TRANSPORTATION PROJECT REPORT

P.I.N. 9650.02.301
NYSDOT REGION 9
EQUIPMENT MAINTENANCE YARD
112 BARLOW ROAD
BROOME COUNTY
NEW YORK

PHASE I HAZARDOUS WASTE ASSESSMENT

JANUARY 1994

NEW YORK STATE DEPARTMENT OF TRANSPORTATION
MARIO M. CUOMO, Governor JOHN C. EGAN, Commissioner

REG 96-1 (5/87)

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1.0 INTRODUCTION

Stetson-Harza has been retained by the New York State Department of Transportation (NYSDOT) to conduct a Hazardous Waste Investigation of the Region 9 Equipment Maintenance Shop site located on the north side of Barlow Road, Town of Kirkwood in Broome County, New York. The objective of the study is to identify the existence of hazardous wastes which may affect the construction of a new building on this site.

The site had been reported to have been used as a storage and disposal area for waste paints, pesticides, solvents, and petroleum products.

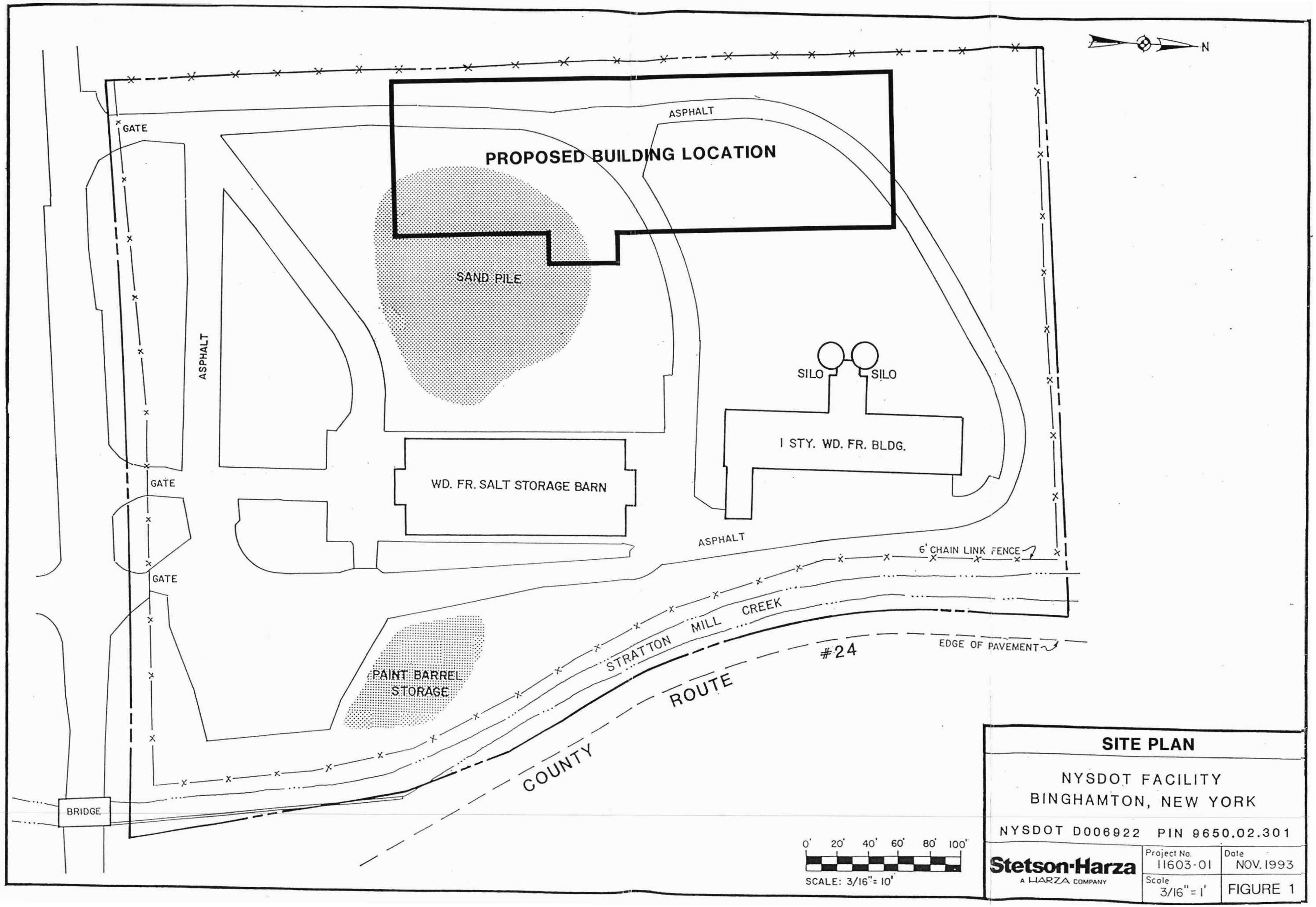
This report presents the results of the Hazardous Waste Investigation conducted during October and November of 1993.

1.1 Site Description

The NYSDOT Barlow road property, approximately 20 acres, is presently occupied by a 6,750 square foot one-story wood frame building with two (2) attached silos currently used at the Sign Shop, a 8,708 square foot wood frame ple barn housing road salt, a large pile of sand approximately 15,935 square feet, a waste paint/solvent drum storage area, and several stock piles of signs, crushed drums, metal beams, cables, reinforcing rods, and miscellaneous NYSDOT debris. Figure 1 is a general site plan for the Barlow Road Property.

The Stratton Mill Creek flows in a southerly direction along the eastern property boundary to the Susquehanna River approximately 1/2 mile to the south. The site topography slopes moderately to the south.

Approximately 50-75 drums are presently being stored on pallets in the southeastern area of the site. These drums contain used paint, solvents, and unknown liquids. Several of these drums shown indications of ongoing leakage. Several areas of stained soil were noted in the drum storage area.



SITE PLAN

NYSDOT FACILITY
BINGHAMTON, NEW YORK

NYSDOT D006922 PIN 9650.02.301

Stetson-Harza
A HARZA COMPANY

Project No.	Date
11603-01	NOV. 1993
Scale	
3/16"= 1'	FIGURE 1

2.0 FIELD INVESTIGATION

The field of investigation was initiated in October 1993, consisting of the excavation of seven (7) test pits, completion of three (3) soil borings for geotechnical purposes and the installation of three (3) groundwater monitoring wells.

Six (6) additional borings were completed in November 1993, as well as the development and sampling of the three (3) groundwater monitoring wells, a soil gas survey, and ground penetrating radar of the site. Figure 2 details test point locations.

2.1 Review of Aerial Photographs

Aerial photographs taken in 1937, 1955, 1958, 1965, and 1968 were reviewed to identify prior land use practices of this area. In 1937 the site was not yet developed, showing more trees and vegetation than in later years. By 1955, the wood-frame building had been erected and much of the vegetation cleared away, but there were no signs of trenches or earth mounding on site. These conditions did not change in the 1958 photographs.

There is a visible tree line on the east side of the site along Stratton Mill Creek. There is no apparent thick vegetation close to the building, only grass/lawn on the west side. These observations were made looking at the 1965 photos. To the southwest of the building there appears to be piles of sand or gravel and also several permanent type structures. These could be piles of wood and or steel, or temporary trailers of some kind. They also show up in the 1968 photo in the same places.

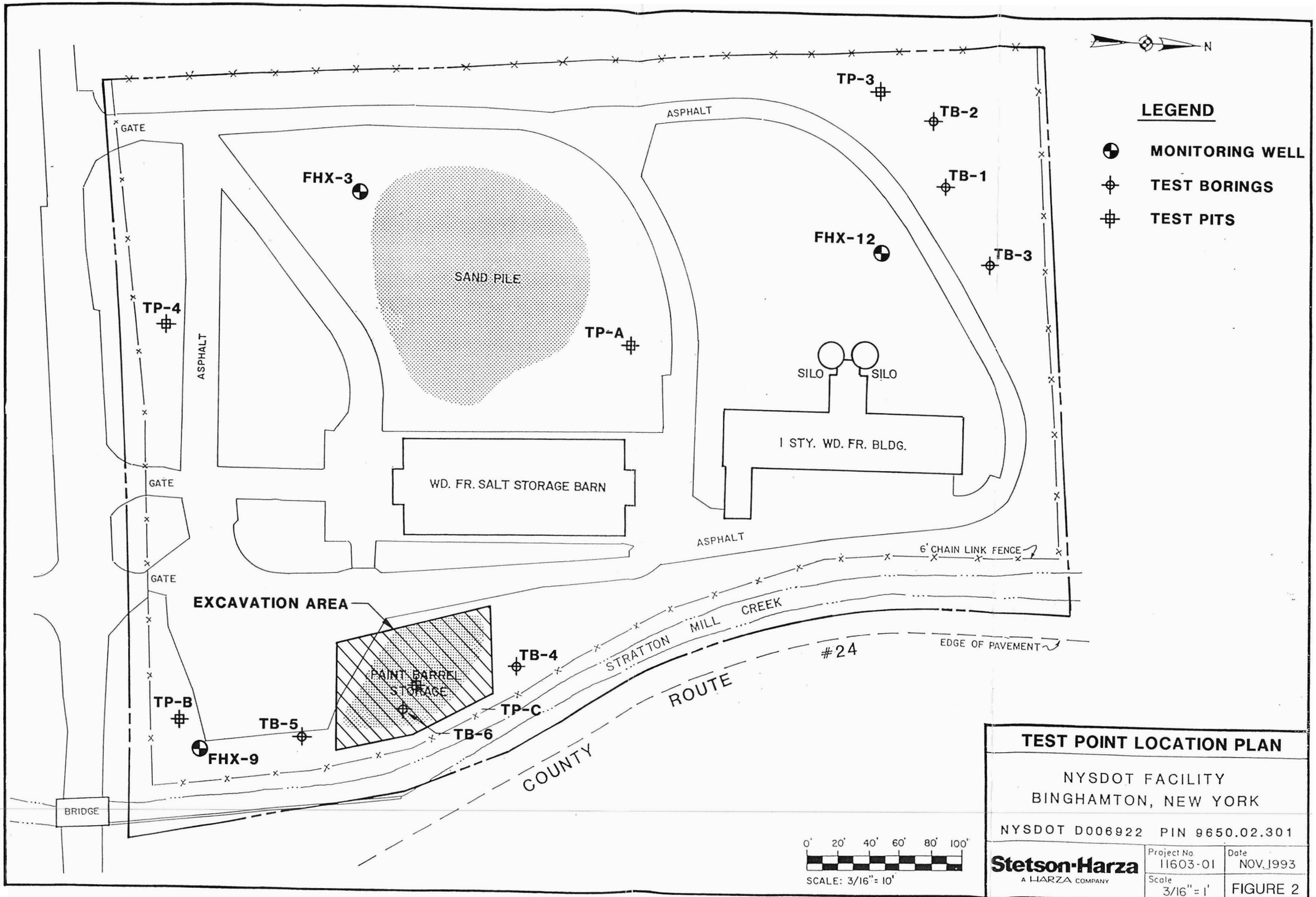
The 1968 photo shows some trucks on the west side of the barn building with rectangular looking objects on the east side, either trucks or dumpster-type objects. There is no evidence of waste-drums or mounding of soil from trenching activity.

2.2 Ground Penetrating Radar

Enviroscan, Incorporated completed a geophysical survey of the NYSDOT Barlow Road Maintenance Yard north of Barlow Road on November 1 and 2, 1993 with oversight and direction provided by Stetson-Harza. The purpose of the survey was to locate and delineate any underground storage tanks (USTs), drums, or concentrations of buried debris beneath the site.

A GSSI SIR-3 Ground Penetrating Radar (GPR) was used to scan the subsurface of the site. GPR systems produce cross-sectional images of subsurface features and layers by continuously emitting pulses of radar frequency energy from a scanning antenna or transducer as it is progressed along a survey profile.

The GPR signal was impeded by the presence of heavy salt concentrations on surface soil and pavements. An electromagnetic (EM) survey was substituted for the GPR, using a Geonics EM-31. The EM survey measures the bulk conductivity of subsurface materials located between the transmitter/receiver of the instrument and is useful in detecting buried metallic objects. The EM survey



TEST POINT LOCATION PLAN

NYSDOT FACILITY
BINGHAMTON, NEW YORK

NYSDOT D006922 PIN 9650.02.301

Stetson-Harza
A HARZA COMPANY

Project No.	Date
11603-01	NOV. 1993
Scale	
3/16" = 1'	FIGURE 2

was completed by collecting data along a 10 foot square grid covering accessible portions of the site.

2.3 Soil Gas Survey

Stetson-Harza supervised a soil vapor investigation at the NYSDOT Equipment Maintenance Yard on Barlow Road, Kirkwood, New York to determine the lateral extent and concentration of suspected subsurface volatile hydrocarbon contamination at the site. Areas of suspected contamination were identified as the reported trench area in the northwest corner of the site and the drum storage area in the southeast area of the site.

Forty-six (46) test points were tested from a predetermined depth of approximately 36 inches below the ground surface. The hydrocarbon vapor concentration at each sample location was measured immediately using an HNu and OVA. The soil vapor was drawn by means of a hollow stainless steel soil probe with a slotted tip which was driven into the soil with an electric hammer. One hundred fifty (150) milliliters (mL) of ambient air were pumped from the probe with a pulse pump. Sample points were selected at approximate 40 foot intervals.

2.4 Soil Borings and Monitoring Well Installation

Drilling was performed by North Star Drilling from Cortland, New York using trailer and truck-mounted drill rigs. Nine (9) investigative soil borings were completed, three (3) of which were converted to monitoring wells. The first round of drilling was completed October 13 and 14, 1993, which included the completion of three (3) soil borings for geotechnical and environmental purposes and the installation of three (3) groundwater monitoring wells. The second round of drilling was conducted November 3, 1993 and included the completion of six (6) additional borings. Stetson-Harza monitored all drilling activities, field-classified soil samples, and prepared well documentation. Stetson-Harza performed well development and sampling, completed on November 3, 1993.

2.5 Drilling, Soil Sampling, and Well Installation

Borings were advanced using 4-1/4 inch ID hollow stem augers. Subsurface soil samples were obtained using 24 inch long, 2 inch diameter, split-spoon samplers driven by a 140-pound hammer free falling 30 inches. Three (3) inch diameter split-spoon samplers were used during the first round by request of NYSDOT to improve sample recovery. Sampling was continuous in the second round. First round borings were sampled continuously through fill materials, every 5 feet thereafter. Samples were classified in the field by Stetson-Harza. Geologic logs are presented in Appendix A.

Each split-spoon sample was screened with an HNU photoionization detector. The sample representing the worst case contamination was submitted for laboratory analysis. In the event that all samples from a boring did not test positive for volatile organic contaminates with the HNU, a composite sample was submitted to the laboratory. In first round borings when no contamination was

observed, a sample of the water table was submitted for laboratory analysis. Samples were analyzed for volatile organics, base neutral semivolatile organics, pesticides, PCBs, RCRA metals, and salt using EPA methods 8010, 8020, 8270, 8080, 200 series and modified 325.3 respectively.

The following table shows where laboratory samples were taken from each boring.

Boring No.	Boring Depth (ft.)	Sample Depth (ft.)
TB-1	14	0-14 Composite
TB-2	14	9.5-10.75 Composite
TB-3	14	0-14 Composite
TB-4	14	4-10 Composite
TB-5	16	0-16 Composite
TB-6	12	6-8
FH-X-3	35	25-27
FH-X-9	25	10-12
FH-X-12	30	18-20

The laboratory sample from boring FH-X-3 was collected at the water table because no contamination was evident by vision, odor, or HNU screening. Sample FH-X-12 was taken at 18-20 feet due to an HNU reading of 4.5 ppm. FH-X-9 was collected at 10-12 feet as a result of discoloration. Sample TB-6 was taken at 6-8 feet due to an HNu reading of 25 ppm. Driller jar samples were collected and retained by NYSDOT. Drilling and sampling equipment were decontaminated prior to drilling and after each sample/boring.

Stetson-Harza personnel supervised the construction of monitoring wells by the drilling subcontractor, including finalizing screened intervals for each well based on site conditions and water table elevations.

Drilling for monitoring well installation was performed with a 7 inch OD hollow stem auger from the surface to the final drilled depth of at least 8 feet below the groundwater table.

Sump, riser, and screen materials are Schedule 40 PVC. The riser and screen are 2 inches in diameter with threaded flush-joint couplings. Ten (10) foot screens are used, and set so that the top of screen is at about 2 feet above the water table at the time of installation. PVC riser pipe was installed above the screen extending to approximately 3 feet above the ground surface.

The riser and screen were lowered to the selected bottom depth through the center of the augers. Clean silica sandpack material, sized according to the well screen, was poured into the annular space until probing indicated it extended 2 feet above the top of the screen. The augers were removed in conjunction with sandpack placement.

A 3 foot centonite seal was placed above the sandpack. The bentonite seal consists of hydrated granular bentonite. The remainder of the annulus was filled with cement grout to the ground surface.

A lockable steel protective casing was embedded 2 feet into the grout. A concrete collar was formed at the base of the protective casing.

2.6 Test Pits

During first-round drilling operations, seven (7) test pits were excavated to determine the geology and presence of contamination at locations shown on Figure 2. Test pit depths, soil description, and water seepage data is presented in Appendix A. Buried debris was not encountered in the test pits with the exception of test pit TP-D. Drum covers, rims, reinforcing rod, and cables were found approximately 4 to 6 feet below the surface.

Test pit location TP-C, in the drum storage area, emanated a strong petroleum product odor.

No buried drums were found in the test pits excavated.

2.7 Monitoring Well Development and Sampling

Monitoring wells were developed to ensure representative groundwater samples and elevation measurements by removing any residual drilling fluids and fine-grained materials from the sand pack. Well development was conducted on November 2, 1993. Development methods included bailing and pumping. Pumping was accomplished in monitoring well FH-X-12 with an ISCO peristaltic pump. A PVC bailer was used on monitoring well FH-3X-3. Both methods were used on monitoring well FH-X-9.

Hydrogeologic conditions existed such that silts entered the well from the aquifer. Although a copius quantity of silt was removed during development, turbidity criteria could not be met. Successful development was determined by the water volume removed, temperature, pH, and conductance. Well development logs are presented in Appendix A.

The three monitoring wells were sampled November 3, 1993, less than 24 hours after development. Groundwater samples were collected by Stetson-Harza with dedicated teflon bailers and dedicated ropes. Field measurements of pH, temperature, conductance, and turbidity were taken immediately prior and immediately after sample collection.

Samples from groundwater monitoring wells were analyzed for volatile organics, semi-volatile base/neutral organics, pesticides, PCBs, RCRA metals, and salts.

3.0 EVALUATION OF INVESTIGATIVE RESULTS

This section presents the analytical results of the soil vapor survey, the ground penetrating radar study, the subsurface soil and groundwater sampling investigation at the NYSDOT Equipment Maintenance Yard, Barlow Road, Kirkwood, New York.

3.1 Hydrogeologic Conditions

The site is located approximately 1/2 mile to the north of the Susquehanna River and topography in the immediate area slopes moderately to the south. The slope on site averages 0.03 foot per foot (ft/ft). Stratton Mill Creek flows southward along the eastern boundary of the property.

Review of New York State Geologic Survey Map (Finger Lakes Shreet) shows the site to be underlain by Kame deposits. On site observations confirm this. All borings showed the presence of coarse to fine sand and gravel. A silt unit, containing varying amounts of clay and fine sand was found in six (6) of the nine (9) borings. Thickness of the silt unit varied, and it was normally found at approximately 10 feet below surface. Groundwater was found within this silt layer in borings FH-X-3 and FH-X-12. Detailed boring logs are presented in Appendix A.

Groundwater elevations range from approximately 853 feet to 876 feet. General flow direction is to the southwest with an estimated potentiometric gradient of 0.08 ft/ft.

3.2 Comparative Criteria

Analytical results are related to available criteria to describe the presence of contamination at the site. Groundwater results are compared to NYSDEC groundwater quality standards 6NYCRR, Part 703.

The recommended soil clean-up objective used in this report is based on health derived values from the USEPA's Health Effects Assessment Summary Tables (HEASTs) and the water soil partitioning theory.

The water/soil partitioning theory is used to determine soil cleanup objectives which would be protective of groundwater/drinking water quality for its best use. This theory is conservative in nature and assumes that contaminated soil and groundwater are in direct contact. This theory is based upon the ability of organic matter in soil to adsorb organic chemicals. The approach predicts the maximum amount of contamination that may remain in soil so that leachate from the contaminated soil will not violate groundwater and/or drinking water standards.

The soil cleanup levels were developed for Superfund sites. The levels are used for in this report for general comparison.

3.3 Soil Gas Survey Results

Relatively low level organic contamination was detected throughout the majority of the site. Much of this contamination is likely to be the result of a long term/low volume surface spillage of oils and fuel. Results of the survey can be found in Appendix D.

It is important to note that concentrations in air are expressed in a volume/volume basis and not in a mass/mass basis as soil concentrations are reported. In other words, 20 ppm of VOC in air does not mean that there is 20 ppm of VOC in the soil. The correlation between soil gas screening and direct chemical analysis does exist, but is not a direct relationship; which is expected due to the differences in instrument response, sensitivity, calibration procedures, environmental conditions, and other factors such as the soil's organic carbon content, moisture content, bulk density or porosity, the contaminant's adsorption coefficient and Henry's Law constant.

Studies using petroleum contaminants have shown that the volume/volume concentrations of compounds in soil gas measured at around 300 ppm or less are often below mass/mass detection limits for soil samples analyzed. (Calabrese and Kostecki, Editors, Principles and Practices for Petroleum Contaminated Soils, Chapter 5.).

The fact that OVA readings generally exceed HNu readings on soil vapor due to the presence of methane, would indicate that a chemical was detected by the HNu which was not combustible and therefore did not affect the reading found by the OVA's flame ionization process. According to the manufacturer, HNu meters and photoionization meters in general, are capable of detecting noncombustible organic vapor, chlorinated organic vapor and in some cases inorganic vapor. The OVA will not detect the presence of these vapors.

3.4 Ground Penetrating Radar (GPR) Study

The subsurface surveys did not identify extremely high or negative conductivity or in-phase anomalies of the type commonly associated with buried underground storage tanks, drum caches, or other significant concentrations of metallic material.

One anomaly in the terrain conductivity survey was identified at the southern flank of the sand pile and is thought to be diffuse and shallow metallic debris, such as scattered cable, or metal shards. A similar anomaly was detected south of the sand pile between the road and the site fence. The same interpretation of scattered minor metal debris applies.

Test pits excavated for geologic logging did not reveal any buried containers.

3.5 Subsurface Soil Sampling

Soil samples from nine (9) locations at the site were sampled, field-screened, and submitted for laboratory analysis of volatile organics, base neutral semivolatile organics, and metals. Test Boring TB-1, TB-2, TB-3, TB-4, TB-5, and TB-6 were analyzed for BTEX and total petroleum hydrocarbons. Carbon tetrachloride was detected in TB-4 (14.1 µg/Kg). Cis and trans 1, 2-Dichloroethane was found in Boring FH-X-12 (3.3 and 2.8 µg/Kg respectively). Trichloroethene was detected in TB-4, TB-6, FH-X-3 and FH-X-9 (2.6, 1.1, 8.9 and 3.6 µg/Kg respectively). Tetrachloroethene (1.3 µg/Kg) and 1,2-Dichloropropane (8.2 µg/Kg) was detected in TB-4. The semivolatile organics benzo(a)pyrene, benzo(k)fluoroanthene, bis(2-ethylhexyl) phthalate, fluoroanthene and pyrene were found in the soil samples with only benzo(a) pyrene found in TB-4 (190 µg/Kg) exceeding recommended soil clean-up objective of 61 µg/Kg.

Ethylbenzene and xylene were detected in Soil Boring TB-2 below the cleanup levels. Chromium, cadmium, lead, sodium, and mercury slightly exceeded clean-up objectives.

The sodium and chloride may be attributed to the storage and transport of road salt at the site. Subsurface soil results are summarized in Table 3.1.

Chlorinated volatile organics, chloroform, 1,1-dichloroethane, 1,2-dichloroethane, trans-1,2-dichloroethane, cis-1,2-dichloroethane, tetrachloroethene, 1,1,1-trichloroethane and trichloroethene were detected in the ground water in concentrations ranging from 1.1 µg/L to 1120 µg/L. Groundwater standards were exceeded in all the three (3) groundwater monitoring wells at the site with trichloroethene found in the highest concentration.

Groundwater results are summarized in Table 3.2.

TABLE 3.1

SUMMARY OF ANALYTES DETECTED IN SOIL SAMPLES

Barlow Road, Kirkwood, NY November 1993

List of Pollutants Detected	Pollutant Concentrations in Soil (ug/kg)									Recommended Soil Clean-up Objective (ug/kg)#
	FH-X-3	FH-X-9	FH-X-12	TB-1	TB-2	TB-3	TB-4	TB-5	TB-6	
VOLATILES										
Carbon Tetrachloride				N/A		N/A	14.1	N/A		600
trans-1,2-Dichloroethene			2.8	N/A		N/A		N/A		300
cis-1,2-Dichloroethene			3.3	N/A		N/A		N/A		N/A
1,2-Dichloropropane				N/A		N/A	8.2	N/A		300
Tetrachloroethene				N/A		N/A	1.3	N/A		1400
Trichloroethene	8.9	3.6		N/A		N/A	2.6	N/A	1.1	700
BASE NEUTRALS										
Benzo(a)pyrene				N/A		N/A	190	N/A		61
Benzo(k)fluoranthene				N/A		N/A	260	N/A		1100
bis(2-ethylhexyl)phthalate	1200		200	N/A	190	N/A		N/A	1500	50,000
Fluoranthene		320		N/A		N/A		N/A		50,000
Pyrene		400		N/A		N/A	360	N/A		50,000
METALS										
Barium	47,600	58,000	41,900	80,700	51,900	68,900	80,800	70,400	67,200	300,000 or SB
Cadmium	5070	5270	11,100							1000 or SB
Chloride	1,980,000	108,000	140,000	141,000	1,550,000	193,100	241,000	141,000	182,000	
Chromium			16,000	9950	7730	7450	9210	7590	6010	10,000 or SB
Lead	10,000	61,500		24,300	15,000	14,500	23,700	23,900	23,100	30,000 or SB
Mercury	638	413	123	1350	1090	168		748	120	100
Silver		10,500								SB
Sodium	1,520,000	635,000		265,000			276,000	217,000		SB
BTEX										
Ethyl Benzene				N/A	1.1	N/A		N/A		5500
Xylenes (m,p,o)				N/A	22.2	N/A		N/A		1200
TPH										
Hydrocarbon Quantitation	N/A	N/A	N/A					11*	35* 75**	—

 # As per TAGM Determination of Soil Cleanup Objectives and Cleanup Levels

*** As lubrication oil**

**** As kerosene**

SB is site background.

