y. (1997 to Date)
Chairman, Codes Committee, N.Y.S.S.P.E. (Circa 1975)
Chairman, Mechanical Equipment Sub-Committee, N.Y.C. Dept. of Buildings World Trade Center Task Force

OTHER:

Director, Peninsula Hospital Center, Queens, N.Y. (1998-Present)
Director, American Parkinson Disease Assoc. (2000-Present)

c:\MyDocuments\EJS RESUME 2

Daily Quality Control Report

Client: _____ Contact Person: _____

Project Location: _____ Job #: _____

Date: _____ Time: _____

Weather Conditions at time of sampling: _____

Level of Personal Protective Equipment: _____

PID Air Readings: _____

Samples collected

SAMPLE NUM.	SAMPLE DESCRIPTION	SAMPLE TIME

Comments: _____

Departures from approved plans: _____

Corrective Actions: _____

Unusual Incidents and Accidents: _____

Completed by: _____ Date: _____

DATA/OFFICE/REPORTS/S&S X-RAY/DAILY QUALITY CONTROL REPORT.123

Well Purging and Sampling Form

Client:_____ Contact Person: _____

Project Location:_____ Job #: _____

Date:_____ Time:_____

Weather Conditions: _____

Well Information

Well #: _____

Well Location (in reference to permanent structures or features):_____

Well Coordinates (in reference to permanent structures or features): _____

Diameter of Well Flush Mount: _____

Diameter of Casing:_____

Before Purging

Is Free Product Present (Yes/No, thickness) (ft., in.): _____

Total Depth of Well From Top of Casing or Surveyor's Mark (ft., in.): _____

Depth From Top of Casing or Surveyor's Mark to Groundwater (ft., in.): _____

Linear Measurement of Groundwater in the Casing (ft., in.): _____

Estimated Volume of Groundwater in Casing ($V=\pi*r^2*h$ or $=0.7856*h*d^2$, 1 gal.=0.1337 ft^3. or 1 $ft.^3$=7.481 gal.) (gal.):

_____

Purging

Start Purge Time (24 hr. Clock):_____

End Purge Time (24 hr. Clock):_____

Purge Method (bladder pump, bailer, etc.):_____

Purge Rate (gal./min.): _____

Purge Range (Estimated Volume of Groundwater in the Casing multiplied by 3 and 5) (gal.):_____

Total Volume Purged (gal.): _____

Sampling

Groundwater Sample #:_____

Sampling Method: _____

Start Sample Time (24 hr. Clock):_____

End Sample Time (24 hr. Clock): _____

DATA/OFFICE/REPORTS/S&S X-RAY/Well Form.lwp

Photographic Log

Client: _____ Contact Person: _____

Project Location: _____ Job #: _____

Date: _____ Time: _____

PHOTO NUM.	PHOTOGRAPH DESCRIPTION / VIEW	TIME

Completed by: _____ Date: _____

DATA/OFFICE/REPORTS/S&S X-RAY/PHOTOGRAPHIC LOG.123

S&S X-RAY PRODUCTS INC.

1101 LINWOOD STREET, BROOKLYN, N.Y. 11208

EPA SW-846 FOR BENZENE, TOLUENE, XYLENE ETHYLBENZENE , MTBE

SAMPLE I.D.: ______ - ______ - ______ - ______

SAMPLE DATE.: ________ SAMPLE TIME.: ________

SAMPLED BY.: ________________

PRESERVATION: ☐ 4°C ☐ HCL

SAMPLE: ☐ GRAB ☐ COMPOSITE

S&S X-RAY PRODUCTS INC.

1101 LINWOOD STREET, BROOKLYN, N.Y. 11208

EPA SW-846 FOR BENZENE, TOLUENE, XYLENE ETHYLBENZENE , MTBE

SAMPLE I.D.: ______ - ______ - ______ - ______

SAMPLE DATE.: ________ SAMPLE TIME.: ________

SAMPLED BY.: ________________

PRESERVATION: ☐ 4°C ☐ HCL

SAMPLE: ☐ GRAB ☐ COMPOSITE

S&S X-RAY PRODUCTS INC.