N/A indicates that parameter was not analyzed

Blanks indicate that the pollutant was not detected

Table 3.2

SUMMARY OF PHASE I GROUNDWATER LABORATORY RESULTS

Barlow Road, Kirkwood, NY November 1993

List of Pollutants Detected	Pollutant Concentrations (ug/L) in Groundwater			Comparative Criteria (ug/L)	
	FHX-3	FHX-9	FHX-12	NYS GWS#	TCLP
VOLATILES					
Chloroform	1.1			7	6000
1,1-Dichloroethane			1.1	5	
1,2-Dichloroethane			7.9	5	500
trans-1,2-Dichloroethene		1.4	1.6	5	
cis-1,2-Dichloroethene	13.4	1.9	215	5	
Tetrachloroethene			4.2	5	700
1,1,1-Trichloroethane			7.9	5	
Trichloroethene	120	20.3	1120	5	500
METALS					
Barium	280			1000	100,000
Cadmium				5	1000
Chloride	9,250,000	145,000	63,000	250,000	---
Chromium				50	5000
Lead	2		5	15	5000
Mercury				2	2000
Silver				50	5000
Sodium	4,240,000	152,000	17,800	<20,000	---

New York State 6 NYCRR Part 703 GA Standard or NY T.O.G.S. 1.1.10 guidance value.

Blanks indicate the pollutant was not detected

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusion

Results indicate that groundwater contamination is present at the Barlow Road site. The primary contaminant is trichloroethene which was present in groundwater sample from monitoring well FHX-12 at 1120 µg/L. This concentration level exceeds New York State guidance value of 5 µg/L for trichloroethene as well as the TCLP regulatory level of 500 µg/L which indicates that the groundwater would need to be classified as a hazardous waste based on the toxicity characteristic. Samples from wells FH-X-3 and FH-X-9 had lower levels of trichloroethene (120 µg/L and 20.3 µg/L).

Soils did not exhibit significant organic contamination. Trichloroethene was detected at well locations FH-X-3 and FH-X-9 in soil samples at 8.9 µg/Kg and 3.6 µg/Kg. These levels are well below the recommended clean-up standard of 700 µg/Kg. The leachability of trichloroethene is considered relatively high and does not often remain attached to soil in high concentrations but rather migrates to groundwater with rain infiltration.

Concentrations of certain metals were detected in soil samples at well locations. These included cadmium, chloride, chromium, lead, and mercury. However, it is difficult to assess how high the levels are relative to natural soil concentrations without site background information from a background or "clean" well. The metals were not present in groundwater and may not pose a significant contamination problem. Salt was evident in groundwater. Sodium and chloride concentration were above guidance values.

4.2 Recommendation

The drum storage area east of the pole barn contains approximately 50 - 75 drums on pallets. These drums contain used paints, solvents, and unknown liquids. Several of these drums showed evidence of leakage; these drums have been subsequently overpacked. Areas of stained soils were noted in this area. Solvent odors and elevated instrument background readings were noted in the drum storage area. It is recommended that the drums be disposed and the soil from the top one (1) foot of the drum storage area be removed.

The soil should be stockpiled on plastic sheeting and sampled. one sample for every fifty (50) cubic yards of stockpiled soil. The soils should be analyzed for RCRA characteristic hazardous wastes, ignitability, corrosivity, reactivity, Toxicity Characteristic Leaching Procedure and PCB screening. The area, consisting of 230 cubic yards of soil, is detailed on Figure 2.

A meeting was held on December 20, 1993 to review the Hazardous Waste Assessment which resulted in the following recommendations:

A Phase II study will be conducted to address:

(1) Assessment of the impacts on the environment from field and test data.

(2) Evaluation of the potential for site contamination resulting from an off-site source.

(3) Assessment of the impact on the proposed building construction and remedial measures that may be required.

(4) Assessment of the potential impacts of the proposed construction on worker health and safety and subsequent building occupants.

(5) Evaluation of appropriate remedial alternatives.

It is recommended that the Phase II study include installation & sampling of monitoring wells along the northern boundary of the property and on the adjacent property, surface soil sampling in the building footprint, subsurface soil sampling of the loam pile on the adjacent property and a soil gas survey of both the NYSDOT & Gorick property.

5.0 LIMITATIONS

The purpose of an environmental assessment is to reasonable evaluate the potential for or actual impact of past practices on a given site area. In performing an environmental assessment, it is understood that a balance must be struck between a reasonable inquiry into the environmental issues and an exhaustive analysis of each conceivable issue of potential concern. The following paragraphs discuss the assumptions and parameters under which such and assessment (which may include professional opinions) is conducted.

No investigation is thorough enough to absolutely rule out the presence of hazardous materials at a given site. If hazardous conditions have not been identified during the assessment, such a finding should not therefore be construed as a guarantee of the absence of such materials on the site, but rather as the result of the services performed within the scope, limitations, and cost of the work performed.

Environmental conditions may exist at the site that cannot be identified by visual observation. Where subsurface work was performed, our professional opinions are based in part on interpretation of data from discrete sampling locations that may not represent actual conditions at unsampled locations.

Except where there is express concern of our client, or where specific environmental contaminants have been previously reported by others, naturally occurring toxic substances, potential environmental contaminants inside buildings, or contaminant concentrations that are not of current environmental concern may not be reflected in this document.

Where the scope of services is limited to interview and/or review of readily available reports and literature, any conclusions, and/or recommendations are necessarily based largely on information supplied by others, the accuracy or sufficiency of which may not be independently reviewed by us.

Any opinions and/or recommendations presented apply to site conditions existing at the time of performance of services. We are unable to report on or accurately predict generally unforeseeable events which may impact the site following performance of services, whether occurring naturally or caused by external forces. Therefore, we cannot assume responsibility of such events or their impact.

We also cannot assume responsibility for changes in environmental standards, practices, or regulations.

APPENDIX A

BORING LOGS, DEVELOPMENT LOGS, WELL DRAWINGS, & TEST PIT LOGS

Stetson-Harza
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Boring No. TB-1 Sheet 1 of 1

Comments/Figures:

Project: NYSDOT Barlow Road S-H # 6793

Method of Investigation

Driller: North Star Drilling
Drill Method: HSA 4 1/4" ID
Date Started: 11-3-93 Date Completed: 11-3-93
Soil Sampler: Continuous Split Spoon
Sample Hammer: Wt: 140 lb. Fall 30 in.

Depth	Samp. #	Sample Depth From (ft)	Sample Depth To (ft)	Blows on Sampler per 6 inches	N	Rec	Material Description	Strata Change Depth	Remarks
							Brown Silty SAND, trace CLAY		
	1	0	2	3 7 14 29	21	13			
							Brown SAND, GRAVEL (FILL)		
	2	2	4	40 37 31 39	68	12			
5							Brown Sandy SILT, some CLAY		
	3	4	6	23 50/.2		8			
							Brown GRAVEL and STONE		
	4	6	8	16 20 22 20	42	20		8	
							Brown Clayey SILT, trace coarse SAND, fine GRAVEL		
10	5	8	10	8 10 15 16	25	20			
	6	10	12	7 10 14 12	24	20			
							Brown Clayey SILT, trace STONE		
14	7	12	14	23 22 28 21	50	14			
							EOB. Composite sample 0-14' sent to lab. Sample time 1430.		

Stetson-Harza
A HARZA COMPANY

Boring No. TB-2 Sheet 1 of 1

Comments/Figures:

Project: NYSDOT Barlow Road S-H # 6793

Method of Investigation
Driller: North Star Drilling
Drill Method: HSA 4 1/4" ID
Date Started: 11-3-93 Date Completed: 11-3-93
Soil Sampler: Continuous Split Spoon
Sample Hammer: Wt: 140 lb. Fall 30 in.

Depth	Samp. #	Sample Depth From (ft)	To (ft)	Blows on Sampler per 6 inches	N	Rec	Material Description	Strata Change Depth	Remarks
							Gray SILT and STONE and GRAVEL		
	1	0	2	5 14 16 14	30	12	Brown-orange SILT, trace CLAY	.5	
							Brown Clayey SILT		
	2	2	4	19 26 28 17	54	14	Gray STONE and GRAVEL		
5							Lt. brown GRAVEL, coarse SAND, STONE, trace SILT		
	3	4	6	18 22 40 49	62	18			
							Lt. and dk. brown GRAVEL, coarse SAND, STONE,		
	4	6	8	32 34 50/.2	66	12	some SILT (wet)		
							Sandy SILT and GRAVEL		Gray discoloration in bottom 6" with odor
10	5	8	10	7 11 9 9	20	22			Gray discoloration & odor
	6	10	12	11 11 11 15	22	24		12	
							Gray turning to brown Clayey SILT		
14	7	12	14	7 12 12 11	24	24			
							EOB. Composite sample 9.5'-10.75' sent to lab. Sample time 1430.		

Stetson-Harza
A HARZA COMPANY

Boring No. TB-3 Sheet 1 of 1

Comments/Figures:

Project: NYSDOT Barlow Road S-H # 6793

Method of Investigation

Driller: North Star Drilling
Drill Method: HSA 4 1/4" ID
Date Started: 11-3-93 Date Completed: 11-3-93
Soil Sampler: Continuous Split Spoon
Sample Hammer: Wt: 140 lb. Fall 30 in.

Depth	Samp. #	Sample Depth From (ft)	To (ft)	Blows on Sampler per 6 inches	N	Rec	Material Description	Strata Change Depth	Remarks
	1	0	2	3 4 7 10	11	12	Brown SILT, small STONE, trace CLAY		
	2	2	4	14 15 19 23	34	6	Brown SILT with med. GRAVEL to coarse SAND		
5	3	4	6	17 26 26 19	52	20	Brown Clayey SILT, with STONE		
	4	6	8	20 23 26 11	49	14	Brown coarse SAND and fine GRAVEL, some SILT		
10	5	8	10	20 19 18 28	37	16			
	6	10	12	20 21 20 11	41	24	Brown SILT, STONE, little CLAY		
14	7	12	14	19 20 23 17	43		Brown-gray coarse SAND to med. GRAVEL, some SILT		
							EOB. Composite sample 0-14' sent to lab. Sample time 1555.		

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A HARZA COMPANY

Boring No. TB-4 Sheet 1 of 1

Comments/Figures:

Project: NYSDOT Barlow Road S-H # 6793

Method of Investigation
Driller: North Star Drilling
Drill Method: HSA 4 1/4" ID
Date Started: 11-3-93 Date Completed: 11-3-93
Soil Sampler: Continuous Split Spoon
Sample Hammer: Wt: 140 lb. Fall 30 in.

Depth	Samp. #	Sample Depth From (ft)	To (ft)	Blows on Sampler per 6 inches	N	Rec	Material Description	Strata Change Depth	Remarks
							Brown SILT, SAND, STONE (FILL)		
	1	0	2	4 7 5 9	12	12			
							Brown med. GRAVEL to coarse SAND (FILL)		
	2	2	4	14 11 11 9	22	8			
5							Dk. brown Clayey SILT and GRAVEL		
	3	4	6	27 54 16 16	70	8			
							Brown Clayey SILT and GRAVEL		Dk. brown discoloration at 6.5'
	4	6	8	20 28 22 20	50	10			
							Brown Silty SAND, trace CLAY, some GRAVEL		
10	5	8	10	27 17 17 14	34	18		10	
							Brown Clayey SILT		
	6	10	12	7 9 11 12	20	22			
							Brown Clayey SILT (moist)		
14	7	12	14	12 15 17 21	32	20			
							EOB. Composite sample 4'-10' sent to lab. Sample time 1400.		

Stetson-Harza
A HARZA COMPANY

Boring No. TB-5 Sheet 1 of 1

Comments/Figures:

Project: NYSDOT Barlow Road S-H # 6793

Method of Investigation
Driller: North Star Drilling
Drill Method: HSA 4 1/4" ID
Date Started: 11-3-93 Date Completed: 11-3-93
Soil Sampler: Continuous Split Spoon
Sample Hammer: Wt: 140 lb. Fall 30 in.

Depth	Samp. #	Sample Depth From (ft)	To (ft)	Blows on Sampler per 6 inches	N	Rec	Material Description	Strata Change Depth	Remarks
							Black-brown SAND, GRAVEL (FILL)		
	1	0	2	5 5 14 15	19	12			
							Brown SAND, GRAVEL (FILL)		
5	2	2	4	25 21 18 15	39	12			
	3	4	6	26 50/.2		4			
	4	6	8	28 15 11 16	26	6			
							Brown-gray GRAVEL, some SAND, STONE, little SILT		
10	5	8	10	27 50/.3		8			
							Brown GRAVEL and SILT		
	6	10	12	48 54 50/.1	102	8			
							Brown GRAVEL and SILT (moist)		
	7	12	14	34 50/.3		10			
15							Brown SILT, GRAVEL, trace dk. brown Silty CLAY		
16	8	14	16	17 48 42 26	90	14			
							EOB. Composite sample 0'-16' sent to lab. Sample time 1455.		

Stetson-Harza
A HARZA COMPANY

Boring No. TB-6 Sheet 1 of 1

Comments/Figures:

Project: NYSDOT Barlow Road S-H # 6793

Method of Investigation

Driller: North Star Drilling
Drill Method: HSA 4 1/4" ID
Date Started: 11-3-93 Date Completed: 11-3-93
Soil Sampler: Continuous Split Spoon
Sample Hammer: Wt: 140 lb. Fall 30 in.

Depth	Samp. #	Sample Depth From (ft)	To (ft)	Blows on Sampler per 6 inches	N	Rec	Material Description	Strata Change Depth	Remarks
							Brown-black FILL (odor)		
	1	0	2	10 17 5 2	22	10			
							Brown SILT, GRAVEL, trace WOOD (FILL)		
	2	2	4	17 14 9 11	23	12			
5							Brown GRAVEL, SAND, trace SILT (FILL)		
	3	4	6	12 14 15 18	29	10			
							Gray (discolored) fine GRAVEL, SILT, SAND (FILL)		Strong odor. Lab sample taken at 0910.
	4	6	8	25 21 26 20	49	24	FILL		
								9	
10	5	8	10	12 20 20 15	40	22	Brown Clayey SILT		
							Brown with some red Sandy SILT		
12	6	10	12	12 11 11 11	22	24	Brown Clayey SILT		
							EOB. Composite sample 6'-8' sent to lab. Sample time 0910.		

Stetson-Harza
A HARZA COMPANY

Boring No. FH-X-3 Sheet 1 of 1

Project: NYSDOT Barlow Road **S-H #** 6793

Method of Investigation

Driller: North Star Drilling
Drill Method: HSA 4 1/4" ID
Date Started: 10-13-93 **Date Completed:** 10-13-93
Soil Sampler: Continuous Split Spoon
Sample Hammer: Wt: 140 lb. Fall 30 in.

Comments/Figures:

Bottom of well set at 35'
1' sump to 34'
10' screen from 34' to 24'
Sandpack from 35' to 22'
Bentonite seal from 22' to 19'
Grout from 19' to surface
Lockable steel protective casing installed

Depth	Samp. #	Sample Depth From (ft)	Sample Depth To (ft)	Blows on Sampler per 6 inches				N	Rec	Material Description	Strata Change Depth	Remarks
										Asphalt and FILL		
	1	0	2	30	50/.2				6			
										Brown Silty CLAY and little SAND, GRAVEL		
	2	2	4	9	10	30	30	40	23	--	4.5	
5										Lt. brown fine to coarse SAND and GRAVEL		
	3	4	6	44	38	42	34	80				
										--	7.5	
	4	6	8	40	36	44	70	80	22	Moist brown Clayey SILT, some SAND		
										Lt. brown Sandy SILT and GRAVEL (dense, dry)		
10	5	8	10	42	39	65	75/.4	104	24			
15										Lt. brown fine to coarse SAND and GRAVEL, some SILT (dense; bottom 8" moist)		
	6	15	17	52	34	40	24	74	20			
20										Brown Clayey SILT, fine GRAVEL		
										--	21.5	
	7	20	22	12	16	28	30	44	22	Brown SAND (slightly moist)		
25												
										Brown Silty SAND, trace CLAY (moist to wet)		Lab sample
	8	25	27	12	15	20	20	35	24			
30												
	9	30	32	9	12	17	17	29	24			
35												
										E.O.B.		

Stetson-Harza

A HARZA COMPANY

Boring No. FH-X-9 Sheet 1 of 1

Project: NYSDOT Barlow Road S-H # 6793

Comments/Figures:

Bottom of well set at 25' at 0915
1' sump from 25' to 24'
10' screen from 24' to 14'
Sandpack from 25' to 12'
Bentonite seal from 12' to 9'
Grout from 9' to surface
Lockable steel protective casing installed

Method of Investigation

Driller: North Star Drilling
Drill Method: HSA 4 1/4" ID
Date Started: 10-13-93 Date Completed: 10-14-93
Soil Sampler: Continuous Split Spoon
Sample Hammer: Wt: 140 lb. Fall 30 in.

Depth	Samp. #	Sample Depth From (ft)	To (ft)	Blows on Sampler per 6 inches	N	Rec	Material Description	Strata Change Depth	Remarks
	1	0	2	10 14 14 11	28	18	Brown GRAVEL, SAND, SILT (FILL), 2" lens of black cinders at 6"		
	2	2	4	10 8 4 3	12	6	Brown SAND and GRAVEL, little SILT		
5							Brown SAND and GRAVEL, some SILT, trace CLAY		
	3	4	6	2 10 14 14	24	12			
	4	6	8	15 10 7 7	17	14	Brown Clayey SILT and fine GRAVEL, some SAND (moist)		
10	5	8	10	11 17 16 24	33	22			
	6	10	12	19 34 38 48	72				Lab sample
	7	12	14	75/.2		0	No recovery		
15									
	8	15	17	45 75/.3		10	Brown GRAVEL, some CLAY, SILT (moist)		Ended with 15' to 17" at 1650 on 10-13-93
20									
	9	20	22	11 12 15 22	27	20	Brown GRAVEL, some CLAY, SILT, SAND, (wet)		20'-22' at 0815 on 10-14-93
25									
27	10	25	27	12 15 19 28	34	24	Wet		Lab sample
							E.O.B.		

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A HARZA COMPANY

Boring No. FH-X-12   Sheet 1 of 1

Project: NYSDOT Barlow Road   S-H # 6793

Method of Investigation

Driller: North Star Drilling
Drill Method: HSA 4 1/4" ID
Date Started: 10-14-93   Date Completed: 10-14-93
Soil Sampler: Continuous Split Spoon
Sample Hammer: Wt: 140 lb. Fall 30 in.

Comments/Figures:

Bottom of well set at 28' at 1430
1' sump to 27'
10' screen from 27' to 17'
Sandpack from 28' to 15'
Bentonite seal from 15' to 12'
Grout from 12' to surface
Lockable steel protective casing installed

Depth	Samp. #	Sample Depth From (ft)	To (ft)	Blows on Sampler per 6 inches				N	Rec	Material Description	Strata Change Depth	Remarks
										Lt. brown Clayey SILT, little GRAVEL (FILL)		
	1	0	2	5	5	6	16	11	22			
	2	2	4	64	75/.4				8			
5										Brown GRAVEL, little SILT (FILL)		
	3	4	6	18	20	21	28	41	20			
										Brown Clayey SILT, some GRAVEL, trace SAND (possible FILL)		
	4	6	8	50	44	29	22	73	20			
										Brown Clayey SILT, trace GRAVEL		
10	5	8	10	17	23	19	28	42	24	------------------------------	10	
										Brown Clayey SILT, trace SAND		
15	6	13	15	9	12	14	18	26	24			
										Brown Clayey SILT, trace SAND (moist)		Lab sample
20	7	18	20	6	8	8	11	16	24			
										------------------------------	23,5	
										Gray-brown coarse SAND and round GRAVEL (wet)		
25	8	23	25	10	7	21	23	28	24			
30												
32	9	30	32	28	36	50	50/.3	86				
										E.O.B.		

WELL DEVELOPMENT LOG

Project: NYSDOT BARLOW ROAD **Well #:** FH-X-3

Project #: 6793

Date Started: 11-2-93 **Elevations:** **TOR (Top of Riser):**

Ground Level:

Bottom of Well:

Development Method: PVC bailer

Developed By: BEP, PR

Initial Water Level (TOR): 28.4 Date: 11-2-93 Time: 1130

Final Water Level (TOR): dry Date: 11-2-93 Time: 1535

1 Well Volume = 5.5 gallons

Total Volume Removed: 17 gallons

Date	Time	Gallons Removed	pH	Temp. (C)	Conductivity (umho/cm.)	Turbidity (NTU)	Comments
11-2-93	1130	initial	6.26	7.5	30000	>200	
		5	6.80	7.8	26000	>200	
		10	6.23	10.2	33000	>200	
							bailed dry @ 12 gal. @ 1240. Lot of silt removed
	1515	initial (12)	5.80	9.9	3650	>200	WL = 28.35 water
		17	6.27	9.7	3400	>200	fairly clear
							bailed dry @ 17 gal. @ 1535

Comments:

WELL DEVELOPMENT LOG

Project: NYSDOT BARLOW ROAD **Well #:** FH-X-9

Project #: 6793

Date Started: 11-2-93 **Elevations:** **TOR (Top of Riser):**

Ground Level:

Bottom of Well:

Development Method: PVC bailer, pump

Developed By: BEP

Initial Water Level (TOR): 16.9 **Date:** 11-2-93 **Time:** 1250

Final Water Level (TOR): 22.2 **Date:** 11-2-93 **Time:** 1500

1 Well Volume = 7 gallons

Total Volume Removed: 21 gallons

Date	Time	Gallons Removed	pH	Temp. (C)	Conductivity (umho/cm)	Turbidity (NTU)	Comments
11-2-93	1250	initial	7.26	12.1	900	>200	
		5	7.21	12.3	1100	>200	
		10	7.23	11.9	1100	>200	
		15	6.87	12.2	1200	>200	
		20	6.95	11.7	1200	>200	discontinued pumping @ 15 gal.
							bailed to 21 gal. @ 1500 WL=22.2

Comments:

WELL DEVELOPMENT LOG

Project: NYSDOT BARLOW ROAD **Well #:** FH-X-12

Project #: 6793

Date Started: 11-2-93 **Elevations:** TOR (Top of Riser):

Ground Level:

Bottom of Well:

Development Method: peristaltic pump

Developed By: BEP

Initial Water Level (TOR): 13.3 Date: 11-2-93 Time: 1527

Final Water Level (TOR): 16.0 Date: 11-2-93 Time: 1640

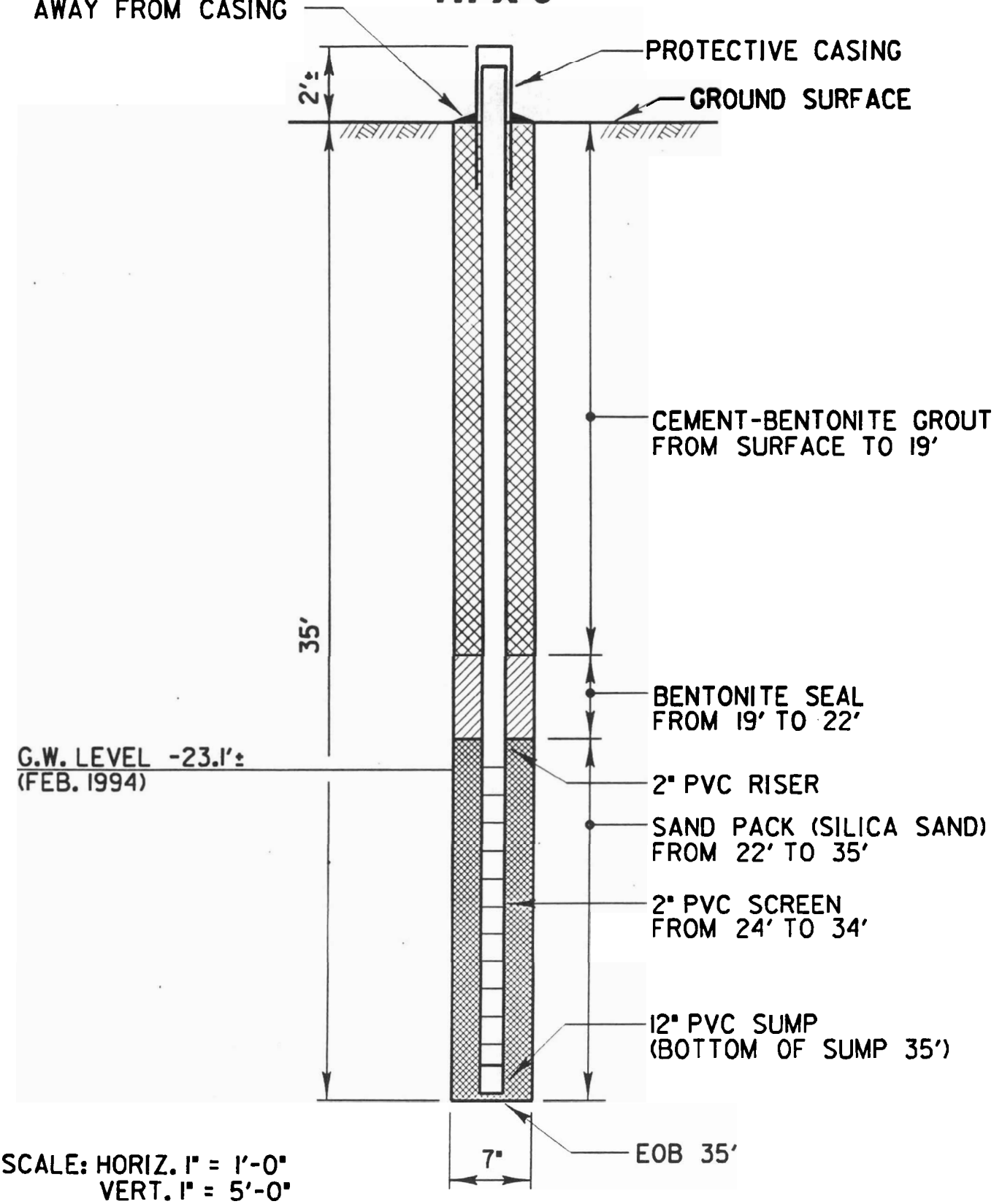
1 Well Volume = 9 gallons

Total Volume Removed: 30 gallons

Date	Time	Gallons Removed	pH	Temp. (C)	Conductivity (umho/cm.)	Turbidity (NTU)	Comments
11-2-93	1527	initial	7.30	11	600	>200	
		5	7.36	10.2	620	>200	
		10	7.53	10	620	>200	
		15	7.55	9.9	620	>200	
		20	7.58	9.8	620	>200	
		25	7.57	10	620	>200	
		30	7.55	9.9	620	>200	
							discontinued pumping @ 30 gal. @ 1640 WL=16

Comments:

FH-X-3



SCALE: HORIZ. 1" = 1'-0"
VERT. 1" = 5'-0"

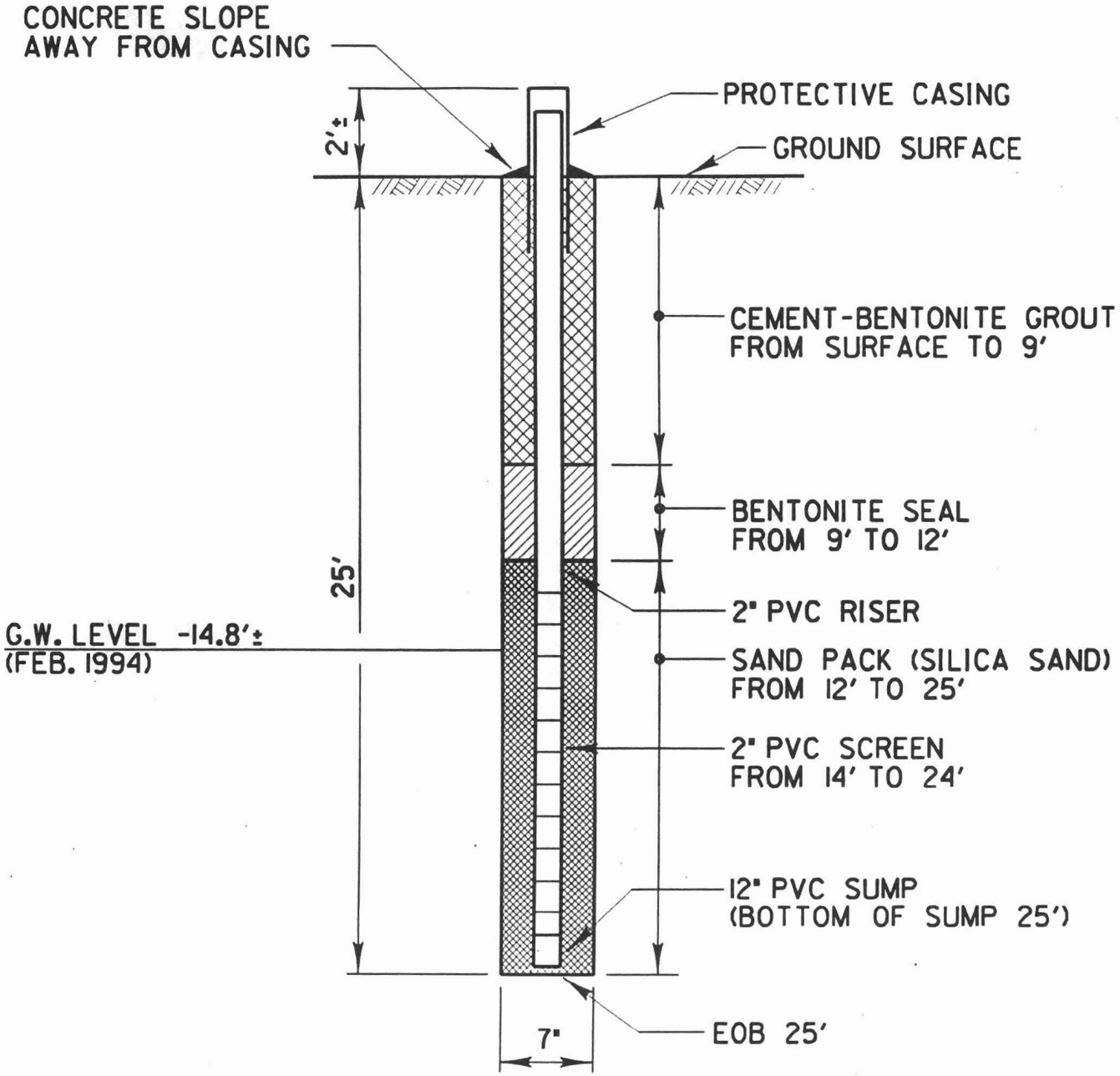
Stetson-Harza
A HARZA COMPANY
185 Genesee Street, Utica, NY 13501/(315)797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180/(518)283-8080

DATE	
DRAWN	
NO.	6793

NYSDOT BARLOW ROAD FACILITY

MONITORING WELL CONSTRUCTION

FH-X-9



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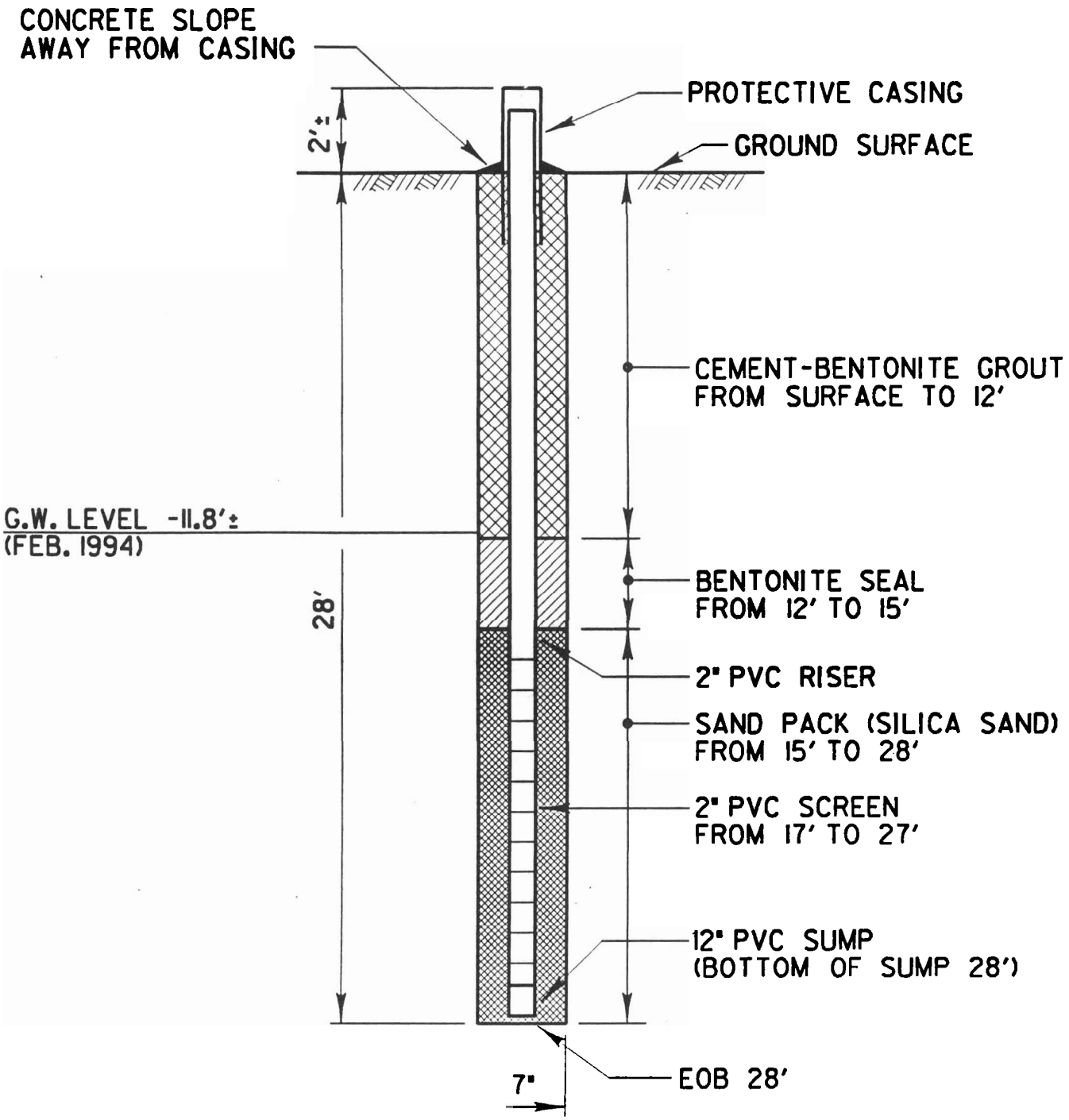
DATE	
DRAWN	
NO.	6793

NYSDOT BARLOW ROAD FACILITY

MONITORING WELL CONSTRUCTION

FH-X-12



SCALE: HORIZ. 1" = 1'-0"
VERT. 1" = 5'-0"

Stetson-Harza
A HARZA COMPANY
185 Genesee Street, Utica, NY 13501/(315)797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180/(518)283-8080

DATE	
DRAWN	
NO.	6793

NYSDOT BARLOW ROAD FACILITY

MONITORING WELL CONSTRUCTION

TEST PIT LOGS
(Prepared from Field Notes)

NYSDOT BARLOW ROAD FACILITY

	Approximate Depth	Soil Description	Remarks
TP-3	7 feet	dense light brown till with angular stones	no water seepage
TP-4	7 feet	dark brown changing to light brown till with depth	no water seepage
TP-A	9 feet	brown till with grey to dark grey lens from 3 feet to 7 feet	no water seepage
TP-B	8 feet	brown till with grey lens from 2 feet to 3 feet	no water seepage
TP-C	6 feet	brown till with grey (contaminated) lens from 1.5 feet to 2 feet (kerosene-gasoline type odor)	no water seepage
TP-D	8 feet	brown-grey fill with drum covers, re-rod, paint barrel cover, wires	no water seepage
TP-E	8 feet	brown silty sand, some clay, wet from 2 feet to 8 feet	little water at bottom of pit (~5 gal.)

APPENDIX B

LABORATORY DATA

BUCK ENVIRONMENTAL LABORATORIES INC.

3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150
607-753-3403

NYS ELAP CERT 10795

LABORATORY REPORT

Client: **STETSON-HARZA**
Site: NYSDOT Barlow Road
Sample: Water

Report Date: 12/13/93
Sampling Date: 11/03/93
Sampled By: P. Rosato
Date Received: 11/03/93
Lab Log No: 9311065

BTEX (By EPA 602 and NYSDOH 310-19)

Sample ID & Dates	Benzene	Toluene	Ethyl Benzene	(m,p,o) Xylenes	Late Peaks
11/03/93					
FHX-3	ND	ND	ND	ND	ND
FHX-9	ND	ND	ND	ND	ND
FHX-12	ND	ND	ND	ND	ND

All concentrations are reported as ug/L.

ND indicates that no amount greater than 1.0 ug/L was detected.

This analysis is certified as conforming to generally accepted laboratory practices and requirements of the New York State Health Department ELAP program.

John H. Buck, P.E.
Laboratory Director

BUCK ENVIRONMENTAL LABORATORIES INC.
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

LABORATORY REPORT
Lab Log No: 9311065

Client: *Stetson-Harza*
181 Genesee Street
Utica, NY 13501-2168

Site: NYSDOT Barlow Road

Report Date: 12/13/93
Sampling Date: 11/03/93
Sampled By: P. Rosato
Date Received: 11/03/93
Analyzed by: EAC, 11/11/93

Sample ID: Water FHX-3 **VOLATILES BY METHOD EPA_601**

ANALYTE	CAS #	UNITS	DL	RESULT
Bromodichloromethane	75-27-4	ug/l	1.0	ND
Bromoform	75-25-2	ug/l	1.0	ND
Bromomethane	74-83-9	ug/l	1.0	ND
Carbon Tetrachloride	56-23-5	ug/l	1.0	ND
Chlorobenzene	108-90-7	ug/l	1.0	ND
Chloroethane	75-00-3	ug/l	1.0	ND
2-Chloroethylvinyl ether	110-75-8	ug/l	1.0	ND
Chloroform	67-66-3	ug/l	1.0	*1.1*
Chloromethane	74-87-3	ug/l	1.0	ND
Dibromochloromethane	124-48-1	ug/l	1.0	ND
1,2-Dichlorobenzene	95-50-1	ug/l	1.0	ND
1,3-Dichlorobenzene	541-73-1	ug/l	1.0	ND
1,4-Dichlorobenzene	106-46-7	ug/l	1.0	ND
Dichlorodifluoromethane	75-71-8	ug/l	1.0	ND
1,1-Dichloroethane	75-34-3	ug/l	1.0	ND
1,2-Dichloroethane	107-06-2	ug/l	1.0	ND
1,1-Dichloroethene	75-35-4	ug/l	1.0	ND
trans-1,2-Dichloroethene	156-60-5	ug/l	1.0	ND
cis-1,2-Dichloroethene	156-59-2	ug/l	1.0	*13.4*
1,2-Dichloropropane	78-87-5	ug/l	1.0	ND
cis-1,3-Dichloropropene	10061-01-5	ug/l	1.0	ND
trans-1,3-Dichloropropene	10061-02-6	ug/l	1.0	ND
Methylene Chloride	75-09-2	ug/l	1.0	ND
1,1,2,2-Tetrachloroethane	79-34-5	ug/l	1.0	ND
Tetrachloroethene	127-18-4	ug/l	1.0	ND
1,1,1-Trichloroethane	71-55-6	ug/l	1.0	ND
1,1,2-Trichloroethane	79-00-5	ug/l	1.0	ND
Trichloroethene	79-01-6	ug/l	1.0	*120*
Trichlorofluoromethane	75-69-4	ug/l	1.0	ND
Vinyl Chloride	75-01-4	ug/l	1.0	ND

ND - None detected greater than detection limit (DL) noted.
These results are certified as conforming with generally accepted laboratory standards and requirements of the New York State Department of Health ELAP Program.

Laboratory Director
ELAP ID - 10795

BUCK ENVIRONMENTAL LABORATORIES INC.
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

LABORATORY REPORT
Lab Log No: 9311065

Client: *Stetson-Harza*
181 Genesee Street
Utica, NY 13501-2168

Site: NYSDOT Barlow Road

Report Date: 12/13/93
Sampling Date: 11/03/93
Sampled By: P. Rosato
Date Received: 11/03/93
Analyzed by: EAC, 11/16/93

Sample ID: Water FHX-9

VOLATILES BY METHOD EPA_601

ANALYTE	CAS #	UNITS	DL	RESULT
Bromodichloromethane	75-27-4	ug/l	1.0	ND
Bromoform	75-25-2	ug/l	1.0	ND
Bromomethane	74-83-9	ug/l	1.0	ND
Carbon Tetrachloride	56-23-5	ug/l	1.0	ND
Chlorobenzene	108-90-7	ug/l	1.0	ND
Chloroethane	75-00-3	ug/l	1.0	ND
2-Chloroethylvinyl ether	110-75-8	ug/l	1.0	ND
Chloroform	67-66-3	ug/l	1.0	ND
Chloromethane	74-87-3	ug/l	1.0	ND
Dibromochloromethane	124-48-1	ug/l	1.0	ND
1,2-Dichlorobenzene	95-50-1	ug/l	1.0	ND
1,3-Dichlorobenzene	541-73-1	ug/l	1.0	ND
1,4-Dichlorobenzene	106-46-7	ug/l	1.0	ND
Dichlorodifluoromethane	75-71-8	ug/l	1.0	ND
1,1-Dichloroethane	75-34-3	ug/l	1.0	ND
1,2-Dichloroethane	107-06-2	ug/l	1.0	ND
1,1-Dichloroethene	75-35-4	ug/l	1.0	ND
trans-1,2-Dichloroethene	156-60-5	ug/l	1.0	*1.4*
cis-1,2-Dichloroethene	156-59-2	ug/l	1.0	*1.9*
1,2-Dichloropropane	78-87-5	ug/l	1.0	ND
cis-1,3-Dichloropropene	10061-01-5	ug/l	1.0	ND
trans-1,3-Dichloropropene	10061-02-6	ug/l	1.0	ND
Methylene Chloride	75-09-2	ug/l	1.0	ND
1,1,2,2-Tetrachloroethane	79-34-5	ug/l	1.0	ND
Tetrachloroethene	127-18-4	ug/l	1.0	ND
1,1,1-Trichloroethane	71-55-6	ug/l	1.0	ND
1,1,2-Trichloroethane	79-00-5	ug/l	1.0	ND
Trichloroethene	79-01-6	ug/l	1.0	*20.3*
Trichlorofluoromethane	75-69-4	ug/l	1.0	ND
Vinyl Chloride	75-01-4	ug/l	1.0	ND

ND - None detected greater than detection limit (DL) noted.
These results are certified as conforming with generally accepted laboratory standards and requirements of the New York State Department of Health ELAP Program.

Laboratory Director
ELAP ID - 10795

BUCK ENVIRONMENTAL LABORATORIES INC.
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

LABORATORY REPORT
Lab Log No: 9311065

Client: *Stetson-Harza*
181 Genesee Street
Utica, NY 13501-2168

Site: NYSDOT Barlow Road

Report Date: 12/13/93
Sampling Date: 11/03/93
Sampled By: P. Rosato
Date Received: 11/03/93
Analyzed by: EAC, 11/16/93

Sample ID: Water FHX-12 **VOLATILES BY METHOD EPA_601**

ANALYTE	CAS #	UNITS	DL	RESULT
Bromodichloromethane	75-27-4	ug/l	1.0	ND
Bromoform	75-25-2	ug/l	1.0	ND
Bromomethane	74-83-9	ug/l	1.0	ND
Carbon Tetrachloride	56-23-5	ug/l	1.0	ND
Chlorobenzene	108-90-7	ug/l	1.0	ND
Chloroethane	75-00-3	ug/l	1.0	ND
2-Chloroethylvinyl ether	110-75-8	ug/l	1.0	ND
Chloroform	67-66-3	ug/l	1.0	ND
Chloromethane	74-87-3	ug/l	1.0	ND
Dibromochloromethane	124-48-1	ug/l	1.0	ND
1,2-Dichlorobenzene	95-50-1	ug/l	1.0	ND
1,3-Dichlorobenzene	541-73-1	ug/l	1.0	ND
1,4-Dichlorobenzene	106-46-7	ug/l	1.0	ND
Dichlorodifluoromethane	75-71-8	ug/l	1.0	ND
1,1-Dichloroethane	75-34-3	ug/l	1.0	*1.1*
1,2-Dichloroethane	107-06-2	ug/l	1.0	*7.9*
1,1-Dichloroethene	75-35-4	ug/l	1.0	ND
trans-1,2-Dichloroethene	156-60-5	ug/l	1.0	*1.6*
cis-1,2-Dichloroethene	156-59-2	ug/l	1.0	*215*
1,2-Dichloropropane	78-87-5	ug/l	1.0	ND
cis-1,3-Dichloropropene	10061-01-5	ug/l	1.0	ND
trans-1,3-Dichloropropene	10061-02-6	ug/l	1.0	ND
Methylene Chloride	75-09-2	ug/l	1.0	ND
1,1,2,2-Tetrachloroethane	79-34-5	ug/l	1.0	ND
Tetrachloroethene	127-18-4	ug/l	1.0	*4.2*
1,1,1-Trichloroethane	71-55-6	ug/l	1.0	*7.9*
1,1,2-Trichloroethane	79-00-5	ug/l	1.0	ND
Trichloroethene	79-01-6	ug/l	1.0	*1120*
Trichlorofluoromethane	75-69-4	ug/l	1.0	ND
Vinyl Chloride	75-01-4	ug/l	1.0	ND

ND - None detected greater than detection limit (DL) noted.
These results are certified as conforming with generally accepted laboratory standards and requirements of the New York State Department of Health ELAP Program.

Laboratory Director
ELAP ID - 10795

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

LABORATORY REPORT

Client: **STETSON-HARZA**
Site: NYSDOT Barlow Road
Sample: Water - FHX-3

Report Date: 12/09/93
Date Sampled: 11/03/93
Sampled By: P. Rosato
Date Received: 11/03/93
Analysis Date: 11/18/93
Lab Log Number: 9311065

BASE NEUTRALS
(EPA 8270 GC/MS Methodology)

CAS No.	COMPOUND	DL	RESULT
83-32-9	Acenaphthene	5	ND
208-96-8	Acenaphthylene	5	ND
120-12-7	Anthracene	5	ND
92-87-5	Benzidene	50	ND
56-55-3	Benzo(a)anthracene	10	ND
50-32-8	Benzo(a)pyrene	5	ND
205-99-2	Benzo(b)fluoranthene	5	ND
191-24-2	Benzo(ghi)perylene	5	ND
207-08-9	Benzo(k)fluoranthene	5	ND
85-68-7	Benzyl butyl phthalate	5	ND
111-91-1	Bis(2-chloroethoxy)methane	10	ND
111-44-4	Bis(2-chloroethyl)ether	10	ND
108-60-1	Bis(2-chloroisopropyl) ether	10	ND
117-81-7	Bis(2-ethylhexyl)phthalate	5	ND
101-55-3	4-Bromophenylphenyl ether	5	ND
91-58-7	2-Chloronaphthalene	5	ND
7005-72-3	4-Chlorophenyl phenyl ether	5	ND
218-01-9	Chrysene	5	ND
53-70-3	Dibenzo(a,h)anthracene	5	ND
95-50-1	1,2-Dichlorobenzene	5	ND
541-73-1	1,3-Dichlorobenzene	5	ND
106-46-7	1,4-Dichlorobenzene	5	ND
91-94-1	3,3'-Dichlorobenzidine	20	ND
84-66-2	Diethyl phthalate	5	ND
131-11-3	Dimethyl phthalate	5	ND
84-74-2	Di-n-butyl phthalate	5	ND
117-84-0	Di-n-octyl phthalate	5	ND
121-14-2	2,4-Dinitrotoluene	10	ND

Continued on Page 2

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150
607-753-3403

LABORATORY REPORT

Client:	**STETSON-HARZA**	Report Date:	12/09/93
		Date Sampled:	11/03/93
Site:	NYSDOT Barlow Road	Sampled By:	P. Rosato
		Date Received:	11/03/93
		Analysis Date:	11/18/93
Sample:	Water - FHX-3	Lab Log Number:	9311065

BASE NEUTRALS
(EPA 8270 GC/MS Methodology)

CAS No.	COMPOUND	DL	RESULT
606-20-2	2,6-Dinitrotoluene	5	ND
206-44-0	Fluoranthene	5	ND
86-73-7	Fluorene	5	ND
118-74-1	Hexachlorobenzene	5	ND
87-68-3	Hexachlorobutadiene	5	ND
77-47-4	Hexachlorocyclopentadiene	5	ND
67-72-1	Hexachloroethane	5	ND
193-39-5	Indeno(1,2,3-c,d)pyrene	5	ND
78-59-1	Isophorone	5	ND
91-20-3	Naphthalene	5	ND
98-95-3	Nitrobenzene	5	ND
62-75-9	n-Nitrosodimethylamine	5	ND
621-64-7	n-Nitrosodi-n-propylamine	5	ND
86-30-6	n-nitrosodiphenylamine	5	ND
85-01-8	Phenanthrene	10	ND
129-00-0	Pyrene	5	ND
120-82-1	1,2,4-Trichlorobenzene	5	ND

All concentrations are reported as ug/L. ND indicates that no amount greater than the detection limit (DL) was detected.

These analyses are certified as conforming to generally accepted laboratory practices, the analytical method cited, requirements of the New York State Health Department ELAP program, and the New York State Department of Environmental Conservation.

John H. Buck, P.E.
Laboratory Director

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3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

LABORATORY REPORT

Client: **STETSON-HARZA**
Site: NYSDOT Barlow Road
Sample: Water - FHX-9

Report Date: 12/09/93
Date Sampled: 11/03/93
Sampled By: P. Rosato
Date Received: 11/03/93
Analysis Date: 11/18/93
Lab Log Number: 9311065

BASE NEUTRALS
(EPA 8270 GC/MS Methodology)

CAS No.	COMPOUND	DL	RESULT
83-32-9	Acenaphthene	5	ND
208-96-8	Acenaphthylene	5	ND
120-12-7	Anthracene	5	ND
92-87-5	Benzidene	50	ND
56-55-3	Benzo(a)anthracene	10	ND
50-32-8	Benzo(a)pyrene	5	ND
205-99-2	Benzo(b)fluoranthene	5	ND
191-24-2	Benzo(ghi)perylene	5	ND
207-08-9	Benzo(k)fluoranthene	5	ND
85-68-7	Benzyl butyl phthalate	5	ND
111-91-1	Bis(2-chloroethoxy)methane	10	ND
111-44-4	Bis(2-chloroethyl)ether	10	ND
108-60-1	Bis(2-chloroisopropyl) ether	10	ND
117-81-7	Bis(2-ethylhexyl)phthalate	5	ND
101-55-3	4-Bromophenylphenyl ether	5	ND
91-58-7	2-Chloronaphthalene	5	ND
7005-72-3	4-Chlorophenyl phenyl ether	5	ND
218-01-9	Chrysene	5	ND
53-70-3	Dibenzo(a,h)anthracene	5	ND
95-50-1	1,2-Dichlorobenzene	5	ND
541-73-1	1,3-Dichlorobenzene	5	ND
106-46-7	1,4-Dichlorobenzene	5	ND
91-94-1	3,3'-Dichlorobenzidine	20	ND
84-66-2	Diethyl phthalate	5	ND
131-11-3	Dimethyl phthalate	5	ND
84-74-2	Di-n-butyl phthalate	5	ND
117-84-0	Di-n-octyl phthalate	5	ND
121-14-2	2,4-Dinitrotoluene	10	ND

Continued on Page 2

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150
607-753-3403

LABORATORY REPORT

Client: **STETSON-HARZA**
Site: NYSDOT Barlow Road
Sample: Water - FHX-9

Report Date: 12/09/93
Date Sampled: 11/03/93
Sampled By: P. Rosato
Date Received: 11/03/93
Analysis Date: 11/18/93
Lab Log Number: 9311065

BASE NEUTRALS
(EPA 8270 GC/MS Methodology)

CAS No.	COMPOUND	DL	RESULT
606-20-2	2,6-Dinitrotoluene	5	ND
206-44-0	Fluoranthene	5	ND
86-73-7	Fluorene	5	ND
118-74-1	Hexachlorobenzene	5	ND
87-68-3	Hexachlorobutadiene	5	ND
77-47-4	Hexachlorocyclopentadiene	5	ND
67-72-1	Hexachloroethane	5	ND
193-39-5	Indeno(1,2,3-c,d)pyrene	5	ND
78-59-1	Isophorone	5	ND
91-20-3	Naphthalene	5	ND
98-95-3	Nitrobenzene	5	ND
62-75-9	n-Nitrosodimethylamine	5	ND
621-64-7	n-Nitrosodi-n-propylamine	5	ND
86-30-6	n-nitrosodiphenylamine	5	ND
85-01-8	Phenanthrene	10	ND
129-00-0	Pyrene	5	ND
120-82-1	1,2,4-Trichlorobenzene	5	ND

All concentrations are reported as ug/L. ND indicates that no amount greater than the detection limit (DL) was detected.