1101 LINWOOD STREET, BROOKLYN, N.Y. 11208

EPA SW-846 FOR BENZENE, TOLUENE, XYLENE ETHYLBENZENE , MTBE

SAMPLE I.D.: ______ - ______ - ______ - ______

SAMPLE DATE.: ________ SAMPLE TIME.: ________

SAMPLED BY.: ________________

PRESERVATION: ☐ 4°C ☐ HCL

SAMPLE: ☐ GRAB ☐ COMPOSITE

S&S X-RAY PRODUCTS INC.

1101 LINWOOD STREET, BROOKLYN, N.Y. 11208

EPA SW-846 FOR BENZENE, TOLUENE, XYLENE ETHYLBENZENE , MTBE

SAMPLE I.D.: ______ - ______ - ______ - ______

SAMPLE DATE.: ________ SAMPLE TIME.: ________

SAMPLED BY.: ________________

PRESERVATION: ☐ 4°C ☐ HCL

SAMPLE: ☐ GRAB ☐ COMPOSITE

S&S X-RAY PRODUCTS INC.

1101 LINWOOD STREET, BROOKLYN, N.Y. 11208

EPA SW-846 FOR BENZENE, TOLUENE, XYLENE ETHYLBENZENE , MTBE

SAMPLE I.D.: ______ - ______ - ______ - ______

SAMPLE DATE.: ________ SAMPLE TIME.: ________

SAMPLED BY.: ________________

PRESERVATION: ☐ 4°C ☐ HCL

SAMPLE: ☐ GRAB ☐ COMPOSITE

S&S X-RAY PRODUCTS INC.

1101 LINWOOD STREET, BROOKLYN, N.Y. 11208

EPA SW-846 FOR BENZENE, TOLUENE, XYLENE ETHYLBENZENE , MTBE

SAMPLE I.D.: ______ - ______ - ______ - ______

SAMPLE DATE.: ________ SAMPLE TIME.: ________

SAMPLED BY.: ________________

PRESERVATION: ☐ 4°C ☐ HCL

SAMPLE: ☐ GRAB ☐ COMPOSITE

S&S X-RAY PRODUCTS INC.

1101 LINWOOD STREET, BROOKLYN, N.Y. 11208

EPA SW-846 FOR BENZENE, TOLUENE, XYLENE ETHYLBENZENE , MTBE

SAMPLE I.D.: ______ - ______ - ______ - ______

SAMPLE DATE.: ________ SAMPLE TIME.: ________

SAMPLED BY.: ________________

PRESERVATION: ☐ 4°C ☐ HCL

SAMPLE: ☐ GRAB ☐ COMPOSITE

S&S X-RAY PRODUCTS INC.

1101 LINWOOD STREET, BROOKLYN, N.Y. 11208

EPA SW-846 FOR BENZENE, TOLUENE, XYLENE ETHYLBENZENE , MTBE

SAMPLE I.D.: ______ - ______ - ______ - ______

SAMPLE DATE.: ________ SAMPLE TIME.: ________

SAMPLED BY.: ________________

PRESERVATION: ☐ 4°C ☐ HCL

SAMPLE: ☐ GRAB ☐ COMPOSITE

H2M LABS, INC.

575 Broad Hollow Rd, Melville, NY 11747-5076
Tel: (516) 694-3040 Fax: (516) 420-8436

No. 5254 **EXTERNAL CHAIN OF CUSTODY**

CLIENT: | **H2M SDG NO:**

PROJECT NAME/NUMBER

SAMPLERS: (signature)/Client

DELIVERABLES:

TURNAROUND TIME:

NOTES:

Project Contact:

Phone Number:

Sample Container Description →

Total No. of Containers ↓

ANALYSIS REQUESTED

ORGANIC: VOA | BNA | Pest/PCB

INORG.: Metal | CN

DATE	TIME	MATRIX	FIELD I.D.	LAB I.D. NO.	REMARKS:

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

LABORATORY USE ONLY

Discrepancies Between Sample Labels and COC Record? Y or N
Explain:

Samples were:
1. Shipped___ or Hand Delivered___ Airbill# _____
2. Ambient or chilled
3. Received in good condition: Y or N
4. Properly preserved: Y or N
5. Samples returned to lab ___ Hrs from collection.

COC Tape was:
1. Present on outer package: Y or N
2. Unbroken on outer package: Y or N
3. COC record present & complete upon sample receipt: Y or N

WHITE COPY - ORIGINAL YELLOW COPY - CLIENT PINK COPY - LABORATORY

1101 LINWOOD STREET
BROOKLYN, NEW YORK 11208

DATA USABILITY SUMMARY REPORT

GENERAL

This Data Usability Summary Report (DUSR) provides a thorough evaluation of the Analytical Data submitted by EcoTest Laboratories, Inc. for the purpose of determining whether or not the data meets the required level of quality. The DUSR is developed by reviewing and evaluating the Analytical Data Packages. This review is facilitated by answering standard questions relating to the quality of the data, and by following guidance in the "USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Inorganic Data Review" (7/02).

The original Laboratory Reports issued by EcoTest did not include any of the QA/QC data required in the New York State Department of Environmental Conservation Data Package for a Analytical Services Protocol Category B. However, the laboratory generated QA/QC data during the analytical runs, and electronically saved them. The laboratory was requested to retrieve the QA/QC data and provided us with copies of the available QA/QC data. This data was utilized in this Data Usability Evaluation.

ECOTEST LABORATORIES, INC. ANALYTICAL DATA:

1. Is the Data Package complete under the requirements of New York State Department of Environmental Conservation Analytical Services Protocol (ASP) Category B? A review of the Data Package indicates it contains most all the required documentation. As noted above, the Data Package was prepared approximately 12 - 16 months after the analyses were performed. Sufficient QA/QC data has been provided to allow for an adequate evaluation of the analytical data. Furthermore, since we were personally involved with most all of the Sample Collections and Preservation, we have additional QA/QC knowledge relevant to the Analytical Data.

2. Have all holding times been met? All samples were analyzed within the required holding times.

3. Do all the QC Data: Blanks, Instrument Tunings, Calibration Standards, Calibration Verifications, Interference Checks, Surrogate Recoveries, Spike Recoveries, Replicate Analysis, Laboratory Controls and Sample Data fall within the Protocol required limits and specifications?

   A review of QA/QC Data indicates no discrepancies with:

   a. Volatile Organics: Duplicate Spikes, Reference Samples, Spike Recovery, Surrogate Recovery, Initial Calibration and Blank Samples.

   b. Semi-Volatile Organics: Matrix Spike, Reference Samples, Duplicate Spikes, Blanks and Spike Recovery Samples.

   c. Metals: Blanks, Spikes and Duplicate Spike Recovery, Reference Samples, Initial Calibration and continuing Calibration Samples, Interference Check Samples and Internal Samples.

4. Have all of the data been generated using established and agreed upon Analytical Methods?

   The Analytical Methods used for analysis (EPA Methods 624, 8021, 8240 or 8260 for Volatile Organics, EPA Methods 8270 or 624 for Semi-Volatile Organics, EPA Method 7470A for Mercury, EPA Method 7740 for Selenium and EPA Methods 6010 and 200.7 for other Metals) are approved Methods for the analyses performed.

5. Does an evaluation of the raw data confirm the results provided in the Data Summary Sheets and Quality Control Verification Forms?

   Yes, an evaluation of the raw data confirms the results provided in the Data Summary Sheets and the Quality Control Verification Forms. An initial review of the data revealed that for Sample GW7L-46, Lab ID No. 220619.11 the Benzene result was reported as 8 ppb, when it should have been Non-Detected. The results in this Report have been corrected to indicate the Non-Detect result.

6. Have the correct data qualifiers been used? A review of all QA/QC results indicate that no Laboratory applied qualifiers are required for the results used in this Report.

7. Conclusion:

   Based on a review of the entire Data Package, it has been determined that all data results are acceptable and meet or exceed the required Quality Controls.

BERNINGER ENVIRONMENTAL FIELD ANALYSES:

As noted in the IRM, there were problems with the Field Analyses. No Data Package is available. During the sampling and Field Analyses, it was noted that the Field Gas Chromatograph was not responding properly. There was an apparent software problem and then a physical problem with the instrument. This resulted in improper analyte identification and quantification. Thus, while a positive result for any analyte indicates an analyte was present, it is not necessarily the correct analyte, or the correct concentration. Thus, the Field Analytical Results are only used when other results are not available and then only with the knowledge that the actual results are probably different than the reported results.