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Laboratory Director

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P.O. BOX 5150 607-753-3403

LABORATORY REPORT

Client: **STETSON-HARZA**
Site: NYSDOT Barlow Road
Sample: Water - FHX-12

Report Date: 12/09/93
Date Sampled: 11/03/93
Sampled By: P. Rosato
Date Received: 11/03/93
Analysis Date: 11/18/93
Lab Log Number: 9311065

BASE NEUTRALS
(EPA 8270 GC/MS Methodology)

CAS No.	COMPOUND	DL	RESULT
83-32-9	Acenaphthene	5	ND
208-96-8	Acenaphthylene	5	ND
120-12-7	Anthracene	5	ND
92-87-5	Benzidene	50	ND
56-55-3	Benzo(a)anthracene	10	ND
50-32-8	Benzo(a)pyrene	5	ND
205-99-2	Benzo(b)fluoranthene	5	ND
191-24-2	Benzo(ghi)perylene	5	ND
207-08-9	Benzo(k)fluoranthene	5	ND
85-68-7	Benzyl butyl phthalate	5	ND
111-91-1	Bis(2-chloroethoxy)methane	10	ND
111-44-4	Bis(2-chloroethyl)ether	10	ND
108-60-1	Bis(2-chloroisopropyl) ether	10	ND
117-81-7	Bis(2-ethylhexyl)phthalate	5	ND
101-55-3	4-Bromophenylphenyl ether	5	ND
91-58-7	2-Chloronaphthalene	5	ND
7005-72-3	4-Chlorophenyl phenyl ether	5	ND
218-01-9	Chrysene	5	ND
53-70-3	Dibenzo(a,h)anthracene	5	ND
95-50-1	1,2-Dichlorobenzene	5	ND
541-73-1	1,3-Dichlorobenzene	5	ND
106-46-7	1,4-Dichlorobenzene	5	ND
91-94-1	3,3'-Dichlorobenzidine	20	ND
84-66-2	Diethyl phthalate	5	ND
131-11-3	Dimethyl phthalate	5	ND
84-74-2	Di-n-butyl phthalate	5	ND
117-84-0	Di-n-octyl phthalate	5	ND
121-14-2	2,4-Dinitrotoluene	10	ND

Continued on Page 2

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150
607-753-3403

LABORATORY REPORT

Client:	**STETSON-HARZA**	Report Date:	12/09/93
		Date Sampled:	11/03/93
Site:	NYSDOT Barlow Road	Sampled By:	P. Rosato
		Date Received:	11/03/93
		Analysis Date:	11/18/93
Sample:	Water - FHX-12	Lab Log Number:	9311065

BASE NEUTRALS
(EPA 8270 GC/MS Methodology)

CAS No.	COMPOUND	DL	RESULT
606-20-2	2,6-Dinitrotoluene	5	ND
206-44-0	Fluoranthene	5	ND
86-73-7	Fluorene	5	ND
118-74-1	Hexachlorobenzene	5	ND
87-68-3	Hexachlorobutadiene	5	ND
77-47-4	Hexachlorocyclopentadiene	5	ND
67-72-1	Hexachloroethane	5	ND
193-39-5	Indeno(1,2,3-c,d)pyrene	5	ND
78-59-1	Isophorone	5	ND
91-20-3	Naphthalene	5	ND
98-95-3	Nitrobenzene	5	ND
62-75-9	n-Nitrosodimethylamine	5	ND
621-64-7	n-Nitrosodi-n-propylamine	5	ND
86-30-6	n-nitrosodiphenylamine	5	ND
85-01-8	Phenanthrene	10	ND
129-00-0	Pyrene	5	ND
120-82-1	1,2,4-Trichlorobenzene	5	ND

All concentrations are reported as ug/L. ND indicates that no amount greater than the detection limit (DL) was detected.

These analyses are certified as conforming to generally accepted laboratory practices, the analytical method cited, requirements of the New York State Health Department ELAP program, and the New York State Department of Environmental Conservation.

John H. Buck, P.E.
Laboratory Director

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ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150
607-753-3403

NYS ELAP ID 10795

LABORATORY REPORT

Client:	**STETSON-HARZA**	Report Date:	12/13/93
		Sampling Date:	11/03/93
Site:	NYSDOT Barlow Road	Sampled By:	P. Rosato
		Date Received:	11/03/93
Sample:	Water - FHX-3	Lab Log No:	9311065

PESTICIDES AND PCB'S
(By EPA 8080 Methodology)

CAS No.	COMPOUND	DL	RESULT
309-00-2	Aldrin	0.01	ND
319-84-6	Alpha-BHC	0.01	ND
319-85-7	Beta-BHC	0.01	ND
319-85-8	Delta-BHC	0.01	ND
58-89-9	Gamma-BHC (Lindane)	0.01	ND
57-74-9	Chlordane	0.05	ND
72-54-8	4,4'-DDD	0.01	ND
72-55-9	4,4'-DDE	0.01	ND
50-29-3	4,4'DDT	0.01	ND
60-57-1	Dieldrin	0.01	ND
959-98-8	Endosulfan I	0.01	ND
33213-65-9	Endosulfan II	0.01	ND
1031-07-8	Endosulfan Sulphate	0.01	ND
72-20-8	Endrin	0.01	ND
744-93-4	Endrin Aldehyde	0.01	ND
76-44-8	Heptachlor	0.01	ND
1024-57-3	Heptachlor Epoxide	0.01	ND
72-43-5	Methoxychlor	0.05	ND
8001-35-2	Toxaphene	0.20	ND
12674-11-2	PCB 1016	0.05	ND
11104-28-2	PCB 1221	0.05	ND
11141-16-5	PCB 1232	0.05	ND
53469-21-9	PCB 1242	0.05	ND
12672-29-6	PCB 1248	0.05	ND
11097-69-1	PCB 1254	0.05	ND
11096-82-5	PCB 1260	0.05	ND

All concentrations are reported as ug/L. ND indicates that no amount greater than the detection limit (DL) was detected.

These analyses are certified as conforming to generally accepted laboratory practices, the analytical method cited, requirements of the New York State Health Department ELAP program, and the New York State Department of Environmental Conservation.

John H. Buck, P.E.
Laboratory Director

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150
607-753-3403

NYS ELAP ID 10795

LABORATORY REPORT

Client:	**STETSON-HARZA**	Report Date:	12/13/93
		Sampling Date:	11/03/93
Site:	NYSDOT Barlow Road	Sampled By:	P. Rosato
		Date Received:	11/03/93
Sample:	Water - FHX-9	Lab Log No:	9311065

PESTICIDES AND PCB'S
(By EPA 8080 Methodology)

CAS No.	COMPOUND	DL	RESULT
309-00-2	Aldrin	0.01	ND
319-84-6	Alpha-BHC	0.01	ND
319-85-7	Beta-BHC	0.01	ND
319-85-8	Delta-BHC	0.01	ND
58-89-9	Gamma-BHC (Lindane)	0.01	ND
57-74-9	Chlordane	0.05	ND
72-54-8	4,4'-DDD	0.01	ND
72-55-9	4,4'-DDE	0.01	ND
50-29-3	4,4'DDT	0.01	ND
60-57-1	Dieldrin	0.01	ND
959-98-8	Endosulfan I	0.01	ND
33213-65-9	Endosulfan II	0.01	ND
1031-07-8	Endosulfan Sulphate	0.01	ND
72-20-8	Endrin	0.01	ND
744-93-4	Endrin Aldehyde	0.01	ND
76-44-8	Heptachlor	0.01	ND
1024-57-3	Heptachlor Epoxide	0.01	ND
72-43-5	Methoxychlor	0.05	ND
8001-35-2	Toxaphene	0.20	ND
12674-11-2	PCB 1016	0.05	ND
11104-28-2	PCB 1221	0.05	ND
11141-16-5	PCB 1232	0.05	ND
53469-21-9	PCB 1242	0.05	ND
12672-29-6	PCB 1248	0.05	ND
11097-69-1	PCB 1254	0.05	ND
11096-82-5	PCB 1260	0.05	ND

All concentrations are reported as ug/L. ND indicates that no amount greater than the detection limit (DL) was detected.

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John H. Buck, P.E.
Laboratory Director

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ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150
607-753-3403

NYS ELAP ID 10795

LABORATORY REPORT

Client:	**STETSON-HARZA**	Report Date:	12/13/93
		Sampling Date:	11/03/93
Site:	NYSDOT Barlow Road	Sampled By:	P. Rosato
		Date Received:	11/03/93
Sample:	Water - FHX-12	Lab Log No:	9311065

PESTICIDES AND PCB'S
(By EPA 8080 Methodology)

CAS No.	COMPOUND	DL	RESULT
309-00-2	Aldrin	0.01	ND
319-84-6	Alpha-BHC	0.01	ND
319-85-7	Beta-BHC	0.01	ND
319-85-8	Delta-BHC	0.01	ND
58-89-9	Gamma-BHC (Lindane)	0.01	ND
57-74-9	Chlordane	0.05	ND
72-54-8	4,4'-DDD	0.01	ND
72-55-9	4,4'-DDE	0.01	ND
50-29-3	4,4'DDT	0.01	ND
60-57-1	Dieldrin	0.01	ND
959-98-8	Endosulfan I	0.01	ND
33213-65-9	Endosulfan II	0.01	ND
1031-07-8	Endosulfan Sulphate	0.01	ND
72-20-8	Endrin	0.01	ND
744-93-4	Endrin Aldehyde	0.01	ND
76-44-8	Heptachlor	0.01	ND
1024-57-3	Heptachlor Epoxide	0.01	ND
72-43-5	Methoxychlor	0.05	ND
8001-35-2	Toxaphene	0.20	ND
12674-11-2	PCB 1016	0.05	ND
11104-28-2	PCB 1221	0.05	ND
11141-16-5	PCB 1232	0.05	ND
53469-21-9	PCB 1242	0.05	ND
12672-29-6	PCB 1248	0.05	ND
11097-69-1	PCB 1254	0.05	ND
11096-82-5	PCB 1260	0.05	ND

All concentrations are reported as ug/L. ND indicates that no amount greater than the detection limit (DL) was detected.

These analyses are certified as conforming to generally accepted laboratory practices, the analytical method cited, requirements of the New York State Health Department ELAP program, and the New York State Department of Environmental Conservation.

John H. Buck, P.E.
Laboratory Director

BUCK ENVIRONMENTAL LABORATORIES INC.
A ROUTE 11 ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

LABORATORY REPORT
Lab Log No: 9311065

Client: Stetson-Harza
181 Genesee Street
Utica, NY 13501-2168

Site: NYSDOT Barlow Road

Report Date: December 9, 1993
Sampling Date: 11/03/93
Sampled By: P. Rosato
Date Received: 11/03/93

Sample ID: Water FHX-3

TEST	METHOD	ANALYZED	BY	UNITS	DL	RESULT
Arsenic	200.7/6010	11/09/93	SRG	mg/l	.10	ND
Barium	200.7/6010	11/09/93	SRG	mg/l	.050	.280
Cadmium	200.7/6010	11/09/93	SRG	mg/l	.05	ND
Chloride	325.3/9252	11/08/93	TRA	mg/L	1.0	9250
Chromium	200.7/6010	11/09/93	SRG	mg/l	.05	ND
Lead	239.2/7421	11/06/93	SRG	mg/L	.001	.002
Mercury	245.1/7470	11/11/93	SRG	mg/L	.0004	ND
Selenium	200.7/6010	11/09/93	SRG	mg/L	.10	ND
Silver	200.7/6010	11/09/93	SRG	mg/L	.10	ND
Sodium	273.1/7770	11/10/93	SRG	mg/L	1.0	4240

ND - None detected greater than detection limits (DL) noted.

These results are certified as conforming with generally accepted laboratory standards and requirements of the New York State Department of Health ELAP Program.

Laboratory Director
ELAP ID - 10795

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

LABORATORY REPORT
Lab Log No: 9311065

Client: Stetson-Harza
181 Genesee Street
Utica, NY 13501-2168

Site: NYSDOT Barlow Road

Report Date: December 9, 1993
Sampling Date: 11/03/93
Sampled By: P. Rosato
Date Received: 11/03/93

Sample ID: Water FHX-9

TEST	METHOD	ANALYZED	BY	UNITS	DL	RESULT
Arsenic	200.7/6010	11/09/93	SRG	mg/l	.10	ND
Barium	200.7/6010	11/09/93	SRG	mg/l	.050	ND
Cadmium	200.7/6010	11/09/93	SRG	mg/l	.05	ND
Chloride	325.3/9252	11/08/93	TRA	mg/L	1.0	145
Chromium	200.7/6010	11/09/93	SRG	mg/l	.05	ND
Lead	239.2/7421	11/06/93	SRG	mg/L	.001	ND
Mercury	245.1/7470	11/11/93	SRG	mg/L	.0004	ND
Selenium	200.7/6010	11/09/93	SRG	mg/L	.10	ND
Silver	200.7/6010	11/09/93	SRG	mg/L	.10	ND
Sodium	273.1/7770	11/10/93	SRG	mg/L	1.0	152

ND - None detected greater than detection limits (DL) noted.

These results are certified as conforming with generally accepted laboratory standards and requirements of the New York State Department of Health ELAP Program.

Laboratory Director
ELAP ID - 10795

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

LABORATORY REPORT
Lab Log No: 9311065

Client: Stetson-Harza
181 Genesee Street
Utica, NY 13501-2168

Site: NYSDOT Barlow Road

Report Date: December 9, 1993
Sampling Date: 11/03/93
Sampled By: P. Rosato
Date Received: 11/03/93

Sample ID: Water FHX-12

TEST	METHOD	ANALYZED	BY	UNITS	DL	RESULT
Arsenic	200.7/6010	11/09/93	SRG	mg/l	.10	ND
Barium	200.7/6010	11/09/93	SRG	mg/l	.050	ND
Cadmium	200.7/6010	11/09/93	SRG	mg/l	.05	ND
Chloride	325.3/9252	11/08/93	TRA	mg/L	1.0	63
Chromium	200.7/6010	11/09/93	SRG	mg/l	.05	ND
Lead	239.2/7421	11/06/93	SRG	mg/L	.001	.005
Mercury	245.1/7470	11/11/93	SRG	mg/L	.0004	ND
Selenium	200.7/6010	11/09/93	SRG	mg/L	.10	ND
Silver	200.7/6010	11/09/93	SRG	mg/L	.10	ND
Sodium	273.1/7770	11/10/93	SRG	mg/L	1.0	17.8

ND - None detected greater than detection limits (DL) noted.

These results are certified as conforming with generally accepted laboratory standards and requirements of the New York State Department of Health ELAP Program.

Laboratory Director
ELAP ID - 10795

BUCK ENVIRONMENTAL LABORATORIES INC.

3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150
607-753-3403

Report Date: 12/09/93
Lab Log Number: 9311065

LABORATORY REPORT

Client: **STETSON-HARZA**

Site: NYSDOT Barlow Road

Sample Date: 11/3/93 by P. Rosato, Received 11/3/93

Samples: Soil

Method: o Flame Ionization Detector, and/or GC/MS
o Adapted from NYSDOH 310-13 methodology

TOTAL PETROLEUM HYDROCARBON QUANTITATION

TB-1 Composite	**ND (<10.0 ug/kg)**
TB-2 Composite	**ND (<10.0 ug/kg)**
TB-3 Composite	**ND (<10.0 ug/kg)**
TB-4 Composite	**ND (<10.0 ug/kg)**
TB-5 Composite	**11 ug/kg as Lubrication Oil**
TB-6 6-8'	**75 ug/kg as Kerosene**
	35 ug/kg as Lubrication Oil

PRODUCT IDENTIFICATION

The chromatogram for TB-5 shows hydrocarbons in the boiling point range of lubrication oil. The peak patterns and compounds in TB-6 are indicative of kerosene and hydrocarbons in the boiling point range of lubrication oil.

ND - None detected greater than detection limit noted.

This analysis is certified as conforming to generally accepted laboratory practices and requirements of the New York State Health Department ELAP program.

John H. Buck, P.E.
Laboratory Director
NYS ELAP CERT 10795

BUCK ENVIRONMENTAL LABORATORIES INC.
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

NYS ELAP CERT 10795

LABORATORY REPORT

Client: **STETSON-HARZA**

Site: NYSDOT Barlow Road

Sample: Soil

Report Date: 12/15/93
Sampling Date: 11/03/93
Sampled By: P. Rosato
Date Received: 11/03/93
Analysis Date: 11/17/93
Lab Log No: 9311065

BTEX (By EPA 5030 and 8020)

Sample ID & Dates	Benzene	Toluene	Ethyl Benzene	(m,p,o) Xylenes	Late Peaks
11/03/93					
TB-2	ND	ND	1.1	22.2	Y
TB-4*	ND	ND	ND	ND	Y
TB-6 6-8'	ND	ND	ND	ND	ND

* - Detection limit for this sample is 5.0 ug/kg.

All concentrations are reported as ug/kg.

ND indicates that no amount greater than 1.0 ug/kg was detected.

This analysis is certified as conforming to generally accepted laboratory practices and requirements of the New York State Health Department ELAP program.

John H. Buck, P.E.
Laboratory Director

BUCK ENVIRONMENTAL LABORATORIES INC.

3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150
607-753-3403

NYS ELAP ID 10795

LABORATORY REPORT

Client:	**STETSON-HARZA**	Report Date:	12/13/93
		Sampling Date:	11/03/93
Site:	NYSDOT Barlow Road	Sampled By:	P. Rosato
		Date Received:	11/03/93
Sample:	Soil - TB-1 Composite	Lab Log No:	9311065

PESTICIDES AND PCB'S
(By EPA 8080 Methodology)

CAS No.	COMPOUND	DL	RESULT
309-00-2	Aldrin	1.7	ND
319-84-6	Alpha-BHC	1.7	ND
319-85-7	Beta-BHC	1.7	ND
319-85-8	Delta-BHC	1.7	ND
58-89-9	Gamma-BHC (Lindane)	1.7	ND
57-74-9	Chlordane	8.4	ND
72-54-8	4,4'-DDD	1.7	ND
72-55-9	4,4'-DDE	1.7	ND
50-29-3	4,4'DDT	1.7	ND
60-57-1	Dieldrin	1.7	ND
959-98-8	Endosulfan I	1.7	ND
33213-65-9	Endosulfan II	1.7	ND
1031-07-8	Endosulfan Sulphate	1.7	ND
72-20-8	Endrin	1.7	ND
744-93-4	Endrin Aldehyde	1.7	ND
76-44-8	Heptachlor	1.7	ND
1024-57-3	Heptachlor Epoxide	1.7	ND
72-43-5	Methoxychlor	4.2	ND
8001-35-2	Toxaphene	167	ND
12674-11-2	PCB 1016	8.4	ND
11104-28-2	PCB 1221	8.4	ND
11141-16-5	PCB 1232	8.4	ND
53469-21-9	PCB 1242	8.4	ND
12672-29-6	PCB 1248	8.4	ND
11097-69-1	PCB 1254	8.4	ND
11096-82-5	PCB 1260	8.4	ND

All concentrations are reported as ug/kg. ND indicates that no amount greater than the detection limit (DL) was detected.

These analyses are certified as conforming to generally accepted laboratory practices, the analytical method cited, requirements of the New York State Health Department ELAP program, and the New York State Department of Environmental Conservation.

John H. Buck, P.E.
Laboratory Director

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

LABORATORY REPORT
Lab Log No: 9311065

Client: Stetson-Harza
181 Genesee Street
Utica, NY 13501-2168

Site: NYSDOT Barlow Road

Report Date: December 9, 1993
Sampling Date: 11/03/93
Sampled By: P. Rosato
Date Received: 11/03/93

Sample ID: Soil TB-1 composite

TEST	METHOD	ANALYZED	BY	UNITS	DL	RESULT
Arsenic	200.7/6010	11/09/93	SRG	ug/g	11.1	ND
Barium	200.7/6010	11/09/93	SRG	ug/g	5.55	80.7
Cadmium	200.7/6010	11/09/93	SRG	ug/g	11.1	ND
Chloride	325.3/9252	11/08/93	TRA	ug/g	5.88	141
Chromium	200.7/6010	11/09/93	SRG	ug/g	11.1	9.95
Digest	3050		SAG	Date Com		11/08/93
Lead	239.2/7421	11/06/93	SRG	ug/g	.111	24.3
Mercury	245.1/7470	11/11/93	SRG	ug/g	.088	1.35
Selenium	200.7/6010	11/09/93	SRG	ug/g	11.1	ND
Silver	200.7/6010	11/09/93	SRG	ug/g	11.1	ND
Sodium	273.1/7770	11/10/93	SRG	ug/g	111	265

ND - None detected greater than detection limits (DL) noted.

These results are certified as conforming with generally accepted laboratory standards and requirements of the New York State Department of Health ELAP Program.

Laboratory Director
ELAP ID - 10795

BUCK ENVIRONMENTAL LABORATORIES INC.
A FULL SERVICE ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

LABORATORY REPORT
Lab Log No: 9311065

Client: *Stetson-Harza*
181 Genesee Street
Utica, NY 13501-2168

Site: NYSDOT Barlow Road

Report Date: 12/15/93
Sampling Date: 11/03/93
Sampled By: P. Rosato
Date Received: 11/03/93
Analyzed by: EAC, 11/17/93

Sample ID: Soil TB-2 composite

VOLATILES BY METHOD EPA 8010

ANALYTE	CAS #	UNITS	DL	RESULT
Bromobenzene	108-86-1	ug/kg	1.0	ND
Bromodichloromethane	75-27-4	ug/kg	1.0	ND
Bromoform	75-25-2	ug/kg	1.0	ND
Bromomethane	74-83-9	ug/kg	1.0	ND
Carbon Tetrachloride	56-23-5	ug/kg	1.0	ND
Chlorobenzene	108-90-7	ug/kg	1.0	ND
Chloroethane	75-00-3	ug/kg	1.0	ND
2-Chloroethylvinyl ether	110-75-8	ug/kg	1.0	ND
Chloroform	67-66-3	ug/kg	1.0	ND
Chloromethane	74-87-3	ug/kg	1.0	ND
Dibromochloromethane	124-48-1	ug/kg	1.0	ND
Dibromomethane	74-95-3	ug/kg	1.0	ND
1,2-Dichlorobenzene	95-50-1	ug/kg	1.0	ND
1,3-Dichlorobenzene	541-73-1	ug/kg	1.0	ND
1,4-Dichlorobenzene	106-46-7	ug/kg	1.0	ND
Dichlorodifluoromethane	75-71-8	ug/kg	1.0	ND
1,1-Dichloroethane	75-34-3	ug/kg	1.0	ND
1,2-Dichloroethane	107-06-2	ug/kg	1.0	ND
1,1-Dichloroethene	75-35-4	ug/kg	1.0	ND
trans-1,2-Dichloroethene	156-60-5	ug/kg	1.0	ND
cis-1,2-Dichloroethene	156-59-2	ug/kg	1.0	ND
1,2-Dichloropropane	78-87-5	ug/kg	1.0	ND
cis-1,3-Dichloropropene	10061-01-5	ug/kg	1.0	ND
trans-1,3-Dichloropropene	10061-02-6	ug/kg	1.0	ND
Methylene Chloride	75-09-2	ug/kg	1.0	ND
1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	1.0	ND
1,1,1,2-Tetrachloroethane	630-20-6	ug/kg	1.0	ND
Tetrachloroethene	127-18-4	ug/kg	1.0	ND
1,1,1-Trichloroethane	71-55-6	ug/kg	1.0	ND
1,1,2-Trichloroethane	79-00-5	ug/kg	1.0	ND
Trichloroethene	79-01-6	ug/kg	1.0	ND
Trichlorofluoromethane	75-69-4	ug/kg	1.0	ND
1,2,3-Trichloropropane	96-18-4	ug/kg	1.0	ND
Vinyl Chloride	75-01-4	ug/kg	1.0	ND

ND - None detected greater than detection limit (DL) noted.
These results are certified as conforming with generally accepted laboratory standards and requirements of the New York State Department of Health ELAP Program.

Laboratory Director
ELAP ID - 10795

BUCK ENVIRONMENTAL LABORATORIES INC.
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

LABORATORY REPORT

Client:	**STETSON-HARZA**	Report Date:	12/09/93
		Date Sampled:	11/03/93
Site:	NYSDOT Barlow Road	Sampled By:	P. Rosato
		Date Received:	11/03/93
		Analysis Date:	12/14/93
Sample:	Soil - TB-2 Composite	Lab Log Number:	9311065

BASE NEUTRALS
(EPA 8270 GC/MS Methodology)

CAS No.	COMPOUND	DL	RESULT
83-32-9	Acenaphthene	170	ND
208-96-8	Acenaphthylene	170	ND
120-12-7	Anthracene	170	ND
92-87-5	Benzidene	1700	ND
56-55-3	Benzo(a)anthracene	340	ND
50-32-8	Benzo(a)pyrene	170	ND
205-99-2	Benzo(b)fluoranthene	170	ND
191-24-2	Benzo(ghi)perylene	170	ND
207-08-9	Benzo(k)fluoranthene	170	ND
85-68-7	Benzyl butyl phthalate	170	ND
111-91-1	Bis(2-chloroethoxy)methane	340	ND
111-44-4	Bis(2-chloroethyl)ether	340	ND
108-60-1	Bis(2-chloroisopropyl) ether	340	ND
117-81-7	Bis(2-ethylhexyl)phthalate	170	190.
101-55-3	4-Bromophenylphenyl ether	170	ND
91-58-7	2-Chloronaphthalene	170	ND
7005-72-3	4-Chlorophenyl phenyl ether	170	ND
218-01-9	Chrysene	170	ND
53-70-3	Dibenzo(a,h)anthracene	170	ND
95-50-1	1,2-Dichlorobenzene	170	ND
541-73-1	1,3-Dichlorobenzene	170	ND
106-46-7	1,4-Dichlorobenzene	170	ND
91-94-1	3,3'-Dichlorobenzidine	680	ND
84-66-2	Diethyl phthalate	170	ND
131-11-3	Dimethyl phthalate	170	ND
84-74-2	Di-n-butyl phthalate	170	ND
117-84-0	Di-n-octyl phthalate	170	ND
121-14-2	2,4-Dinitrotoluene	340	ND

Continued on Page 2

BUCK ENVIRONMENTAL LABORATORIES INC.
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

LABORATORY REPORT

Client:	**STETSON-HARZA**	**Report Date:**	12/09/93
		Date Sampled:	11/03/93
Site:	NYSDOT Barlow Road	Sampled By:	P. Rosato
		Date Received:	11/03/93
		Analysis Date:	12/14/93
Sample:	Soil - TB-2 Composite	Lab Log Number:	9311065

BASE NEUTRALS
(EPA 8270 GC/MS Methodology)

CAS No.	COMPOUND	DL	RESULT
606-20-2	2,6-Dinitrotoluene	170	ND
206-44-0	Fluoranthene	170	ND
86-73-7	Fluorene	170	ND
118-74-1	Hexachlorobenzene	170	ND
87-68-3	Hexachlorobutadiene	170	ND
77-47-4	Hexachlorocyclopentadiene	170	ND
67-72-1	Hexachloroethane	170	ND
193-39-5	Indeno(1,2,3-c,d)pyrene	170	ND
78-59-1	Isophorone	170	ND
91-20-3	Naphthalene	170	ND
98-95-3	Nitrobenzene	170	ND
62-75-9	n-Nitrosodimethylamine	170	ND
621-64-7	n-Nitrosodi-n-propylamine	170	ND
86-30-6	n-nitrosodiphenylamine	170	ND
85-01-8	Phenanthrene	340	ND
129-00-0	Pyrene	170	ND
120-82-1	1,2,4-Trichlorobenzene	170	ND

Uncorrected for moisture content.