1101 LINWOOD STREET
BROOKLYN, NEW YORK 11208

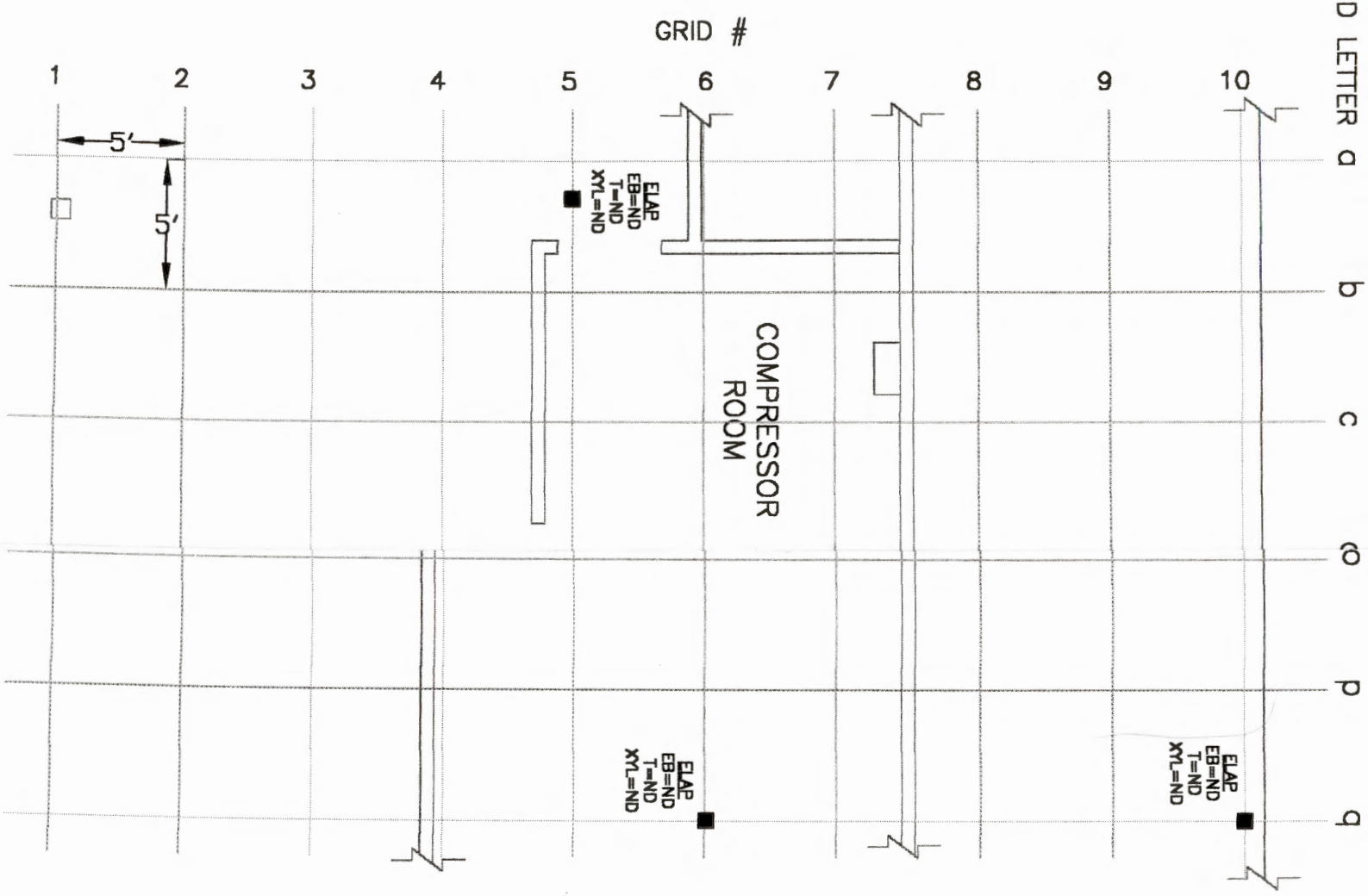
SUMMARY

The data presented on the Report's Table of Results is an acceptable representation of the true value of all contaminants tested by EcoTest Laboratories. The Field Analytical Results must be considered as only approximate. All future analyses will be performed following all the Category B Guidelines.