Note: Bis(2-ethylhexyl)phthalate is a common laboratory contaminant.

All concentrations are reported as ug/kg. ND indicates that no amount greater than the detection limit (DL) was detected.

These analyses are certified as conforming to generally accepted laboratory practices, the analytical method cited, requirements of the New York State Health Department ELAP program, and the New York State Department of Environmental Conservation.

John H. Buck, P.E.
Laboratory Director

BUCK ENVIRONMENTAL LABORATORIES INC.

3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150
607-753-3403

NYS ELAP ID 10795

LABORATORY REPORT

Client:	**STETSON-HARZA**	Report Date:	12/13/93
		Sampling Date:	11/03/93
Site:	NYSDOT Barlow Road	Sampled By:	P. Rosato
		Date Received:	11/03/93
Sample:	Soil - TB-2 Composite	Lab Log No:	9311065

PESTICIDES AND PCB'S
(By EPA 8080 Methodology)

CAS No.	COMPOUND	DL	RESULT
309-00-2	Aldrin	1.7	ND
319-84-6	Alpha-BHC	1.7	ND
319-85-7	Beta-BHC	1.7	ND
319-85-8	Delta-BHC	1.7	ND
58-89-9	Gamma-BHC (Lindane)	1.7	ND
57-74-9	Chlordane	8.4	ND
72-54-8	4,4'-DDD	1.7	ND
72-55-9	4,4'-DDE	1.7	ND
50-29-3	4,4'DDT	1.7	ND
60-57-1	Dieldrin	1.7	ND
959-98-8	Endosulfan I	1.7	ND
33213-65-9	Endosulfan II	1.7	ND
1031-07-8	Endosulfan Sulphate	1.7	ND
72-20-8	Endrin	1.7	ND
744-93-4	Endrin Aldehyde	1.7	ND
76-44-8	Heptachlor	1.7	ND
1024-57-3	Heptachlor Epoxide	1.7	ND
72-43-5	Methoxychlor	4.2	ND
8001-35-2	Toxaphene	167	ND
12674-11-2	PCB 1016	8.4	ND
11104-28-2	PCB 1221	8.4	ND
11141-16-5	PCB 1232	8.4	ND
53469-21-9	PCB 1242	8.4	ND
12672-29-6	PCB 1248	8.4	ND
11097-69-1	PCB 1254	8.4	ND
11096-82-5	PCB 1260	8.4	ND

All concentrations are reported as ug/kg. ND indicates that no amount greater than the detection limit (DL) was detected.

These analyses are certified as conforming to generally accepted laboratory practices, the analytical method cited, requirements of the New York State Health Department ELAP program, and the New York State Department of Environmental Conservation.

John H. Buck, P.E.
Laboratory Director

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

LABORATORY REPORT
Lab Log No: 9311065

Client: Stetson-Harza
181 Genesee Street
Utica, NY 13501-2168

Site: NYSDOT Barlow Road

Report Date: December 9, 1993
Sampling Date: 11/03/93
Sampled By: P. Rosato
Date Received: 11/03/93

Sample ID: Soil TB-2 composite

TEST	METHOD	ANALYZED	BY	UNITS	DL	RESULT
Arsenic	200.7/6010	11/09/93	SRG	ug/g	11.0	ND
Barium	200.7/6010	11/09/93	SRG	ug/g	5.52	51.9
Cadmium	200.7/6010	11/09/93	SRG	ug/g	11.0	ND
Chloride	325.3/9252	11/08/93	TRA	ug/g	5.75	155
Chromium	200.7/6010	11/09/93	SRG	ug/g	11.0	7.73
Digest	3050		SAG	Date Com		11/08/93
Lead	239.2/7421	11/06/93	SRG	ug/g	.110	15.0
Mercury	245.1/7470	11/11/93	SRG	ug/g	.088	1.09
Selenium	200.7/6010	11/09/93	SRG	ug/g	11.0	ND
Silver	200.7/6010	11/09/93	SRG	ug/g	11.0	ND
Sodium	273.1/7770	11/10/93	SRG	ug/g	110	ND

ND - None detected greater than detection limits (DL) noted.

These results are certified as conforming with generally accepted laboratory standards and requirements of the New York State Department of Health ELAP Program.

Laboratory Director
ELAP ID - 10795

BUCK ENVIRONMENTAL LABORATORIES INC.

3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150
607-753-3403

NYS ELAP ID 10795

LABORATORY REPORT

Client:	**STETSON-HARZA**	Report Date:	12/13/93
		Sampling Date:	11/03/93
Site:	NYSDOT Barlow Road	Sampled By:	P. Rosato
		Date Received:	11/03/93
Sample:	Soil - TB-3 Composite	Lab Log No:	9311065

PESTICIDES AND PCB'S
(By EPA 8080 Methodology)

CAS No.	COMPOUND	DL	RESULT
309-00-2	Aldrin	1.7	ND
319-84-6	Alpha-BHC	1.7	ND
319-85-7	Beta-BHC	1.7	ND
319-85-8	Delta-BHC	1.7	ND
58-89-9	Gamma-BHC (Lindane)	1.7	ND
57-74-9	Chlordane	8.4	ND
72-54-8	4,4'-DDD	1.7	ND
72-55-9	4,4'-DDE	1.7	ND
50-29-3	4,4'DDT	1.7	ND
60-57-1	Dieldrin	1.7	ND
959-98-8	Endosulfan I	1.7	ND
33213-65-9	Endosulfan II	1.7	ND
1031-07-8	Endosulfan Sulphate	1.7	ND
72-20-8	Endrin	1.7	ND
744-93-4	Endrin Aldehyde	1.7	ND
76-44-8	Heptachlor	1.7	ND
1024-57-3	Heptachlor Epoxide	1.7	ND
72-43-5	Methoxychlor	4.2	ND
8001-35-2	Toxaphene	167	ND
12674-11-2	PCB 1016	8.4	ND
11104-28-2	PCB 1221	8.4	ND
11141-16-5	PCB 1232	8.4	ND
53469-21-9	PCB 1242	8.4	ND
12672-29-6	PCB 1248	8.4	ND
11097-69-1	PCB 1254	8.4	ND
11096-82-5	PCB 1260	8.4	ND

All concentrations are reported as ug/kg. ND indicates that no amount greater than the detection limit (DL) was detected.

These analyses are certified as conforming to generally accepted laboratory practices, the analytical method cited, requirements of the New York State Health Department ELAP program, and the New York State Department of Environmental Conservation.

John H. Buck, P.E.
Laboratory Director

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150
607-753-3403

LABORATORY REPORT
Lab Log No: 9311065

Client: Stetson-Harza
181 Genesee Street
Utica, NY 13501-2168

Site: NYSDOT Barlow Road

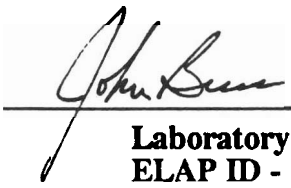
Report Date: December 9, 1993
Sampling Date: 11/03/93
Sampled By: P. Rosato
Date Received: 11/03/93

Sample ID: Soil TB-3 compsoite

TEST	METHOD	ANALYZED	BY	UNITS	DL	RESULT
Arsenic	200.7/6010	11/09/93	SRG	ug/g	9.31	ND
Barium	200.7/6010	11/09/93	SRG	ug/g	4.66	68.9
Cadmium	200.7/6010	11/09/93	SRG	ug/g	9.31	ND
Chloride	325.3/9252	11/08/93	TRA	ug/g	5.52	193
Chromium	200.7/6010	11/09/93	SRG	ug/g	9.31	7.45
Digest	3050		SAG	Date Com		11/08/93
Lead	239.2/7421	11/06/93	SRG	ug/g	.931	14.5
Mercury	245.1/7470	11/11/93	SRG	ug/g	.074	.168
Selenium	200.7/6010	11/09/93	SRG	ug/g	9.31	ND
Silver	200.7/6010	11/09/93	SRG	ug/g	9.31	ND
Sodium	273.1/7770	11/10/93	SRG	ug/g	93.1	ND

ND - None detected greater than detection limits (DL) noted.

These results are certified as conforming with generally accepted laboratory standards and requirements of the New York State Department of Health ELAP Program.



Laboratory Director
ELAP ID - 10795

BUCK ENVIRONMENTAL LABORATORIES INC.
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

LABORATORY REPORT
Lab Log No: 9311065

Client: ***Stetson-Harza***
181 Genesee Street
Utica, NY 13501-2168

Site: NYSDOT Barlow Road

Report Date: 12/15/93
Sampling Date: 11/03/93
Sampled By: P. Rosato
Date Received: 11/03/93
Analyzed by: EAC, 11/17/93

Sample ID: Soil TB-4 composite

VOLATILES BY METHOD EPA 8010

ANALYTE	CAS #	UNITS	DL	RESULT
Bromobenzene	108-86-1	ug/kg	5.0	ND
Bromodichloromethane	75-27-4	ug/kg	5.0	ND
Bromoform	75-25-2	ug/kg	5.0	ND
Bromomethane	74-83-9	ug/kg	5.0	ND
Carbon Tetrachloride	56-23-5	ug/kg	5.0	*14.1*
Chlorobenzene	108-90-7	ug/kg	5.0	ND
Chloroethane	75-00-3	ug/kg	5.0	ND
2-Chloroethylvinyl ether	110-75-8	ug/kg	5.0	ND
Chloroform	67-66-3	ug/kg	5.0	ND
Chloromethane	74-87-3	ug/kg	5.0	ND
Dibromochloromethane	124-48-1	ug/kg	5.0	ND
Dibromomethane	74-95-3	ug/kg	5.0	ND
1,2-Dichlorobenzene	95-50-1	ug/kg	5.0	ND
1,3-Dichlorobenzene	541-73-1	ug/kg	5.0	ND
1,4-Dichlorobenzene	106-46-7	ug/kg	5.0	ND
Dichlorodifluoromethane	75-71-8	ug/kg	5.0	ND
1,1-Dichloroethane	75-34-3	ug/kg	5.0	ND
1,2-Dichloroethane	107-06-2	ug/kg	5.0	ND
1,1-Dichloroethene	75-35-4	ug/kg	5.0	ND
trans-1,2-Dichloroethene	156-60-5	ug/kg	5.0	ND
cis-1,2-Dichloroethene	156-59-2	ug/kg	5.0	ND
1,2-Dichloropropane	78-87-5	ug/kg	5.0	*8.2*
cis-1,3-Dichloropropene	10061-01-5	ug/kg	5.0	ND
trans-1,3-Dichloropropene	10061-02-6	ug/kg	5.0	ND
Methylene Chloride	75-09-2	ug/kg	5.0	ND
1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	5.0	ND
1,1,1,2-Tetrachloroethane	630-20-6	ug/kg	5.0	ND
Tetrachloroethene	127-18-4	ug/kg	5.0	*1.3*
1,1,1-Trichloroethane	71-55-6	ug/kg	5.0	ND
1,1,2-Trichloroethane	79-00-5	ug/kg	5.0	ND
Trichloroethene	79-01-6	ug/kg	5.0	*2.6*
Trichlorofluoromethane	75-69-4	ug/kg	5.0	ND
1,2,3-Trichloropropane	96-18-4	ug/kg	5.0	ND
Vinyl Chloride	75-01-4	ug/kg	5.0	ND

ND - None detected greater than detection limit (DL) noted.
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Laboratory Director
ELAP ID - 10795

BUCK ENVIRONMENTAL LABORATORIES INC.
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

LABORATORY REPORT

Client:	**STETSON-HARZA**	Report Date:	12/09/93
		Date Sampled:	11/03/93
Site:	NYSDOT Barlow Road	Sampled By:	P. Rosato
		Date Received:	11/03/93
		Analysis Date:	12/14/93
Sample:	Soil - TB-4 Composite	Lab Log Number:	9311065

BASE NEUTRALS
(EPA 8270 GC/MS Methodology)

CAS No.	COMPOUND	DL	RESULT
83-32-9	Acenaphthene	170	ND
208-96-8	Acenaphthylene	170	ND
120-12-7	Anthracene	170	ND
92-87-5	Benzidene	1700	ND
56-55-3	Benzo(a)anthracene	340	ND
50-32-8	Benzo(a)pyrene	170	190.
205-99-2	Benzo(b)fluoranthene	170	ND
191-24-2	Benzo(ghi)perylene	170	ND
207-08-9	Benzo(k)fluoranthene	170	260.
85-68-7	Benzyl butyl phthalate	170	ND
111-91-1	Bis(2-chloroethoxy)methane	340	ND
111-44-4	Bis(2-chloroethyl)ether	340	ND
108-60-1	Bis(2-chloroisopropyl) ether	340	ND
117-81-7	Bis(2-ethylhexyl)phthalate	170	ND
101-55-3	4-Bromophenylphenyl ether	170	ND
91-58-7	2-Chloronaphthalene	170	ND
7005-72-3	4-Chlorophenyl phenyl ether	170	ND
218-01-9	Chrysene	170	ND
53-70-3	Dibenzo(a,h)anthracene	170	ND
95-50-1	1,2-Dichlorobenzene	170	ND
541-73-1	1,3-Dichlorobenzene	170	ND
106-46-7	1,4-Dichlorobenzene	170	ND
91-94-1	3,3'-Dichlorobenzidine	680	ND
84-66-2	Diethyl phthalate	170	ND
131-11-3	Dimethyl phthalate	170	ND
84-74-2	Di-n-butyl phthalate	170	ND
117-84-0	Di-n-octyl phthalate	170	ND
121-14-2	2,4-Dinitrotoluene	340	ND

Continued on Page 2

BUCK ENVIRONMENTAL LABORATORIES INC.
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P.O. BOX 5150 607-753-3403

LABORATORY REPORT

Client:	**STETSON-HARZA**	Report Date:	12/09/93
		Date Sampled:	11/03/93
Site:	NYSDOT Barlow Road	Sampled By:	P. Rosato
		Date Received:	11/03/93
		Analysis Date:	12/14/93
Sample:	Soil - TB-4 Composite	Lab Log Number:	9311065

BASE NEUTRALS
(EPA 8270 GC/MS Methodology)

CAS No.	COMPOUND	DL	RESULT
606-20-2	2,6-Dinitrotoluene	170	ND
206-44-0	Fluoranthene	170	ND
86-73-7	Fluorene	170	ND
118-74-1	Hexachlorobenzene	170	ND
87-68-3	Hexachlorobutadiene	170	ND
77-47-4	Hexachlorocyclopentadiene	170	ND
67-72-1	Hexachloroethane	170	ND
193-39-5	Indeno(1,2,3-c,d)pyrene	170	ND
78-59-1	Isophorone	170	ND
91-20-3	Naphthalene	170	ND
98-95-3	Nitrobenzene	170	ND
62-75-9	n-Nitrosodimethylamine	170	ND
621-64-7	n-Nitrosodi-n-propylamine	170	ND
86-30-6	n-nitrosodiphenylamine	170	ND
85-01-8	Phenanthrene	340	ND
129-00-0	Pyrene	170	360.
120-82-1	1,2,4-Trichlorobenzene	170	ND

Uncorrected for moisture content.

All concentrations are reported as ug/kg. ND indicates that no amount greater than the detection limit (DL) was detected.

These analyses are certified as conforming to generally accepted laboratory practices, the analytical method cited, requirements of the New York State Health Department ELAP program, and the New York State Department of Environmental Conservation.

John H. Buck, P.E.
Laboratory Director

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3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150
607-753-3403

NYS ELAP ID 10795

LABORATORY REPORT

Client:	**STETSON-HARZA**	Report Date:	12/13/93
		Sampling Date:	11/03/93
Site:	NYSDOT Barlow Road	Sampled By:	P. Rosato
		Date Received:	11/03/93
Sample:	Soil - TB-4 Composite	Lab Log No:	9311065

PESTICIDES AND PCB'S
(By EPA 8080 Methodology)

CAS No.	COMPOUND	DL	RESULT
309-00-2	Aldrin	1.7	ND
319-84-6	Alpha-BHC	1.7	ND
319-85-7	Beta-BHC	1.7	ND
319-85-8	Delta-BHC	1.7	ND
58-89-9	Gamma-BHC (Lindane)	1.7	ND
57-74-9	Chlordane	8.4	ND
72-54-8	4,4'-DDD	1.7	ND
72-55-9	4,4'-DDE	1.7	ND
50-29-3	4,4'DDT	1.7	ND
60-57-1	Dieldrin	1.7	ND
959-98-8	Endosulfan I	1.7	ND
33213-65-9	Endosulfan II	1.7	ND
1031-07-8	Endosulfan Sulphate	1.7	ND
72-20-8	Endrin	1.7	ND
744-93-4	Endrin Aldehyde	1.7	ND
76-44-8	Heptachlor	1.7	ND
1024-57-3	Heptachlor Epoxide	1.7	ND
72-43-5	Methoxychlor	4.2	ND
8001-35-2	Toxaphene	167	ND
12674-11-2	PCB 1016	8.4	ND
11104-28-2	PCB 1221	8.4	ND
11141-16-5	PCB 1232	8.4	ND
53469-21-9	PCB 1242	8.4	ND
12672-29-6	PCB 1248	8.4	ND
11097-69-1	PCB 1254	8.4	ND
11096-82-5	PCB 1260	8.4	ND

All concentrations are reported as ug/kg. ND indicates that no amount greater than the detection limit (DL) was detected.

These analyses are certified as conforming to generally accepted laboratory practices, the analytical method cited, requirements of the New York State Health Department ELAP program, and the New York State Department of Environmental Conservation.

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P.O. BOX 5150 607-753-3403

LABORATORY REPORT
Lab Log No: 9311065

Client: Stetson-Harza
181 Genesee Street
Utica, NY 13501-2168

Site: NYSDOT Barlow Road

Report Date: December 9, 1993
Sampling Date: 11/03/93
Sampled By: P. Rosato
Date Received: 11/03/93

Sample ID: Soil TB-4 composite

TEST	METHOD	ANALYZED	BY	UNITS	DL	RESULT
Arsenic	200.7/6010	11/09/93	SRG	ug/g	10.2	ND
Barium	200.7/6010	11/09/93	SRG	ug/g	5.11	80.8
Cadmium	200.7/6010	11/09/93	SRG	ug/g	10.2	ND
Chloride	325.3/9252	11/08/93	TRA	ug/g	5.61	241
Chromium	200.7/6010	11/09/93	SRG	ug/g	10.2	9.21
Digest	3050		SAG	Date Com		11/08/93
Lead	239.2/7421	11/06/93	SRG	ug/g	.102	23.7
Mercury	245.1/7470	11/11/93	SRG	ug/g	.082	ND
Selenium	200.7/6010	11/09/93	SRG	ug/g	10.2	ND
Silver	200.7/6010	11/09/93	SRG	ug/g	10.2	ND
Sodium	273.1/7770	11/10/93	SRG	ug/g	102	276

ND - None detected greater than detection limits (DL) noted.

These results are certified as conforming with generally accepted laboratory standards and requirements of the New York State Department of Health ELAP Program.

Laboratory Director
ELAP ID - 10795

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3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150
607-753-3403

NYS ELAP ID 10795

LABORATORY REPORT

Client:	**STETSON-HARZA**	Report Date:	12/13/93
		Sampling Date:	11/03/93
Site:	NYSDOT Barlow Road	Sampled By:	P. Rosato
		Date Received:	11/03/93
Sample:	Soil - TB-5 Composite	Lab Log No:	9311065

PESTICIDES AND PCB'S
(By EPA 8080 Methodology)

CAS No.	COMPOUND	DL	RESULT
309-00-2	Aldrin	1.7	ND
319-84-6	Alpha-BHC	1.7	ND
319-85-7	Beta-BHC	1.7	ND
319-85-8	Delta-BHC	1.7	ND
58-89-9	Gamma-BHC (Lindane)	1.7	ND
57-74-9	Chlordane	8.4	ND
72-54-8	4,4'-DDD	1.7	ND
72-55-9	4,4'-DDE	1.7	ND
50-29-3	4,4'DDT	1.7	ND
60-57-1	Dieldrin	1.7	ND
959-98-8	Endosulfan I	1.7	ND
33213-65-9	Endosulfan II	1.7	ND
1031-07-8	Endosulfan Sulphate	1.7	ND
72-20-8	Endrin	1.7	ND
744-93-4	Endrin Aldehyde	1.7	ND
76-44-8	Heptachlor	1.7	ND
1024-57-3	Heptachlor Epoxide	1.7	ND
72-43-5	Methoxychlor	4.2	ND
8001-35-2	Toxaphene	167	ND
12674-11-2	PCB 1016	8.4	ND
11104-28-2	PCB 1221	8.4	ND
11141-16-5	PCB 1232	8.4	ND
53469-21-9	PCB 1242	8.4	ND
12672-29-6	PCB 1248	8.4	ND
11097-69-1	PCB 1254	8.4	ND
11096-82-5	PCB 1260	8.4	ND

All concentrations are reported as ug/kg. ND indicates that no amount greater than the detection limit (DL) was detected.

These analyses are certified as conforming to generally accepted laboratory practices, the analytical method cited, requirements of the New York State Health Department ELAP program, and the New York State Department of Environmental Conservation.

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3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

LABORATORY REPORT
Lab Log No: 9311065

Client: Stetson-Harza
181 Genesee Street
Utica, NY 13501-2168

Site: NYSDOT Barlow Road

Report Date: December 9, 1993
Sampling Date: 11/03/93
Sampled By: P. Rosato
Date Received: 11/03/93

Sample ID: Soil TB-5 composite

TEST	METHOD	ANALYZED	BY	UNITS	DL	RESULT
Arsenic	200.7/6010	11/09/93	SRG	ug/g	10.8	ND
Barium	200.7/6010	11/09/93	SRG	ug/g	5.42	70.4
Cadmium	200.7/6010	11/09/93	SRG	ug/g	10.8	ND
Chloride	325.3/9252	11/08/93	TRA	ug/g	5.43	141
Chromium	200.7/6010	11/09/93	SRG	ug/g	10.8	7.59
Digest	3050		SAG	Date Com		11/08/93
Lead	239.2/7421	11/06/93	SRG	ug/g	.108	23.9
Mercury	245.1/7470	11/11/93	SRG	ug/g	.087	.748
Selenium	200.7/6010	11/09/93	SRG	ug/g	10.8	ND
Silver	200.7/6010	11/09/93	SRG	ug/g	10.8	ND
Sodium	273.1/7770	11/10/93	SRG	ug/g	108	217

ND - None detected greater than detection limits (DL) noted.

These results are certified as conforming with generally accepted laboratory standards and requirements of the New York State Department of Health ELAP Program.

Laboratory Director
ELAP ID - 10795

BUCK ENVIRONMENTAL LABORATORIES INC.
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

LABORATORY REPORT
Lab Log No: 9311065

Client: *Stetson-Harza*
181 Genesee Street
Utica, NY 13501-2168

Site: NYSDOT Barlow Road

Report Date: 12/15/93
Sampling Date: 11/03/93
Sampled By: P. Rosato
Date Received: 11/03/93
Analyzed by: EAC, 11/17/93

Sample ID: Soil TB-6 6-8'

VOLATILES BY METHOD EPA 8010

ANALYTE	CAS #	UNITS	DL	RESULT
Bromobenzene	108-86-1	ug/kg	1.0	ND
Bromodichloromethane	75-27-4	ug/kg	1.0	ND
Bromoform	75-25-2	ug/kg	1.0	ND
Bromomethane	74-83-9	ug/kg	1.0	ND
Carbon Tetrachloride	56-23-5	ug/kg	1.0	ND
Chlorobenzene	108-90-7	ug/kg	1.0	ND
Chloroethane	75-00-3	ug/kg	1.0	ND
2-Chloroethylvinyl ether	110-75-8	ug/kg	1.0	ND
Chloroform	67-66-3	ug/kg	1.0	ND
Chloromethane	74-87-3	ug/kg	1.0	ND
Dibromochloromethane	124-48-1	ug/kg	1.0	ND
Dibromomethane	74-95-3	ug/kg	1.0	ND
1,2-Dichlorobenzene	95-50-1	ug/kg	1.0	ND
1,3-Dichlorobenzene	541-73-1	ug/kg	1.0	ND
1,4-Dichlorobenzene	106-46-7	ug/kg	1.0	ND
Dichlorodifluoromethane	75-71-8	ug/kg	1.0	ND
1,1-Dichloroethane	75-34-3	ug/kg	1.0	ND
1,2-Dichloroethane	107-06-2	ug/kg	1.0	ND
1,1-Dichloroethene	75-35-4	ug/kg	1.0	ND
trans-1,2-Dichloroethene	156-60-5	ug/kg	1.0	ND
cis-1,2-Dichloroethene	156-59-2	ug/kg	1.0	ND
1,2-Dichloropropane	78-87-5	ug/kg	1.0	ND
cis-1,3-Dichloropropene	10061-01-5	ug/kg	1.0	ND
trans-1,3-Dichloropropene	10061-02-6	ug/kg	1.0	ND
Methylene Chloride	75-09-2	ug/kg	1.0	ND
1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	1.0	ND
1,1,1,2-Tetrachloroethane	630-20-6	ug/kg	1.0	ND
Tetrachloroethene	127-18-4	ug/kg	1.0	ND
1,1,1-Trichloroethane	71-55-6	ug/kg	1.0	ND
1,1,2-Trichloroethane	79-00-5	ug/kg	1.0	ND
Trichloroethene	79-01-6	ug/kg	1.0	*1.1*
Trichlorofluoromethane	75-69-4	ug/kg	1.0	ND
1,2,3-Trichloropropane	96-18-4	ug/kg	1.0	ND
Vinyl Chloride	75-01-4	ug/kg	1.0	ND

ND - None detected greater than detection limit (DL) noted.
These results are certified as conforming with generally accepted laboratory standards and requirements of the New York State Department of Health ELAP Program.

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P.O. BOX 5150 607-753-3403

LABORATORY REPORT

Client:	**STETSON-HARZA**	Report Date:	12/09/93
		Date Sampled:	11/03/93
Site:	NYSDOT Barlow Road	Sampled By:	P. Rosato
		Date Received:	11/03/93
		Analysis Date:	12/14/93
Sample:	Soil/TB-6 6-8' Composite	Lab Log Number:	9311065

BASE NEUTRALS
(EPA 8270 GC/MS Methodology)

CAS No.	COMPOUND	DL	RESULT
83-32-9	Acenaphthene	170	ND
208-96-8	Acenaphthylene	170	ND
120-12-7	Anthracene	170	ND
92-87-5	Benzidene	1700	ND
56-55-3	Benzo(a)anthracene	340	ND
50-32-8	Benzo(a)pyrene	170	ND
205-99-2	Benzo(b)fluoranthene	170	ND
191-24-2	Benzo(ghi)perylene	170	ND
207-08-9	Benzo(k)fluoranthene	170	ND
85-68-7	Benzyl butyl phthalate	170	ND
111-91-1	Bis(2-chloroethoxy)methane	340	ND
111-44-4	Bis(2-chloroethyl)ether	340	ND
108-60-1	Bis(2-chloroisopropyl) ether	340	ND
117-81-7	Bis(2-ethylhexyl)phthalate	170	1,500
101-55-3	4-Bromophenylphenyl ether	170	ND
91-58-7	2-Chloronaphthalene	170	ND
7005-72-3	4-Chlorophenyl phenyl ether	170	ND
218-01-9	Chrysene	170	ND
53-70-3	Dibenzo(a,h)anthracene	170	ND
95-50-1	1,2-Dichlorobenzene	170	ND
541-73-1	1,3-Dichlorobenzene	170	ND
106-46-7	1,4-Dichlorobenzene	170	ND
91-94-1	3,3'-Dichlorobenzidine	680	ND
84-66-2	Diethyl phthalate	170	ND
131-11-3	Dimethyl phthalate	170	ND
84-74-2	Di-n-butyl phthalate	170	ND
117-84-0	Di-n-octyl phthalate	170	ND
121-14-2	2,4-Dinitrotoluene	340	ND

Continued on Page 2

BUCK ENVIRONMENTAL LABORATORIES INC.
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
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LABORATORY REPORT

Client:	**STETSON-HARZA**	Report Date:	12/09/93
		Date Sampled:	11/03/93
Site:	NYSDOT Barlow Road	Sampled By:	P. Rosato
		Date Received:	11/03/93
		Analysis Date:	12/14/93
Sample:	Soil/TB-6 6-8' Composite	Lab Log Number:	9311065

BASE NEUTRALS
(EPA 8270 GC/MS Methodology)

CAS No.	COMPOUND	DL	RESULT
606-20-2	2,6-Dinitrotoluene	170	ND
206-44-0	Fluoranthene	170	ND
86-73-7	Fluorene	170	ND
118-74-1	Hexachlorobenzene	170	ND
87-68-3	Hexachlorobutadiene	170	ND
77-47-4	Hexachlorocyclopentadiene	170	ND
67-72-1	Hexachloroethane	170	ND
193-39-5	Indeno(1,2,3-c,d)pyrene	170	ND
78-59-1	Isophorone	170	ND
91-20-3	Naphthalene	170	ND
98-95-3	Nitrobenzene	170	ND
62-75-9	n-Nitrosodimethylamine	170	ND
621-64-7	n-Nitrosodi-n-propylamine	170	ND
86-30-6	n-nitrosodiphenylamine	170	ND
85-01-8	Phenanthrene	340	ND
129-00-0	Pyrene	170	ND
120-82-1	1,2,4-Trichlorobenzene	170	ND

Uncorrected for moisture content.

Note: Bis(2-ethylhexyl)phthalate is a common laboratory contaminant.

All concentrations are reported as ug/kg. ND indicates that no amount greater than the detection limit (DL) was detected.

These analyses are certified as conforming to generally accepted laboratory practices, the analytical method cited, requirements of the New York State Health Department ELAP program, and the New York State Department of Environmental Conservation.

John H. Buck, P.E.
Laboratory Director

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150
607-753-3403

NYS ELAP ID 10795

LABORATORY REPORT

Client:	**STETSON-HARZA**	Report Date:	12/13/93
		Sampling Date:	11/03/93
Site:	NYSDOT Barlow Road	Sampled By:	P. Rosato
		Date Received:	11/03/93
Sample:	Soil - TB-6 6-8'	Lab Log No:	9311065

PESTICIDES AND PCB'S
(By EPA 8080 Methodology)

CAS No.	COMPOUND	DL	RESULT
309-00-2	Aldrin	1.7	ND
319-84-6	Alpha-BHC	1.7	ND
319-85-7	Beta-BHC	1.7	ND
319-85-8	Delta-BHC	1.7	ND
58-89-9	Gamma-BHC (Lindane)	1.7	ND
57-74-9	Chlordane	8.4	ND
72-54-8	4,4'-DDD	1.7	ND
72-55-9	4,4'-DDE	1.7	ND
50-29-3	4,4'DDT	1.7	ND
60-57-1	Dieldrin	1.7	ND
959-98-8	Endosulfan I	1.7	ND
33213-65-9	Endosulfan II	1.7	ND
1031-07-8	Endosulfan Sulphate	1.7	ND
72-20-8	Endrin	1.7	ND
744-93-4	Endrin Aldehyde	1.7	ND
76-44-8	Heptachlor	1.7	ND
1024-57-3	Heptachlor Epoxide	1.7	ND
72-43-5	Methoxychlor	4.2	ND
8001-35-2	Toxaphene	167	ND
12674-11-2	PCB 1016	8.4	ND
11104-28-2	PCB 1221	8.4	ND
11141-16-5	PCB 1232	8.4	ND
53469-21-9	PCB 1242	8.4	ND
12672-29-6	PCB 1248	8.4	ND
11097-69-1	PCB 1254	8.4	ND
11096-82-5	PCB 1260	8.4	ND

All concentrations are reported as ug/kg. ND indicates that no amount greater than the detection limit (DL) was detected.

These analyses are certified as conforming to generally accepted laboratory practices, the analytical method cited, requirements of the New York State Health Department ELAP program, and the New York State Department of Environmental Conservation.

John H. Buck, P.E.
Laboratory Director

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ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

LABORATORY REPORT
Lab Log No: 9311065

Client: Stetson-Harza
181 Genesee Street
Utica, NY 13501-2168

Site: NYSDOT Barlow Road

Report Date: December 9, 1993
Sampling Date: 11/03/93
Sampled By: P. Rosato
Date Received: 11/03/93

Sample ID: Soil TB-6 6-8'

TEST	METHOD	ANALYZED	BY	UNITS	DL	RESULT
Arsenic	200.7/6010	11/09/93	SRG	ug/g	10.0	ND
Barium	200.7/6010	11/09/93	SRG	ug/g	5.01	67.2
Cadmium	200.7/6010	11/09/93	SRG	ug/g	10.0	ND
Chloride	325.3/9252	11/08/93	TRA	ug/g	5.69	182
Chromium	200.7/6010	11/09/93	SRG	ug/g	10.0	6.01
Digest	3050		SAG	Date Com		11/08/93
Lead	239.2/7421	11/06/93	SRG	ug/g	.100	23.1
Mercury	245.1/7470	11/11/93	SRG	ug/g	.080	.120
Selenium	200.7/6010	11/09/93	SRG	ug/g	10.0	ND
Silver	200.7/6010	11/09/93	SRG	ug/g	10.0	ND
Sodium	273.1/7770	11/10/93	SRG	ug/g	100	ND

ND - None detected greater than detection limits (DL) noted.

These results are certified as conforming with generally accepted laboratory standards and requirements of the New York State Department of Health ELAP Program.

Laboratory Director
ELAP ID - 10795

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

LABORATORY REPORT
Lab Log No: 9310164

Client: *Stetson-Harza*
181 Genesee Street
Utica, NY 13501-2168

Site:

Report Date: 11/10/93
Sampling Date: 10/13/93
Sampled By: P. Rosato
Date Received: 10/13/93
Analyzed by: EAC, 10/27/93

Sample ID: Soil FHX-3

VOLATILES BY METHOD EPA 8010

ANALYTE	CAS #	UNITS	DL	RESULT
Bromobenzene	108-86-1	ug/kg	1.0	ND
Bromodichloromethane	75-27-4	ug/kg	1.0	ND
Bromoform	75-25-2	ug/kg	1.0	ND
Bromomethane	74-83-9	ug/kg	1.0	ND
Carbon Tetrachloride	56-23-5	ug/kg	1.0	ND
Chlorobenzene	108-90-7	ug/kg	1.0	ND
Chloroethane	75-00-3	ug/kg	1.0	ND
2-Chloroethylvinyl ether	110-75-8	ug/kg	1.0	ND
Chloroform	67-66-3	ug/kg	1.0	ND
Chloromethane	74-87-3	ug/kg	1.0	ND
Dibromochloromethane	124-48-1	ug/kg	1.0	ND
Dibromomethane	74-95-3	ug/kg	1.0	ND
1,2-Dichlorobenzene	95-50-1	ug/kg	1.0	ND
1,3-Dichlorobenzene	541-73-1	ug/kg	1.0	ND
1,4-Dichlorobenzene	106-46-7	ug/kg	1.0	ND
Dichlorodifluoromethane	75-71-8	ug/kg	1.0	ND
1,1-Dichloroethane	75-34-3	ug/kg	1.0	ND
1,2-Dichloroethane	107-06-2	ug/kg	1.0	ND
1,1-Dichloroethene	75-35-4	ug/kg	1.0	ND
trans-1,2-Dichloroethene	156-60-5	ug/kg	1.0	ND
cis-1,2-Dichloroethene	156-59-2	ug/kg	1.0	ND
1,2-Dichloropropane	78-87-5	ug/kg	1.0	ND
cis-1,3-Dichloropropene	10061-01-5	ug/kg	1.0	ND
trans-1,3-Dichloropropene	10061-02-6	ug/kg	1.0	ND
Methylene Chloride	75-09-2	ug/kg	1.0	ND
1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	1.0	ND
1,1,1,2-Tetrachloroethane	630-20-6	ug/kg	1.0	ND
Tetrachloroethene	127-18-4	ug/kg	1.0	ND
1,1,1-Trichloroethane	71-55-6	ug/kg	1.0	ND
1,1,2-Trichloroethane	79-00-5	ug/kg	1.0	ND
Trichloroethene	79-01-6	ug/kg	1.0	*8.9*
Trichlorofluoromethane	75-69-4	ug/kg	1.0	ND
1,2,3-Trichloropropane	96-18-4	ug/kg	1.0	ND
Vinyl Chloride	75-01-4	ug/kg	1.0	ND

ND - None detected greater than detection limit (DL) noted.
These results are certified as conforming with generally accepted laboratory standards and requirements of the New York State Department of Health ELAP Program.

Laboratory Director
ELAP ID - 10795

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

LABORATORY REPORT
Lab Log No: 9310164

Client: *Stetson-Harza*
181 Genesee Street
Utica, NY 13501-2168

Site:

Report Date: 11/10/93
Sampling Date: 10/13/93
Sampled By: P. Rosato
Date Received: 10/13/93
Analyzed by: EAC, 10/27/93

Sample ID: Soil FHX-9

VOLATILES BY METHOD EPA 8010

ANALYTE	CAS #	UNITS	DL	RESULT
Bromobenzene	108-86-1	ug/kg	1.0	ND
Bromodichloromethane	75-27-4	ug/kg	1.0	ND
Bromoform	75-25-2	ug/kg	1.0	ND
Bromomethane	74-83-9	ug/kg	1.0	ND
Carbon Tetrachloride	56-23-5	ug/kg	1.0	ND
Chlorobenzene	108-90-7	ug/kg	1.0	ND
Chloroethane	75-00-3	ug/kg	1.0	ND
2-Chloroethylvinyl ether	110-75-8	ug/kg	1.0	ND
Chloroform	67-66-3	ug/kg	1.0	ND
Chloromethane	74-87-3	ug/kg	1.0	ND
Dibromochloromethane	124-48-1	ug/kg	1.0	ND
Dibromomethane	74-95-3	ug/kg	1.0	ND
1,2-Dichlorobenzene	95-50-1	ug/kg	1.0	ND
1,3-Dichlorobenzene	541-73-1	ug/kg	1.0	ND
1,4-Dichlorobenzene	106-46-7	ug/kg	1.0	ND
Dichlorodifluoromethane	75-71-8	ug/kg	1.0	ND
1,1-Dichloroethane	75-34-3	ug/kg	1.0	ND
1,2-Dichloroethane	107-06-2	ug/kg	1.0	ND
1,1-Dichloroethene	75-35-4	ug/kg	1.0	ND
trans-1,2-Dichloroethene	156-60-5	ug/kg	1.0	ND
cis-1,2-Dichloroethene	156-59-2	ug/kg	1.0	ND
1,2-Dichloropropane	78-87-5	ug/kg	1.0	ND
cis-1,3-Dichloropropene	10061-01-5	ug/kg	1.0	ND
trans-1,3-Dichloropropene	10061-02-6	ug/kg	1.0	ND
Methylene Chloride	75-09-2	ug/kg	1.0	ND
1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	1.0	ND
1,1,1,2-Tetrachloroethane	630-20-6	ug/kg	1.0	ND
Tetrachloroethene	127-18-4	ug/kg	1.0	ND
1,1,1-Trichloroethane	71-55-6	ug/kg	1.0	ND
1,1,2-Trichloroethane	79-00-5	ug/kg	1.0	ND
Trichloroethene	79-01-6	ug/kg	1.0	*3.6*
Trichlorofluoromethane	75-69-4	ug/kg	1.0	ND
1,2,3-Trichloropropane	96-18-4	ug/kg	1.0	ND
Vinyl Chloride	75-01-4	ug/kg	1.0	ND

ND - None detected greater than detection limit (DL) noted.
These results are certified as conforming with generally accepted laboratory standards and requirements of the New York State Department of Health ELAP Program.

Laboratory Director
ELAP ID - 10795

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

LABORATORY REPORT
Lab Log No: 9310192

Client: *Stetson-Harza*
181 Genesee Street
Utica, NY 13501-2168

Site:

Report Date: 11/22/93
Sampling Date: 10/14/93
Sampled By: P. Rosato
Date Received: 10/14/93
Analyzed by: EAC, 10/28/93

Sample ID: Soil FHX-12

VOLATILES BY METHOD EPA 8010

ANALYTE	CAS #	UNITS	DL	RESULT
Bromobenzene	108-86-1	ug/kg	1.0	ND
Bromodichloromethane	75-27-4	ug/kg	1.0	ND
Bromoform	75-25-2	ug/kg	1.0	ND
Bromomethane	74-83-9	ug/kg	1.0	ND
Carbon Tetrachloride	56-23-5	ug/kg	1.0	ND
Chlorobenzene	108-90-7	ug/kg	1.0	ND
Chloroethane	75-00-3	ug/kg	1.0	ND
2-Chloroethylvinyl ether	110-75-8	ug/kg	1.0	ND
Chloroform	67-66-3	ug/kg	1.0	ND
Chloromethane	74-87-3	ug/kg	1.0	ND
Dibromochloromethane	124-48-1	ug/kg	1.0	ND
Dibromomethane	74-95-3	ug/kg	1.0	ND
1,2-Dichlorobenzene	95-50-1	ug/kg	1.0	ND
1,3-Dichlorobenzene	541-73-1	ug/kg	1.0	ND
1,4-Dichlorobenzene	106-46-7	ug/kg	1.0	ND
Dichlorodifluoromethane	75-71-8	ug/kg	1.0	ND
1,1-Dichloroethane	75-34-3	ug/kg	1.0	ND
1,2-Dichloroethane	107-06-2	ug/kg	1.0	ND
1,1-Dichloroethene	75-35-4	ug/kg	1.0	ND
trans-1,2-Dichloroethene	156-60-5	ug/kg	1.0	*2.8*
cis-1,2-Dichloroethene	156-59-2	ug/kg	1.0	*3.3*
1,2-Dichloropropane	78-87-5	ug/kg	1.0	ND
cis-1,3-Dichloropropene	10061-01-5	ug/kg	1.0	ND
trans-1,3-Dichloropropene	10061-02-6	ug/kg	1.0	ND
Methylene Chloride	75-09-2	ug/kg	1.0	ND
1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	1.0	ND
1,1,1,2-Tetrachloroethane	630-20-6	ug/kg	1.0	ND
Tetrachloroethene	127-18-4	ug/kg	1.0	ND
1,1,1-Trichloroethane	71-55-6	ug/kg	1.0	ND
1,1,2-Trichloroethane	79-00-5	ug/kg	1.0	ND
Trichloroethene	79-01-6	ug/kg	1.0	ND
Trichlorofluoromethane	75-69-4	ug/kg	1.0	ND
1,2,3-Trichloropropane	96-18-4	ug/kg	1.0	ND
Vinyl Chloride	75-01-4	ug/kg	1.0	ND

ND - None detected greater than detection limit (DL) noted.
These results are certified as conforming with generally accepted laboratory standards and requirements of the New York State Department of Health ELAP Program.

Laboratory Director
ELAP ID - 10795

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

LABORATORY REPORT

Client: **STETSON-HARZA**

Report Date: 11/09/93
Sampling Date: 10/13/93
Sampled By: P. Rosato
Date Received: 10/13/93
Analysis Date: 10/29/93
Lab Log No: 9310164

Sample: Soil - FHX-3

BASE NEUTRALS
(EPA 8270 GC/MS Methodology)

CAS No.	COMPOUND	DL	RESULT
83-32-9	Acenaphthene	170	ND
208-96-8	Acenaphthylene	170	ND
120-12-7	Anthracene	170	ND
92-87-5	Benzidene	1700	ND
56-55-3	Benzo(a)anthracene	340	ND
50-32-8	Benzo(a)pyrene	170	ND
205-99-2	Benzo(b)fluoranthene	170	ND
191-24-2	Benzo(ghi)perylene	170	ND
207-08-9	Benzo(k)fluoranthene	170	ND
85-68-7	Benzyl butyl phthalate	170	ND
111-91-1	Bis(2-chloroethoxy)methane	340	ND
111-44-4	Bis(2-chloroethyl)ether	340	ND
108-60-1	Bis(2-chloroisopropyl) ether	340	ND
117-81-7	Bis(2-ethylhexyl)phthalate	170	1,200
101-55-3	4-Bromophenylphenyl ether	170	ND
91-58-7	2-Chloronaphthalene	170	ND
7005-72-3	4-Chlorophenyl phenyl ether	170	ND
218-01-9	Chrysene	170	ND
53-70-3	Dibenzo(a,h)anthracene	170	ND
95-50-1	1,2-Dichlorobenzene	170	ND
541-73-1	1,3-Dichlorobenzene	170	ND
106-46-7	1,4-Dichlorobenzene	170	ND
91-94-1	3,3'-Dichlorobenzidine	340	ND
84-66-2	Diethyl phthalate	170	ND
131-11-3	Dimethyl phthalate	170	ND
84-74-2	Di-n-butyl phthalate	170	ND
117-84-0	Di-n-octyl phthalate	170	ND
121-14-2	2,4-Dinitrotoluene	340	ND

Continued on Page 2

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

LABORATORY REPORT

Client: **STETSON-HARZA**

Report Date: 11/09/93
Sampling Date: 10/13/93
Sampled By: P. Rosato
Date Received: 10/13/93
Analysis Date: 10/29/93
Lab Log No: 9310164

Sample: Soil - FHX-3

BASE NEUTRALS
(EPA 8270 GC/MS Methodology)

CAS No.	COMPOUND	DL	RESULT
606-20-2	2,6-Dinitrotoluene	170	ND
206-44-0	Fluoranthene	170	ND
86-73-7	Fluorene	170	ND
118-74-1	Hexachlorobenzene	170	ND
87-68-3	Hexachlorobutadiene	170	ND
77-47-4	Hexachlorocyclopentadiene	170	ND
67-72-1	Hexachloroethane	170	ND
193-39-5	Indeno(1,2,3-c,d)pyrene	170	ND
78-59-1	Isophorone	170	ND
91-20-3	Naphthalene	170	ND
98-95-3	Nitrobenzene	170	ND
62-75-9	n-Nitrosodimethylamine	170	ND
621-64-7	n-Nitrosodi-n-propylamine	170	ND
86-30-6	n-nitrosodiphenylamine	170	ND
85-01-8	Phenanthrene	340	ND
129-00-0	Pyrene	170	ND
120-82-1	1,2,4-Trichlorobenzene	170	ND

Bis(2-ethylhexyl)phthalate is a common laboratory contaminant.

All concentrations are reported as ug/kg. ND indicates that no amount greater than the detection limit (DL) was detected.

These analyses are certified as conforming to generally accepted laboratory practices, the analytical method cited, requirements of the New York State Health Department ELAP program, and the New York State Department of Environmental Conservation.

John H. Buck, P.E.
Laboratory Director

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

LABORATORY REPORT

Client: **STETSON-HARZA**

Report Date: 11/09/93
Sampling Date: 10/13/93
Sampled By: P. Rosato
Date Received: 10/13/93
Analysis Date: 10/29/93
Lab Log No: 9310164

Sample: Soil - FHX-9

BASE NEUTRALS
(EPA 8270 GC/MS Methodology)

CAS No.	COMPOUND	DL	RESULT
83-32-9	Acenaphthene	170	ND
208-96-8	Acenaphthylene	170	ND
120-12-7	Anthracene	170	ND
92-87-5	Benzidene	1700	ND
56-55-3	Benzo(a)anthracene	340	ND
50-32-8	Benzo(a)pyrene	170	ND
205-99-2	Benzo(b)fluoranthene	170	ND
191-24-2	Benzo(ghi)perylene	170	ND
207-08-9	Benzo(k)fluoranthene	170	ND
85-68-7	Benzyl butyl phthalate	170	ND
111-91-1	Bis(2-chloroethoxy)methane	340	ND
111-44-4	Bis(2-chloroethyl)ether	340	ND
108-60-1	Bis(2-chloroisopropyl) ether	340	ND
117-81-7	Bis(2-ethylhexyl)phthalate	170	ND
101-55-3	4-Bromophenylphenyl ether	170	ND
91-58-7	2-Chloronaphthalene	170	ND
7005-72-3	4-Chlorophenyl phenyl ether	170	ND
218-01-9	Chrysene	170	ND
53-70-3	Dibenzo(a,h)anthracene	170	ND
95-50-1	1,2-Dichlorobenzene	170	ND
541-73-1	1,3-Dichlorobenzene	170	ND
106-46-7	1,4-Dichlorobenzene	170	ND
91-94-1	3,3'-Dichlorobenzidine	340	ND
84-66-2	Diethyl phthalate	170	ND
131-11-3	Dimethyl phthalate	170	ND
84-74-2	Di-n-butyl phthalate	170	ND
117-84-0	Di-n-octyl phthalate	170	ND
121-14-2	2,4-Dinitrotoluene	340	ND

Continued on Page 2

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

LABORATORY REPORT

Client: **STETSON-HARZA**

Report Date: 11/09/93
Sampling Date: 10/13/93
Sampled By: P. Rosato
Date Received: 10/13/93
Analysis Date: 10/29/93
Lab Log No: 9310164

Sample: Soil - FHX-9

BASE NEUTRALS
(EPA 8270 GC/MS Methodology)

CAS No.	COMPOUND	DL	RESULT
606-20-2	2,6-Dinitrotoluene	170	ND
206-44-0	Fluoranthene	170	320.
86-73-7	Fluorene	170	ND
118-74-1	Hexachlorobenzene	170	ND
87-68-3	Hexachlorobutadiene	170	ND
77-47-4	Hexachlorocyclopentadiene	170	ND
67-72-1	Hexachloroethane	170	ND
193-39-5	Indeno(1,2,3-c,d)pyrene	170	ND
78-59-1	Isophorone	170	ND
91-20-3	Naphthalene	170	ND
98-95-3	Nitrobenzene	170	ND
62-75-9	n-Nitrosodimethylamine	170	ND
621-64-7	n-Nitrosodi-n-propylamine	170	ND
86-30-6	n-nitrosodiphenylamine	170	ND
85-01-8	Phenanthrene	340	ND
129-00-0	Pyrene	170	400.
120-82-1	1,2,4-Trichlorobenzene	170	ND

All concentrations are reported as ug/kg. ND indicates that no amount greater than the detection limit (DL) was detected.

These analyses are certified as conforming to generally accepted laboratory practices, the analytical method cited, requirements of the New York State Health Department ELAP program, and the New York State Department of Environmental Conservation.

John H. Buck, P.E.
Laboratory Director

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150
607-753-3403

LABORATORY REPORT

Client: **STETSON-HARZA**

Report Date: 11/22/93
Sampling Date: 10/14/93
Sampled By: P. Rosato
Date Received: 10/14/93
Analysis Date: 11/03/93
Lab Log No: 9310192

Sample: Soil

BASE NEUTRALS
(EPA 8270 GC/MS Methodology)

CAS No.	COMPOUND	DL	RESULT
83-32-9	Acenaphthene	5	ND
208-96-8	Acenaphthylene	5	ND
120-12-7	Anthracene	5	ND
92-87-5	Benzidene	50	ND
56-55-3	Benzo(a)anthracene	10	ND
50-32-8	Benzo(a)pyrene	5	ND
205-99-2	Benzo(b)fluoranthene	5	ND
191-24-2	Benzo(ghi)perylene	5	ND
207-08-9	Benzo(k)fluoranthene	5	ND
85-68-7	Benzyl butyl phthalate	5	ND
111-91-1	Bis(2-chloroethoxy)methane	10	ND
111-44-4	Bis(2-chloroethyl)ether	10	ND
108-60-1	Bis(2-chloroisopropyl) ether	10	ND
117-81-7	Bis(2-ethylhexyl)phthalate	5	200.
101-55-3	4-Bromophenylphenyl ether	5	ND
91-58-7	2-Chloronaphthalene	5	ND
7005-72-3	4-Chlorophenyl phenyl ether	5	ND
218-01-9	Chrysene	5	ND
53-70-3	Dibenzo(a,h)anthracene	5	ND
95-50-1	1,2-Dichlorobenzene	5	ND
541-73-1	1,3-Dichlorobenzene	5	ND
106-46-7	1,4-Dichlorobenzene	5	ND
91-94-1	3,3'-Dichlorobenzidine	20	ND
84-66-2	Diethyl phthalate	5	ND
131-11-3	Dimethyl phthalate	5	ND
84-74-2	Di-n-butyl phthalate	5	ND
117-84-0	Di-n-octyl phthalate	5	ND
121-14-2	2,4-Dinitrotoluene	10	ND

Continued on Page 2

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150
607-753-3403

LABORATORY REPORT

Client: **STETSON-HARZA**

Report Date: 11/22/93
Sampling Date: 10/14/93
Sampled By: P. Rosato
Date Received: 10/14/93
Analysis Date: 11/03/93
Lab Log No: 9310192

Sample: Soil

BASE NEUTRALS
(EPA 8270 GC/MS Methodology)

CAS No.	COMPOUND	DL	RESULT
606-20-2	2,6-Dinitrotoluene	5	ND
206-44-0	Fluoranthene	5	ND
86-73-7	Fluorene	5	ND
118-74-1	Hexachlorobenzene	5	ND
87-68-3	Hexachlorobutadiene	5	ND
77-47-4	Hexachlorocyclopentadiene	5	ND
67-72-1	Hexachloroethane	5	ND
193-39-5	Indeno(1,2,3-c,d)pyrene	5	ND
78-59-1	Isophorone	5	ND
91-20-3	Naphthalene	5	ND
98-95-3	Nitrobenzene	5	ND
62-75-9	n-Nitrosodimethylamine	5	ND
621-64-7	n-Nitrosodi-n-propylamine	5	ND
86-30-6	n-nitrosodiphenylamine	5	ND
85-01-8	Phenanthrene	10	ND
129-00-0	Pyrene	5	ND
120-82-1	1,2,4-Trichlorobenzene	5	ND

Note: Bis(2-ethylhexyl)phthalate is a common laboratory contaminant.