ROBERT A. LO PINTO, P.E., NSPE

APPENDIX "E"

CROSS SECTION CONTAMINATION CONTOURS



L.Suchkova, SHAPIRO ENGINEERING, P.C. 3/11/03 9:19 AM 01-44 ELAP-

SCALE: 5/32" = 1'-0"

11X17

SHAPIRO ENGINEERING, P.C.

CONSULTING ENGINEERS
181 South Franklin Avenue, Suite 305, Valley Stream, N.Y. 11581-1101
(516) 791-2300 FAX: (516) 791-0782 e-mail: shapiroengineers@worldnet.att.net

S&S X-RAY PRODUCTS, INC.
1101 LINWOOD STREET
BROOKLYN, NY 11208

ELAP SAMPLING RESULTS
PLAN
SB -12 TO -16 FEET CONTOUR

Date:	3/11/03
Scale:	AS NOTED
Drawn by:	AS
Job:	01-44
Dwg:	01-44ELAP-SB16CONT.
Sheet	1 of 5 Sheets

1101 LINWOOD STREET
BROOKLYN, NEW YORK 11208

APPENDIX "F"

WELL INSTALLATION INSTRUCTIONS

1101 LINWOOD STREET
BROOKLYN, NEW YORK 11208

APPENDIX "F"

WELL INSTALLATION PROCEDURES

1. GENERAL

All Health and Safety Plan (Appendix "B") Procedures will be followed in the installation of wells. There are three different types of wells to be installed: Groundwater Extraction Wells; Groundwater Monitoring Wells; and Soil Gas Sampling Wells. Even though each type of well is unique in its size and design, the same general installation procedures will be utilized.

2. LOCATION OF UTILITIES

The Location of all exterior underground utilities will be identified by calling NYC DIGS at 800-272-4480 one week prior to well installation. Interior underground utilities in the vicinity of the wells will be identified by Building Drawings and Physical Inspections. The location of any specific well will be changed if necessary, to avoid all underground utilities.

3. BOREHOLE CONSTRUCTION

All borings will be installed and sampled using either a 4.25 inch or 6 inch hollow-stem auger drill rig, depending on the purpose of the particular Borehole. All equipment will be properly decontaminated prior to use. Prior to staring each Borehole, the drilling rig shall be positioned over the new well location and leveled to ensure the Borehole is drilled as plumb and true as practical.

The Auger will be advanced into the ground, with additional auger flights added to reach the required depth for each well. As the auger advances, soil will be deposited onto a plastic sheet placed around the hole. This soil will be observed to determine soil types encountered. The soil will be collected, characterized and disposed of appropriately.

4. RECORD KEEPING

A Standard Well Construction Log Form (attached) will be completed for each Borehole constructed and/or each well installed.

5. WELL INSTALLATION

After the completion of the Borehole, the appropriate well(s) will be installed and constructed. Section 3 provides drawings of both extraction and monitoring wells. The depth, diameter, and

screening will be dependent on the well type. Care will be taken to ensure only clean materials are used in the construction and packing of the wells.

6. WELL ABANDONMENT

After remediation is completed, and the wells no longer required, the well will be filled in with an inert material and the top 6 inches (or thickness of the surrounding floor) of the well will be filled with concrete.

Well Construction Log

Job No.: _____ Page _____ of _____

Project _____ Date _____
Client _____ Permit No. _____
Location _____ Driller _____

Well No. _____ Use _____ Bore Hole Diameter _____
Sample Method _____
Drilling Method _____ Depth to Water _____
Total Depth _____

Casing
Type _____ Diameter _____ Length _____

Screen
Type _____ Diameter _____ Slot _____ Length _____

Gravel Pack _____ Casing Seal _____
Security _____ Finish _____

Depth Below Grade (FT.)	Sample Number	Blows per 5" on Sampler	Well Construction	Well Details	Soil Description / Remarks

NAME: _____ SIGNATURE: _____