All concentrations are reported as ug/kg. ND indicates that no amount greater than the detection limit (DL) was detected.

These analyses are certified as conforming to generally accepted laboratory practices, the analytical method cited, requirements of the New York State Health Department ELAP program, and the New York State Department of Environmental Conservation.

John H. Buck, P.E.
Laboratory Director

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

NYS ELAP ID 10795

LABORATORY REPORT

Client: **STETSON-HARZA**

Report Date: 11/09/93
Sampling Date: 10/13/93
Sampled By: P. Rosato
Date Received: 10/13/93
Analysis Date: 11/08/93
Sample: Soil - FHX-3
Lab Log No: 9310164

PESTICIDES AND PCB'S
(By EPA 8080 Methodology)

CAS No.	COMPOUND	DL	RESULT
309-00-2	Aldrin	6.68	ND
319-84-6	Alpha-BHC	6.68	ND
319-85-7	Beta-BHC	6.68	ND
319-85-8	Delta-BHC	6.68	ND
58-89-9	Gamma-BHC (Lindane)	6.68	ND
57-74-9	Chlordane	6.68	ND
72-54-8	4,4'-DDD	6.68	ND
72-55-9	4,4'-DDE	6.68	ND
50-29-3	4,4'DDT	6.68	ND
60-57-1	Dieldrin	6.68	ND
959-98-8	Endosulfan I	6.68	ND
33213-65-9	Endosulfan II	6.68	ND
1031-07-8	Endosulfan Sulphate	6.68	ND
72-20-8	Endrin	6.68	ND
744-93-4	Endrin Aldehyde	6.68	ND
76-44-8	Heptachlor	6.68	ND
1024-57-3	Heptachlor Epoxide	6.68	ND
72-43-5	Methoxychlor	16.7	ND
8001-35-2	Toxaphene	167	ND
12674-11-2	PCB 1016	50	ND
11104-28-2	PCB 1221	50	ND
11141-16-5	PCB 1232	50	ND
53469-21-9	PCB 1242	50	ND
12672-29-6	PCB 1248	50	ND
11097-69-1	PCB 1254	50	ND
11096-82-5	PCB 1260	50	ND

All concentrations are reported as ug/kg. ND indicates that no amount greater than the detection limit (DL) was detected.

These analyses are certified as conforming to generally accepted laboratory practices, the analytical method cited, requirements of the New York State Health Department ELAP program, and the New York State Department of Environmental Conservation.

John H. Buck, P.E.
Laboratory Director

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

NYS ELAP ID 10795

LABORATORY REPORT

Client: STETSON-HARZA

Report Date: 11/09/93
Sampling Date: 10/13/93
Sampled By: P. Rosato
Date Received: 10/13/93
Analysis Date: 11/08/93
Sample: Soil - FHX-9
Lab Log No: 9310164

PESTICIDES AND PCB'S
(By EPA 8080 Methodology)

CAS No.	COMPOUND	DL	RESULT
309-00-2	Aldrin	6.68	ND
319-84-6	Alpha-BHC	6.68	ND
319-85-7	Beta-BHC	6.68	ND
319-85-8	Delta-BHC	6.68	ND
58-89-9	Gamma-BHC (Lindane)	6.68	ND
57-74-9	Chlordane	6.68	ND
72-54-8	4,4'-DDD	6.68	ND
72-55-9	4,4'-DDE	6.68	ND
50-29-3	4,4'DDT	6.68	ND
60-57-1	Dieldrin	6.68	ND
959-98-8	Endosulfan I	6.68	ND
33213-65-9	Endosulfan II	6.68	ND
1031-07-8	Endosulfan Sulphate	6.68	ND
72-20-8	Endrin	6.68	ND
744-93-4	Endrin Aldehyde	6.68	ND
76-44-8	Heptachlor	6.68	ND
1024-57-3	Heptachlor Epoxide	6.68	ND
72-43-5	Methoxychlor	16.7	ND
8001-35-2	Toxaphene	167	ND
12674-11-2	PCB 1016	50	ND
11104-28-2	PCB 1221	50	ND
11141-16-5	PCB 1232	50	ND
53469-21-9	PCB 1242	50	ND
12672-29-6	PCB 1248	50	ND
11097-69-1	PCB 1254	50	ND
11096-82-5	PCB 1260	50	ND

All concentrations are reported as ug/kg. ND indicates that no amount greater than the detection limit (DL) was detected.

These analyses are certified as conforming to generally accepted laboratory practices, the analytical method cited, requirements of the New York State Health Department ELAP program, and the New York State Department of Environmental Conservation.

John H. Buck, P.E.
Laboratory Director

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150
607-753-3403

NYS ELAP ID 10795

LABORATORY REPORT

Client: **STETSON-HARZA**

Report Date: 11/22/93
Sampling Date: 10/14/93
Sampled By: P. Rosato
Date Received: 10/14/93
Analysis Date: 11/08/93
Lab Log No: 9310192

Sample: Soil

PESTICIDES AND PCB'S
(By EPA 8080 Methodology)

CAS No.	COMPOUND	DL	RESULT
309-00-2	Aldrin	6.68	ND
319-84-6	Alpha-BHC	6.68	ND
319-85-7	Beta-BHC	6.68	ND
319-85-8	Delta-BHC	6.68	ND
58-89-9	Gamma-BHC (Lindane)	6.68	ND
57-74-9	Chlordane	6.68	ND
72-54-8	4,4'-DDD	6.68	ND
72-55-9	4,4'-DDE	6.68	ND
50-29-3	4,4'DDT	6.68	ND
60-57-1	Dieldrin	6.68	ND
959-98-8	Endosulfan I	6.68	ND
33213-65-9	Endosulfan II	6.68	ND
1031-07-8	Endosulfan Sulphate	6.68	ND
72-20-8	Endrin	6.68	ND
744-93-4	Endrin Aldehyde	6.68	ND
76-44-8	Heptachlor	6.68	ND
1024-57-3	Heptachlor Epoxide	6.68	ND
72-43-5	Methoxychlor	16.7	ND
8001-35-2	Toxaphene	167	ND
12674-11-2	PCB 1016	50.0	ND
11104-28-2	PCB 1221	50.0	ND
11141-16-5	PCB 1232	50.0	ND
53469-21-9	PCB 1242	50.0	ND
12672-29-6	PCB 1248	50.0	ND
11097-69-1	PCB 1254	50.0	ND
11096-82-5	PCB 1260	50.0	ND

All concentrations are reported as ug/kg. ND indicates that no amount greater than the detection limit (DL) was detected.

These analyses are certified as conforming to generally accepted laboratory practices, the analytical method cited, requirements of the New York State Health Department ELAP program, and the New York State Department of Environmental Conservation.

John H. Buck, P.E.
Laboratory Director

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

LABORATORY REPORT
Lab Log No: 9310164

Client: Stetson-Harza
181 Genesee Street
Utica, NY 13501-2168

Report Date: November 9, 1993
Sampling Date: 10/13/93
Sampled By: P. Rosato
Date Received: 10/13/93

Site:

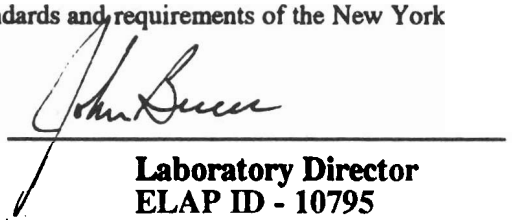
Sample ID: Soil FHX-3

TEST	METHOD	ANALYZED	BY	UNITS	DL	RESULT
Arsenic	200.7/6010	10/18/93	SRG	ug/g	10.1	ND
Barium	200.7/6010	10/18/93	SRG	ug/g	5.07	47.6
Cadmium	200.7/6010	10/18/93	SRG	ug/g	5.07	5.07
Chloride	325.3/9252	10/20/93	DER	ug/g	6.07	1980
Chromium	200.7/6010	10/18/93	SRG	ug/g	5.07	ND
Digest	3050		SAG	Date Com		10/15/93
Lead	200.7/6010	10/18/93	SAG	ug/g	10.1	10.0
Mercury	245.1/7470	10/19/93	SRG	ug/g	.081	.638
Selenium	200.7/6010	10/18/93	SAG	ug/g	10.1	ND
Silver	200.7/6010	10/18/93	SRG	ug/g	10.1	ND
Sodium	273.1/7770	10/18/93	SAG	ug/g	101	1520

Dry weight basis.

ND - None detected greater than detection limits (DL) noted.

These results are certified as conforming with generally accepted laboratory standards and requirements of the New York State Department of Health ELAP Program.



Laboratory Director
ELAP ID - 10795

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

LABORATORY REPORT
Lab Log No: 9310164

Client: Stetson-Harza
181 Genesee Street
Utica, NY 13501-2168

Site:

Report Date: November 9, 1993
Sampling Date: 10/13/93
Sampled By: P. Rosato
Date Received: 10/13/93

Sample ID: Soil FHX-9

TEST	METHOD	ANALYZED	BY	UNITS	DL	RESULT
Arsenic	200.7/6010	10/18/93	SRG	ug/g	8.79	ND
Barium	200.7/6010	10/18/93	SRG	ug/g	4.39	58.0
Cadmium	200.7/6010	10/18/93	SRG	ug/g	4.39	5.27
Chloride	325.3/9252	10/20/93	DER	ug/g	5.42	108
Chromium	200.7/6010	10/18/93	SRG	ug/g	4.39	ND
Digest	3050		SAG	Date Com		10/15/93
Lead	200.7/6010	10/18/93	SRG	ug/g	8.79	61.5
Mercury	245.1/7470	10/19/93	SRG	ug/g	.070	.413
Selenium	200.7/6010	10/18/93	SRG	ug/g	8.79	ND
Silver	200.7/6010	10/18/93	SRG	ug/g	8.79	10.5
Sodium	273.1/7770	10/18/93	SRG	ug/g	87.9	635

Dry weight basis.

ND - None detected greater than detection limits (DL) noted.

These results are certified as conforming with generally accepted laboratory standards and requirements of the New York State Department of Health ELAP Program.

Laboratory Director
ELAP ID - 10795

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

LABORATORY REPORT
Lab Log No: 9310192

Client: Stetson-Harza
181 Genesee Street
Utica, NY 13501-2168

Report Date: November 22, 1993
Sampling Date: 10/14/93
Sampled By: P. Rosato
Date Received: 10/14/93

Site:

Sample ID: Soil FHX-12

TEST	METHOD	ANALYZED	BY	UNITS	DL	RESULT
Arsenic	200.7/6010	10/28/93	SRG	ug/g	12.3	ND
Barium	200.7/6010	10/21/93	SRG	ug/g	6.15	41.9
Cadmium	200.7/6010	10/28/93	SRG	ug/g	6.15	11.1
Chloride	325.3/9252	10/20/93	DER	ug/g	6.34	140
Chromium	200.7/6010	10/28/93	SRG	ug/g	6.15	16.0
Digest	3050		SAG	Date Com		10/20/93
Lead	200.7/6010	10/28/93	SRG	ug/g	12.3	ND
Mercury	245.1/7470	10/27/93	SRG	ug/g	.099	.123
Selenium	200.7/6010	10/28/93	SRG	ug/g	12.3	ND
Silver	200.7/6010	10/28/93	SRG	ug/g	12.3	ND
Sodium	273.1/7770	10/27/93	SRG	ug/g	123	ND

Dry weight basis.

ND - None detected greater than detection limits (DL) noted.

These results are certified as conforming with generally accepted laboratory standards and requirements of the New York State Department of Health ELAP Program.

Laboratory Director
ELAP ID - 10795

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

NYS ELAP CERT 10795

LABORATORY REPORT

Client: **STETSON-HARZA**

Samples: **Soil**

Report Date: 11/09/93
Sampling Date: 10/13/93
Sampled By: P. Rosato
Date Received: 10/13/93
Analysis Date: 10/27/93
Lab Log No: 9310164

BTEX (By EPA 5030 and 8020)

Sample ID & Dates	Benzene	Toluene	Ethyl Benzene	(m,p,o) Xylenes	Late Peaks
10/13/93					
FHX-3	ND	ND	ND	ND	Y
FHX-9	ND	ND	ND	ND	Y

All concentrations are reported as ug/kg.

ND indicates that no amount greater than 1.0 ug/g was detected.

This analysis is certified as conforming to generally accepted laboratory practices and requirements of the New York State Health Department ELAP program.

John H. Buck, P.E.
Laboratory Director

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

NYS ELAP CERT 10795

LABORATORY REPORT

Client: **STETSON-HARZA**

Sample: Soil

Report Date:	11/22/93
Sampling Date:	10/14/93
Sampled By:	P. Rosato
Date Received:	10/14/93
Analysis Date:	10/28/93
Lab Log No:	9310192

BTEX (By EPA 5030 and 8020)

Sample ID & Dates	Benzene	Toluene	Ethyl Benzene	(m,p,o) Xylenes	Late Peaks
10/14/93					
FHX-12	ND	ND	ND	ND	Y

All concentrations are reported as ug/kg.

ND indicates that no amount greater than 1.0 ug/g was detected.

This analysis is certified as conforming to generally accepted laboratory practices and requirements of the New York State Health Department ELAP program.

John H. Buck, P.E.
Laboratory Director

APPENDIX C

GPR SURVEY

ENVIROSCAN, INC.

November 28, 1993

Ms. Patricia Rosato
Stetson-Harza
181 Genesee Street
Utica, NY 13501

RE: Geophysical Survey
NYSDOT Barlow Road Maintenance Yard
Binghamton, NY
Enviroscan Reference Number 109320

Dear Ms. Rosato:

Pursuant to our proposal, dated October 23, 1993, Enviroscan, Inc. completed a geophysical survey of the above-referenced site on November 1 and 2, 1993. The purpose of the survey was to locate and delineate any underground storage tanks (USTs), drums, or concentrations of buried debris beneath the site.

In order to provide the highest level of confidence and greatest cost-effectiveness, Enviroscan proposed, and initially attempted, to scan the subsurface of the site using a GSSI SIR-3 ground penetrating radar (GPR) controller with a model 38-VDU color radar processor and a bistatic array of twin 500 Megahertz scanning transducers. GPR systems produce cross sectional images of subsurface features and layers by continuously emitting pulses of radar frequency energy from a scanning antenna or transducer as it is towed along a survey profile. The radar pulses are reflected by interfaces between materials with differing dielectric properties. The reflections return to the antenna and are printed on a strip chart recorder or displayed on a video monitor as a continuous cross section in real time. Since the electrical properties of metallic tanks, pipes, and wastes are vastly different from soil and backfill materials, metallic targets produce dramatic and characteristic reflections. Fiberglass, plastic, concrete, and terra-cotta targets as well as subsurface voids, rock surfaces, soil type changes and concentrations of many types of non-metallic wastes also produce recognizable, but less dramatic reflections.

401 South President Avenue • Lancaster, Pennsylvania 17603 • 717/396 8922 • Fax 717/396 8746

Upon attempting to scan the site, it was immediately apparent that the effective penetration depth of the GPR signal was severely limited (probably to a depth of less than two feet). The poor penetration of the GPR signal was interpreted as resulting from elevated soil electrical conductivity due to dissolved road salt originating indirectly from an on-site salt stockpile. Although the salt stockpile is housed in a roofed barn to prevent direct infiltration of rainwater through the pile, a presumably long history of incidental spillage from salt trucks entering and leaving the site and/or the occurrence of a wet snowstorm immediately prior to and during the geophysical survey (with resulting heavy salt truck traffic) probably created elevated electrolyte concentrations in the soils beneath the site.

Since site specific conditions apparently prevented GPR scanning to meaningful depths, Enviroscan obtained verbal approval in the field to substitute an electromagnetic (EM) survey for the originally proposed GPR survey. EM systems employ an electromagnetic transmitter coil to induce an electric current in the earth. This current creates a secondary electromagnetic field which is measured by a receiver coil. The secondary electromagnetic field has two components — the quadrature component which is proportional to the bulk electrical conductivity or terrain conductivity of the subsurface materials, and the in-phase component which is a measure of the relative concentration of metallic material in the subsurface.

To complete the EM survey, Enviroscan employed a Geonics EM-31 in vertical dipole mode with an Omnidata digital data logger. In vertical dipole mode, the effective survey depth or range of the EM-31 is the cumulative effect of an instrument sensitivity which increases with depth from near zero at the ground surface, to a peak sensitivity at a depth of approximately five feet. Below five feet, the sensitivity diminishes approximately logarithmically, with 95% of the signal occurring at depths less than 18 feet. In other words, the terrain conductivity or in-phase response measured by the EM-31 in vertical dipole mode represents primarily subsurface electrical properties at a depth of five feet (plus or minus), with little to no contribution from material at the ground surface, and moderate (and diminishing) contribution from materials down to approximately 18 feet.

The EM survey was completed by collecting vertical dipole mode terrain conductivity and in-phase data at the nodes of a ten foot square grid covering accessible portions of the site. The grid was laid out relative to existing buildings and a chain link fence bounding the site using a fiberglass tape and a three-foot measuring wheel. The EM survey measurement stations are depicted in Figure 1. Note that the buildings, roads, and fence are shown in their positions relative to the survey grid and therefore may show slight distortion relative to their actual locations and dimensions. Note also that there are gaps in the coverage due to the presence of areas which were inaccessible to the hand-carried EM-31 due to steep slopes (e.g. the flanks of the sand pile) or debris piles (although numerous debris piles were traversed where there was sufficiently stable footing).

The contoured EM-31 terrain conductivity data are depicted in Figure 2. Note that throughout much of the site the terrain conductivity exceeds 25 milliMho per meter (mM/m). This confirms the observed apparent GPR attentuation since GPR signals cannot generally penetrate materials with conductivities greater than 15 mM/m. Even greater conductivities and apparent negative conductivities (a physically impossible artifact caused by saturation of the EM-31 response in the presence of concentrated metallic materials) were recorded in the vicinity of the surficial debris piles containing visible metallic objects, or near buildings with associated metallic structures (such as an AST and salt loading dock at the southeast corner of the salt barn).

In Figure 2, no concentrated high (or negative) terrain conductivity anomalies of the type commonly associated with concentrations of metallic material are visible in areas not clearly associated with surficial debris piles (note that although the vertical dipole EM-31 is insensitive to near-surface material immediately beneath a measurement station, surficial or above-ground material at horizontal distances within the instrument range do register a strong response). This suggests that there are no subsurface concentrations of metallic debris. Elevated conductivities are present beneath the southern and eastern flanks of the sand pile, but the conductivities vary smoothly and do not reach sufficiently high values to warrant inference of significant concentrated subsurface metallic materials (this is also consistent with the in-phase data described below). Instead, these elevated conductivities may be due to elevated soil conductivities resulting from infiltration of salt-rich run-off, or to diffuse or scattered small, shallow, metal debris.

The EM-31 in-phase data (indicative of metal content) are depicted in Figure 3, and also correlate strongly with the surficial debris piles and structures. Two subtle anomalies (i.e. in-phase response greater than 10 units) are associated with the southern flank of the sand pile and a swale on the south side of the road at the southeast corner of the salt pile. At the western end of the sand pile flank anomaly, the closed contours representing the strongest portion of the anomaly are due to a surficial steel drum adjacent to a monitoring well. However, the anomaly extends far to the east of the drum, and therefore suggests the presence of extremely deep (greater than 15 feet) or minor diffuse and shallow metallic debris beneath the southern flank of the sand pile. The latter interpretation is considered more likely. The northern end of the anomaly southeast of the sand pile may be associated with a corrugated metal drain pipe beneath the road, but the anomaly extends well beyond the end of the drain pipe. Again, the anomaly is consistent with the presence of extremely deep (greater than 15 feet) or minor diffuse and shallow metallic debris beneath the southern flank of the sand pile, with the latter interpretation preferred.

Note also in Figure 3 that there are several small isolated negative conductivity anomalies east and south of the salt barn. These anomalies were appeared to be associated with individual surficial metal drums or buckets.

In summary, due to the apparent elevated electrical conductivity of the soils at the NYSDOT Barlow Road Maintenance Yard, GPR was unable to provide confident scanning for buried USTs, drums, or other significant debris. Therefore, an EM survey was completed using an EM-31 in the vertical dipole mode. Anomalies in the terrain conductivity and in-phase data correspond closely with surficial debris piles containing visible significant metal content. No extremely high or negative conductivity or in-phase anomalies of the type commonly associated with buried USTs, drum caches, or other significant concentrations of metallic material were detected.

The geophysical survey described above was completed using standard and/or routinely accepted practices of the geophysical industry and equipment representing the best available technology. Enviroscan does not accept responsibility for survey limitations due to inherent technological limitations or unforeseen site-specific conditions. However, we make every effort to identify and notify the client of such limitations or conditions. In particular, please note that neither this survey nor any other non-intrusive geophysical technique can rule out the possibility of buried metallic materials beneath the metal-rich surficial debris piles.

We appreciate this opportunity to have worked with you. If you have any questions, please do not hesitate to contact me.

Sincerely,
Enviroscan, Inc.

Timothy D. Bechtel, Ph.D.
Principal

enc: Figures 1 through 3

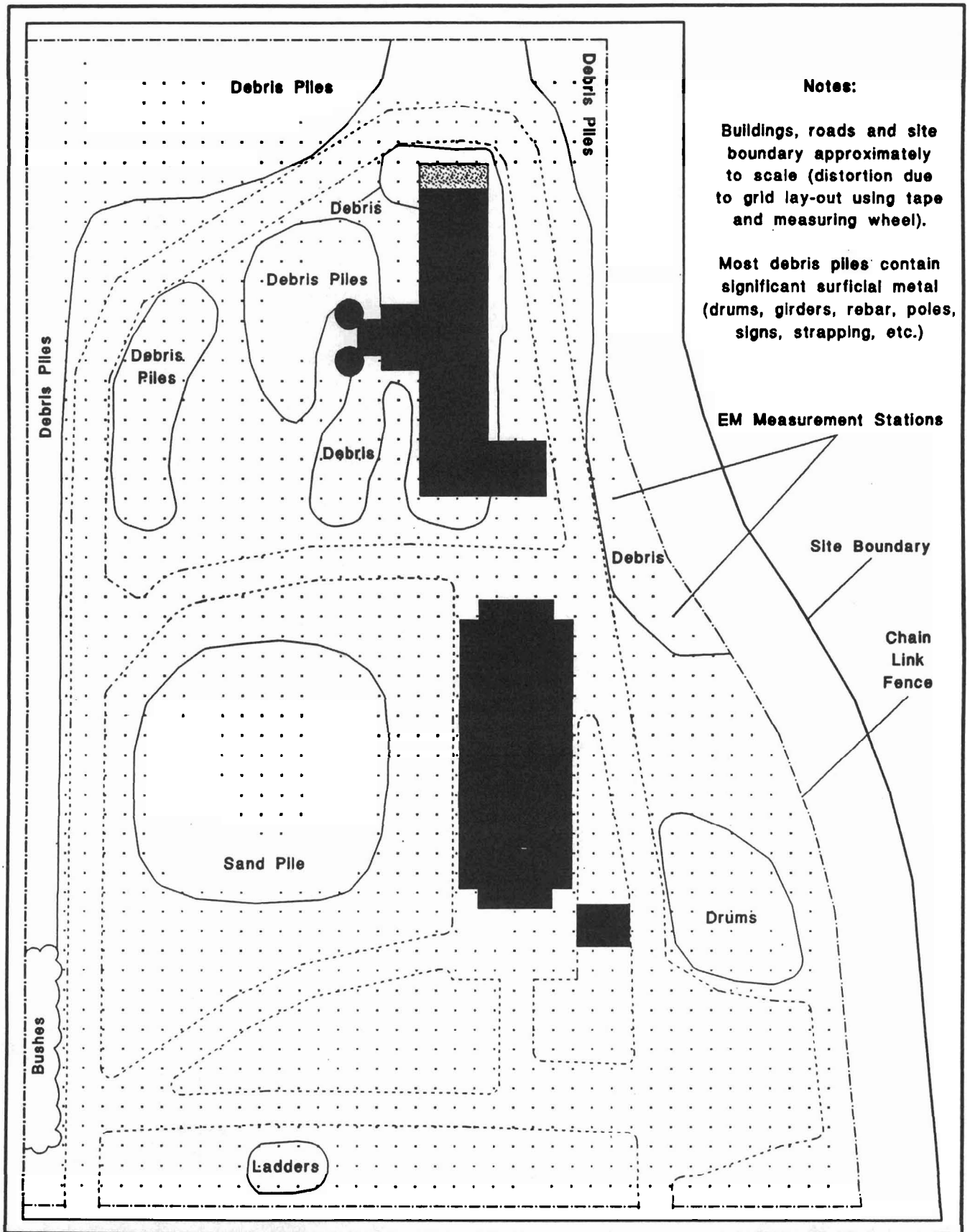


Figure 1

Geophysical Survey Grid
NYSDOT Barlow Road Maintenance Yard
Binghamton, New York

Scale
0' 40' 80'

N

Enviroscan Project # 109320

ENVIROSCAN, INC.

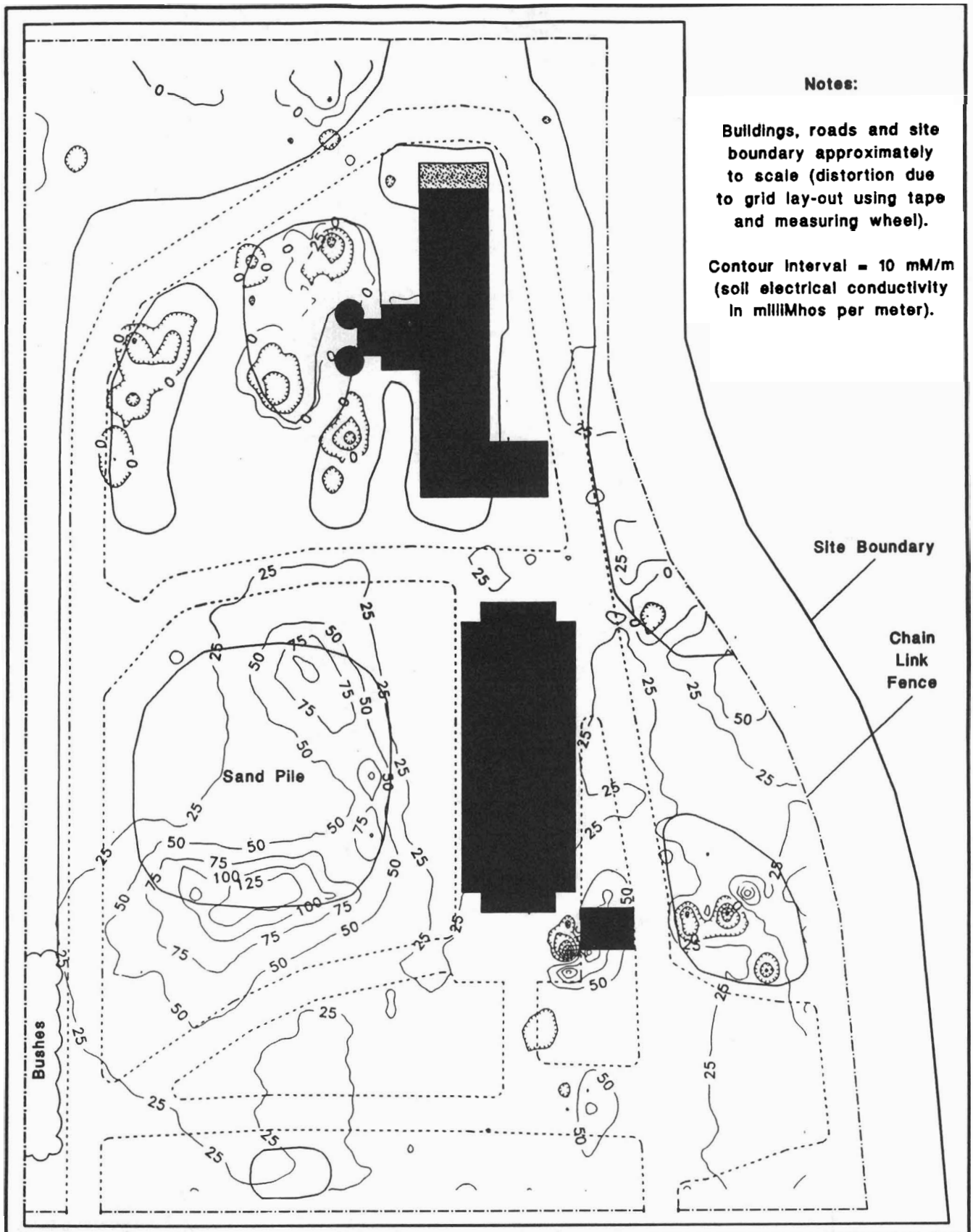


Figure 2

EM-31 Terrain Conductivity Data
NYSDOT Barlow Road Maintenance Yard
Binghamton, New York

Scale
0' 40' 80'

N

Enviroscan Project # 109320

ENVIROSCAN, INC.

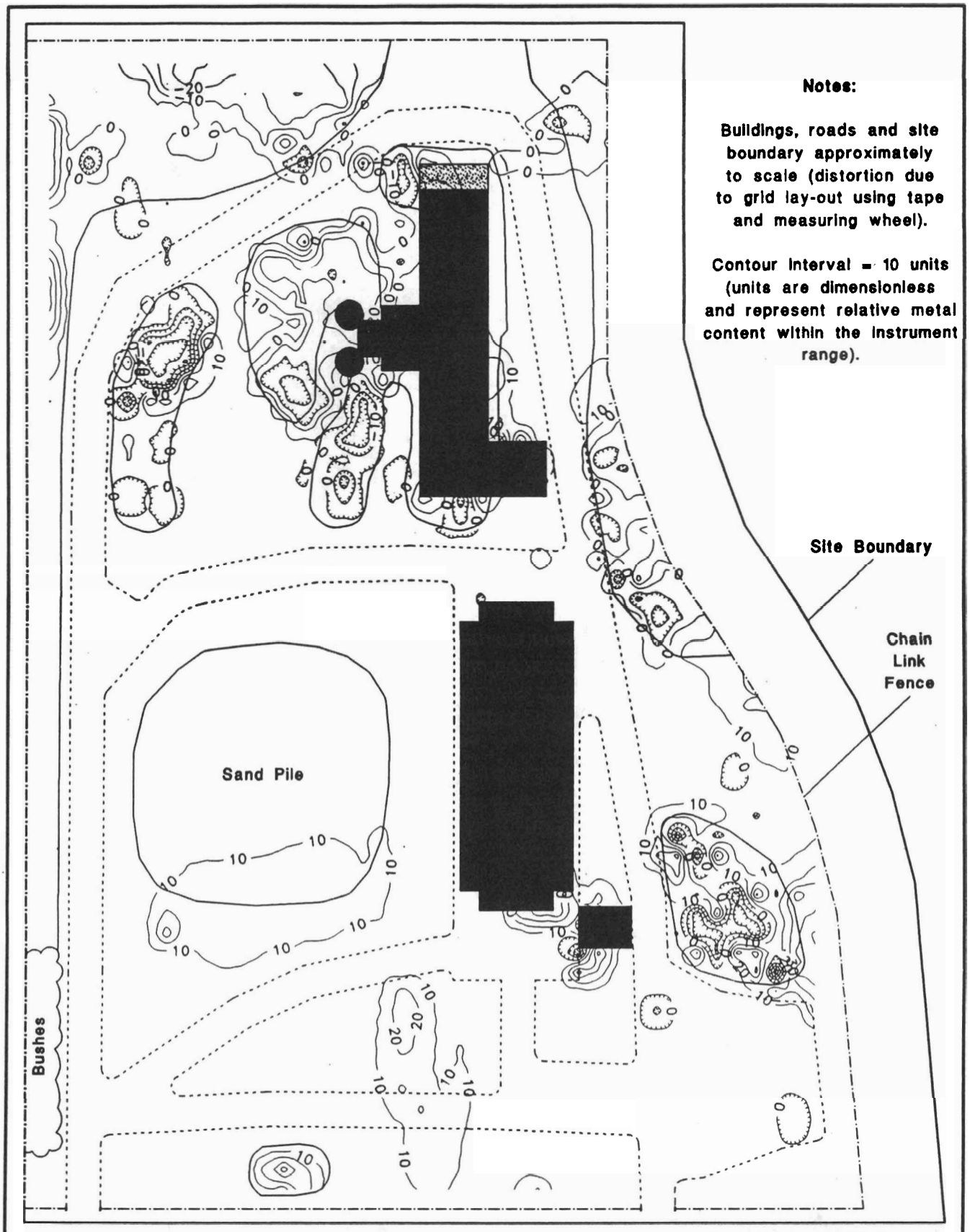


Figure 3

EM-31 In-Phase (Metal Response) Data
NYSDOT Barlow Road Maintenance Yard
Binghamton, New York

Scale
0' 40' 80'

N

Envirosean Project # 109320

ENVIROSCAN, INC.

APPENDIX D

SOIL GAS SURVEY RESULTS

BARLOW ROAD, KIRKWOOD, NEW YORK
NYSDOT MAINTENANCE YARD
NYSDOT CONTRACT #D006922
P.I.N. 9650.02.301

SOIL GAS INVESTIGATION REPORT

PREPARED FOR:

NYS DEPARTMENT OF TRANSPORTATION
REGION 9

PREPARED BY:

JOSEPH C. LU, P.E., P.C.
2230 PENFIELD ROAD
PENFIELD, NEW YORK 14526

DECEMBER 1993

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INTRODUCTION

Stetson-Harza requested that Joseph C. Lu, P.E., P.C. (JCL) perform a soil vapor investigation on standby contract for the New York State Department of Transportation (NYSDOT). This investigation is part of a subsurface investigation underway at the NYSDOT Equipment Maintenance Yard on Barlow Road in Kirkwood, NY.

The purpose of this soil vapor investigation is to determine the lateral extent and concentration of suspected subsurface volatile hydrocarbon contamination at the site. This suspected contamination is apparently the result of the past use of solvents for equipment cleaning and storage of paint waste on the property. Areas of suspected contamination were outlined on site by Stetson-Harza.

On November 4, 5, 10, 11 and 19, JCL conducted a soil vapor investigation at the study site. A total of 46 points, including two gridded areas, were tested for organic soil vapor levels. Six points were tested in addition to the 40 points included in the original scope of work in accordance with recommendations by JCL regarding the need for more comprehensive coverage of the work area. This additional work was verbally authorized by Stetson-Harza. This report discusses the methods, procedures and findings of this work.

SITE DESCRIPTION

The study site is located in the southwestern area of the Town of Kirkwood, NY, approximately 1-1/2 miles to the east of the City of Binghamton. The site is located approximately 1/2 mile to the north of the Susquehanna River and topography in the immediate area slopes moderately to the south. It is likely that groundwater in the area follows a general southward flow direction. Stratton Mill Creek flows southward along the eastern boundary of the property.

Review of New York State Geologic Survey Map (Finger Lakes Sheet), shows the site to be underlain by Kame deposits. On site observations during the investigation showed the presence of relatively impermeable fine sand, silt, and cobble sized soils to a depth of 3 feet below grade.

The NYSDOT property is approximately 2.0 acres in size and is presently occupied by two large barn buildings and two abandoned grain silos. Large amounts of wood, scrap metal and construction debris are present at the north end of the property. According to NYSDOT, xylene, an organic solvent, was used in the past to clean out trucks at the north end of the site.

Approximately 50-75 drums are presently being stored on pallets in the southeastern area of the site. These drums contain used paints, solvents, and unknown liquids. Several of these drums showed indications of ongoing leakage. Several areas of stained soil were noted in this area. Solvent odors and elevated instrument background readings were noted in the drum storage area.

METHODOLOGY AND PROCEDURES

This soil gas investigation was accomplished by obtaining vapor samples from a predetermined depth of approximately 36 inches below the ground surface. The hydrocarbon vapor concentration at each sample location was measured immediately by means of on-site instrumentation.

It should be recognized that several factors affect the concentration of volatile compounds present in soil or groundwater. These are:

The concentration of volatile compounds in the original organic contaminant.

- The total amount of material originally released into the soil or groundwater.
- The time period the material has been in the soil or groundwater since the release (changes in concentration occur by evaporation into the atmosphere, by biological degradation, and/or lateral migration).
- Soil type.

The action of these factors will combine to reduce the concentration of volatile components which may be present.

In order to obtain representative soil vapor readings, soil vapor was drawn from 36 inches below grade at each test point location. This was accomplished by means of a hollow stainless steel soil probe with a slotted tip which was driven into the soil with an electric hammer. Once the target depth had been attained, 150 milliliters of ambient air were pumped from the probe with a Calibrated Instruments, Inc. Pulse Pump. After removal of ambient air, vapor readings were obtained with both an HNu meter and a Foxboro, Inc. model #128 Organic Vapor Analyzer (OVA).

The HNu meter measures organic vapor concentrations in the 0 to 2000 parts per million (ppm) range by a photoionization process. The OVA measures organic

vapor concentrations in the 0 ppm to 1.0% (10,000 ppm) range on a logarithmic scale by a flame ionization process. The need to use both of these instruments in conjunction is due to the fact that the OVA is sensitive to methane, a naturally occurring organic vapor, which the HNu meter is not. The use of both instruments allows for correction for both methane concentrations detected by the OVA, and the HNu meter's moderate sensitivity to water vapor. Background (ambient air) vapor concentrations were negligible during testing at each location. For purposes of soil vapor contouring, the HNu and OVA readings were not combined and separate contour drawings were created for each instrument.

The sampling probe was decontaminated between each test location. Decontamination involved three steps: a methane rinse, detergent rinse, and final distilled water rinse. Distilled water was also used after each step prior to manually scrubbing and wiping the probe dry prior to sampling.

The original Scope of Work had anticipated a maximum depth of soil penetration to 6.0 feet below grade. Attempts were made in the early stages of on site work to advance the soil probe to this depth. However, large aggregate fill material prevented advancement of the probe beyond 36 to 40 inches of depth. For consistency, and to allow direct comparison of the readings, test point depths were limited to 36" below grade at each location.

Sample location grids were set up prior to testing at the north end of the site and in the area of the stored drums near the southeast corner of the property. Sample points were selected at approximate 40 foot intervals to obtain as much information as possible in the areas of suspected contamination. Due to the presence of surface obstructions, location of each test point at exact grid points was not possible in each case. However, efforts were made to obtain laterally representative samples within each of the two grids.

A total of 35 test points were located within the two grids. The remaining 11 test point locations were chosen according to on site recommendations made by Stetson-Harza and observations made from readings obtained during the course of this work. All test point locations are shown on the Test Point Location Drawing in the attachments.

DISCUSSION OF RESULTS

A total of 46 points were tested for organic vapor at the NYSDOT site. Of these, 39 points showed the presence of organic vapor in varying concentrations. Vapor levels detected by the OVA ranged from 1 ppm to greater than 1% (>10,000 ppm). HNu meter readings varied from 1 to 20 ppm. The results of the soil vapor testing are shown in Table 1 below:

TABLE 1

Test Point #	HNu Reading	OVA Reading	Test Point #	HNu Reading	OVA Reading
1	2 ppm	27 ppm	24	5 ppm	45 ppm
2	N/D	N/D	25	8 ppm	45 ppm
3	N/D	0.5 ppm	26	16.5 ppm	300 ppm
4	N/D	N/D	27	10 ppm	6 ppm
5	N/D	N/D	28	10 ppm	>10,000 ppm
6	N/D	N/D	29	4 ppm	10 ppm
7	*	20 ppm	30	1 ppm	2500 ppm
8	*	12 ppm	31	5 ppm	10 ppm
	*	10 ppm	32	N/D	N/D
10	2 ppm	2 ppm	33	4 ppm	30 ppm
11	N/D	5.5 ppm	34	7.5 ppm	10 ppm
12	5 ppm	5 ppm	35	7.5 ppm	30 ppm
13	N/D	N/D	36	13.5 ppm	12 ppm
14	N/D	2 ppm	37	N/D	3 ppm
15	7 ppm	4 ppm	38	N/D	N/D
16	20 ppm	6 ppm	39	N/D	1.5 ppm
17	13 ppm	6 ppm	40	11.5 ppm	19 ppm
18	12.5 ppm	30 ppm	41	3 ppm	20 ppm
19	8 ppm	3.5 ppm	42	2 ppm	>10,000 ppm
20	12 ppm	10 ppm	43	2 ppm	100 ppm
21	N/D	2 ppm	44**	4 ppm	35 ppm
22	10 ppm	12 ppm	45	6.5 ppm	90 ppm
23	3 ppm	8 ppm	46	2 ppm	500 ppm

N/D = None detected
* = No HNu readings due to rain
** = Pesticide odor
Note: Listed concentrations reflect readings above background levels.

As shown on Table 1, seven locations showed soil vapor levels which appeared higher with the HNu meter than with the OVA, in particular Test Point numbers 15, 16, 17, 19, 20, 27, and 36. The fact that OVA readings generally exceed HNu readings on soil vapor due to the presence of methane, would indicate that a chemical was detected by the HNu which was not combustible and therefore did not affect the reading found by the OVA's flame ionization process. According to the manufacturer, HNu meters and photoionization meters in general, are capable of detecting noncombustible organic vapor, chlorinated organic vapor and in some cases inorganic vapor. The OVA will not detect the presence of these vapors.

Soil vapor contour drawings for each detection method have been included in the attachments.

The highest volatile organic readings obtained with the OVA (2,500 and >10,000 ppm), test points 28, 30 and 42 were found at the south end of the drum storage area. OVA readings elsewhere on the site varied from N/D to 45 ppm. According to Steve Erikson, the NYSDOT Site Engineer, deer carcasses were buried in this area in the past. This would help to account for elevated OVA readings.

Elevated HNu meter readings were concentrated in the area of test point 16 at the northwest corner of the one-story wood frame building and in the drum storage area. Test point numbers 36 and 40, on the west side of the site, also showed elevated organic soil vapor levels.

A pesticide-type odor was noticed during testing at test point 44. Neither the OVA or HNu readings obtained at this location were found to be significantly elevated.

Each of the soil vapor contour maps shows concentrations of vapor in generally corresponding areas. The most significant difference between the results obtained from the two instruments in the presence of very high OVA readings at the drum storage area. The difference may be the result of the presence of high levels of methane at this location.

CONCLUSIONS

Relatively low level organic vapor contamination was detected throughout the majority of the site. Much of this contamination is likely to be a result of long term/low volume surface spillage of oils and fuel. The organic soil vapor concentrations found at this site are predominately typical of such facilities.

The fact that soil vapor readings were obtained from 36" below grade, and the apparent low porosity of the soils at the site, reduces the accuracy of exact contaminant delineation. However, the readings found in this investigation do not appear to represent an ongoing volatile contaminant release. The readings also do not appear to represent significant levels of contaminants other than at the following locations:

The drum storage area.

The points in the vicinity of the one-story wood frame building.

Potentially significant contaminant levels are present at the south end of the drum storage area, and immediately surrounding areas. It is not clear at the present time whether contamination from this area has spread to locations off-site.

The nature of the elevated HNu and OVA readings found at separate locations in the vicinity of the one-story barn is not clear. It is possible that these readings are a result of residual xylene contamination from past operations at the site.

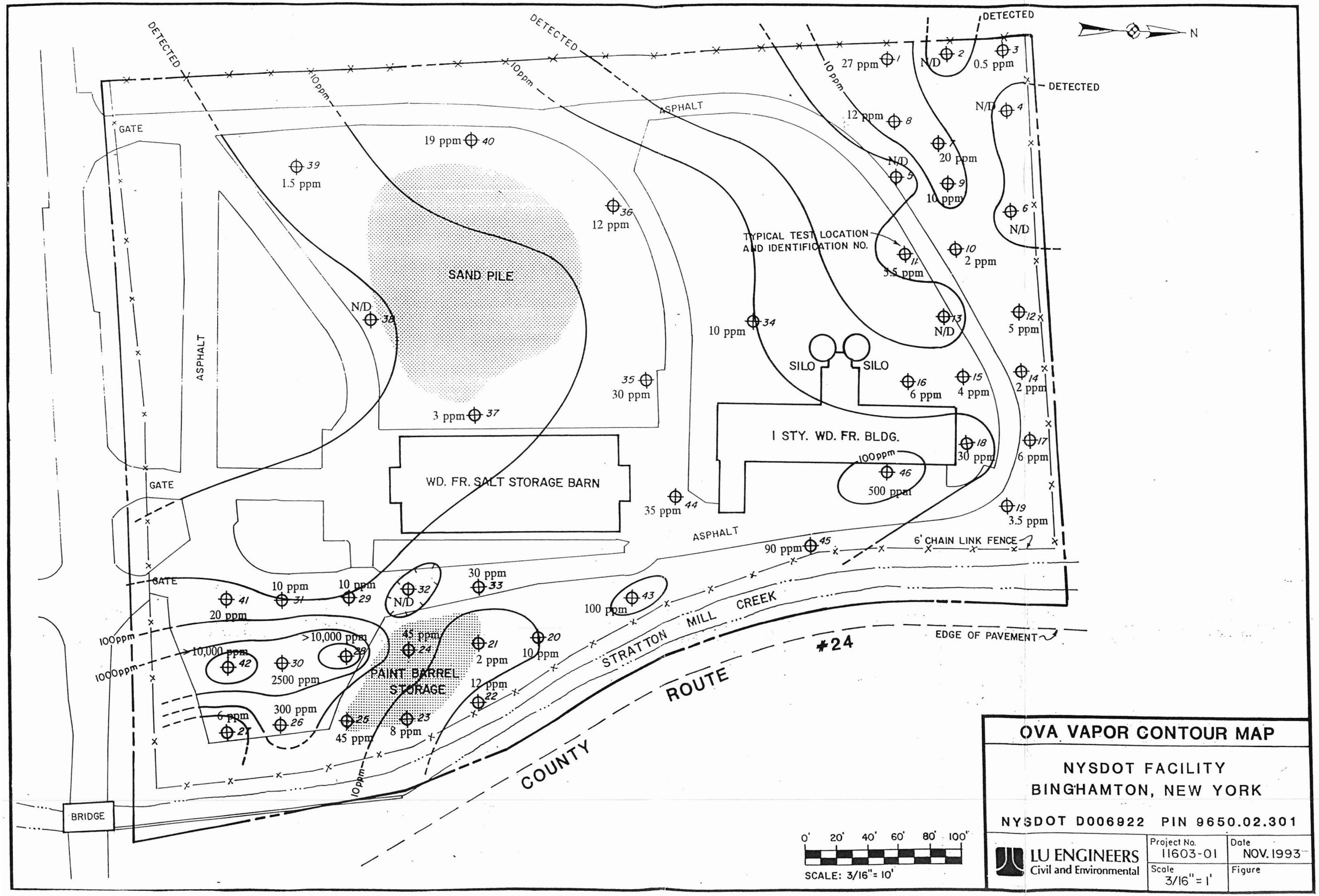
It is possible that the contamination detected at the site may partly be a result of the presence of non-combustible organic vapor, chlorinated organic vapor or possibly inorganic vapors. The testing and on-going environmental work at this facility should provide insight into the exact nature of the contamination detected during the soil vapor work. The pesticide odor detected of test point 44 may indicate low concentrations of agricultural chemical contamination.

RECOMMENDATIONS

The on-going environmental investigation work at the site should provide insight into the relationship of soil vapor detected in this work, to any groundwater or soil contamination detected by other means. JCL recommends that all soil and groundwater samples taken during the environmental investigation should be analyzed for TCL pesticides, in addition to other priority contaminants.

Based on the findings of the continuing investigation at the site, remediation options should be considered.

SOIL VAPOR TEST POINT LOCATION DRAWING



OVA VAPOR CONTOUR MAP

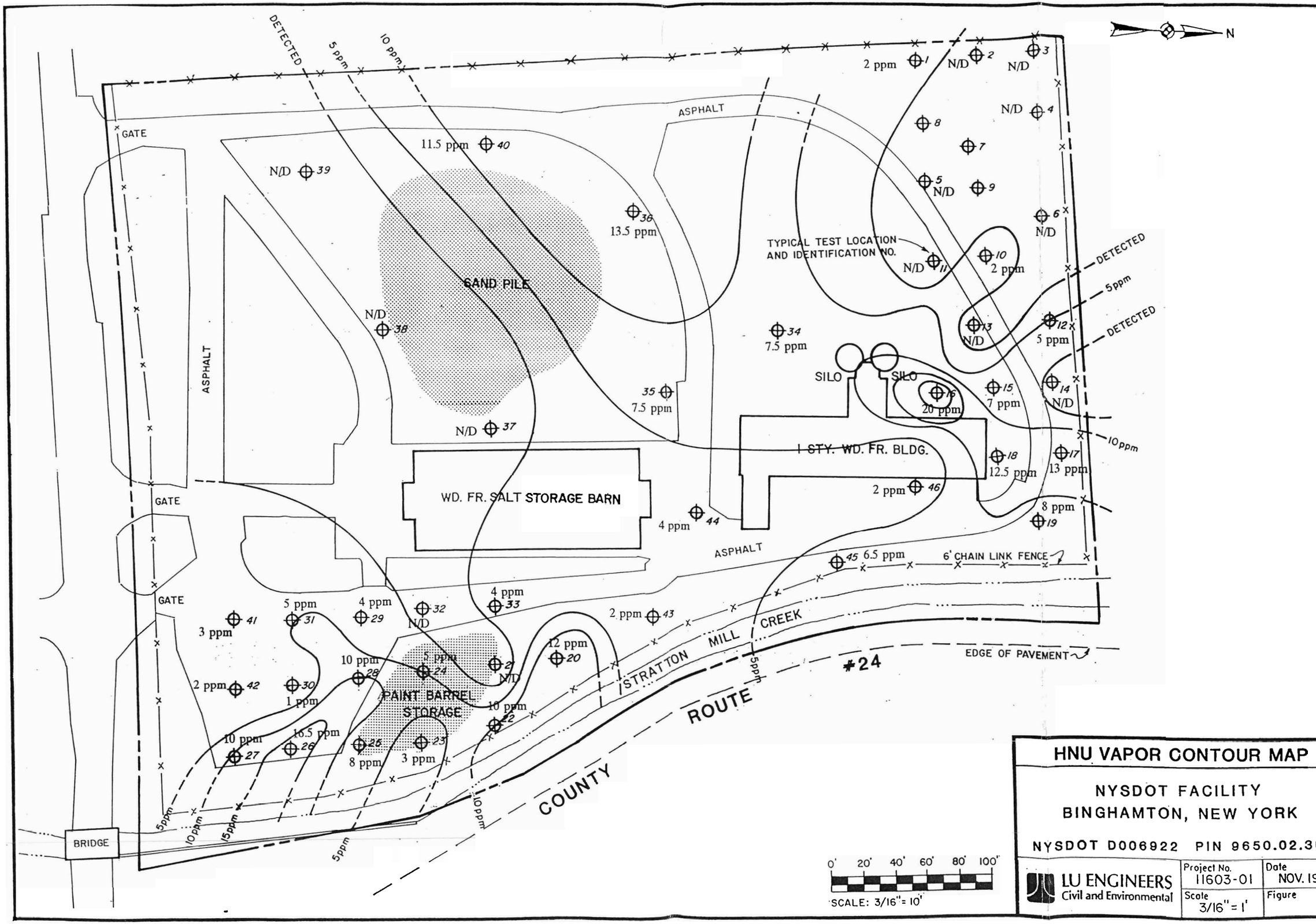
NYSDOT FACILITY
BINGHAMTON, NEW YORK

NYSDOT D006922 PIN 9650.02.301

LU ENGINEERS
Civil and Environmental

Project No.	Date
11603-01	NOV. 1993
Scale	Figure
3/16" = 1'	

SOIL VAPOR CONTOUR DRAWINGS



HNU VAPOR CONTOUR MAP

NYSDOT FACILITY
BINGHAMTON, NEW YORK

NYSDOT D006922 PIN 9650.02.301

LU ENGINEERS Civil and Environmental	Project No. 11603-01	Date NOV. 1993
	Scale 3/16"= 1'	Figure

N

GATE

ASPHALT

SAND PILE

TYPICAL TEST LOCATION AND IDENTIFICATION NO.

SILO SILO

1 STY. WD. FR. BLDG.

WD. FR. SALT STORAGE BARN

GATE

GATE

ASPHALT

ASPHALT

6' CHAIN LINK FENCE

STRATTON MILL CREEK

EDGE OF PAVEMENT

PAINT BARREL STORAGE

ROUTE #24

COUNTY

BRIDGE

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46

0' 20' 40' 60' 80' 100'

SCALE: 3/16"= 10'

TEST POINT LOCATION MAP

NYSDOT FACILITY
BINGHAMTON, NEW YORK

NYSDOT D006922 PIN 9650.02.301

LU ENGINEERS
Civil and Environmental

Project No.	Date
11603-01	NOV. 1993
Scale	Figure
3/16" = 1'	