ENASCO INC.
ENVIRONMENTAL SERVICES
100 Leslie Street • Buffalo, NY 14211
(716) 893-0532

LIMITED ENVIRONMENTAL INVESTIGATION

1205 SOUTH PARK AVENUE
BUFFALO, NEW YORK

BUFFALO URBAN RENEWAL AGENCY
920 CITY HALL
BUFFALO, NEW YORK 14202-3376

B0838

1991

1.0 INTRODUCTION

The Buffalo Urban Renewal Agency is contemplating the development of the former LTV (Republic Steel) property located at 1205 South Park Avenue in Buffalo, New York. As a necessary function of this project, Recra Environmental, Inc. was contracted to perform a Phase I Environmental Assessment on the property in October of 1990. Based upon the results of that investigation, Recra Environmental, Inc. was contracted to perform a Phase II Environmental Investigation in August of 1991. The results of that investigation concluded that petroleum product contamination was present in the general vicinity of the former above ground storage tank area.

As a result of these prior investigations, the City of Buffalo contracted Enasco, Inc. to perform a study in an attempt to quantify the level of contamination present on the subject property. This report both summarizes the investigative activities which were completed as part of the continuing investigation and presents the results of this study.

2.0 ASSESSMENT SUMMARY

ENVIRONMENTAL LIABILITY:

( ) Low (X) Moderate ( ) High

TYPES OF LIABILITY:

(X) Asbestos ( ) Hazardous/Toxic Contamination

(X) Petroleum (X) Groundwater Contamination

( ) Tank (X) Other: Lead Based Paint

FURTHER INVESTIGATION:

( ) N/Recommended (X) Recommended

3.0 OPINION OF RISK

In light of the findings and information available as documented within this report, it is our opinion that this site carries a moderate degree of environmental risk. This opinion is predicated upon the nature of contaminants present. Of lesser concern, lead bearing paint was found to be present in the structure present on-site. In addition, asbestos was found in the roofing materials. Upon demolition of the structure it is important that these materials be treated in accordance with the applicable environmental regulations.

Of greater concern is the presence of petroleum contamination in the general vicinity of former above ground storage tanks. A total of 6 test pits were excavated, in each case gross petroleum contamination was observed. As a consequence, it is recommended that further investigation be performed in order to clearly define the extent of the contamination area so that the most cost effective remedial project may be developed.

4.0 INVESTIGATIVE APPROACH

In order determine the extent of the environmental liabilities on the former LTV (Republic Steel) property. Sampling was conducted to:

1.) Determine the presence of lead based paint in selected areas within the structure,

2.) Determine the presence of asbestos in selected areas within the structure, and;

3.) Determine the extent of petroleum contamination in the general vicinity of the former above ground storage tanks.

In addition to the physical and analytical testing, a site survey was conducted to determine additional areas of environmental concern.

In order to verify the presence of gross or residual levels of the suspected petroleum contaminants at the South Park Avenue site, samples were obtained at predetermined locations in vicinity of Test Pit 5. It should be noted that Test Pit 5 acted as the center point for the project sampling scheme. Sampling locations are shown on the Site Plan located in Appendix A. The sampling activities were completed as follows:

* Test Point 6, is located a distance of 75 southwest of Test Pit 5. The test pit was excavated to a depth of 5.7 feet. Sand and topsoil were encountered to a depth of 1.0 feet. Beyond that depth, cinders and slag were encountered. Petroleum contamination was first encountered at a depth of 2.0 feet. a strong petroleum odor was noted during the entire excavation. Groundwater began infiltrating the excavation from a depth of 2.5 feet. Gross petroleum contamination was noted floating on top of the groundwater in the excavation. A photograph of this Test Pit can be found in Appendix B. After the excavation had been completed, a sample was obtained by compositing the soils from the entire depth of the excavation. The resultant sample was mixed, composited and placed in the appropriate, pre-cleaned and labeled sample containers. The sample containers were then placed on ice and delivered to the contract laboratory under a strict chain of custody within 4 hours of sampling. The samples from this test point

were analyzed for the following parameters: volatile organic compounds, Method SW-846 8021; semi-volatile organic compounds, Method SW-846 8270; and TCLP lead, Method SW-846 3015/6010.

* Test Point 7, is located a distance of 25 feet southwest of Test Pit 5. The test pit was excavated to a depth of 5.9 feet. Sand and topsoil were encountered to a depth of 1.0 feet. Cinders and slag were encountered from a depth of 1.0 feet to 4.0 feet. Beyond that point sandy clay was observed. Petroleum contamination was first encountered at a depth of 2.0 feet. a strong petroleum odor was noted during the entire excavation. Groundwater began infiltrating the excavation from a depth of 2.5 feet. Gross petroleum contamination was noted floating on top of the groundwater in the excavation. A photograph of this Test Pit can be found in Appendix B. After the excavation had been completed, a sample was obtained by compositing the soils from the entire depth of the excavation. The resultant sample was mixed, composited and placed in the appropriate, pre-cleaned and labeled sample containers. The sample containers were then placed on ice and delivered to the contract laboratory under a strict chain of custody within 4 hours of sampling. The samples from this test point were analyzed for the following parameters: volatile organic compounds, Method SW-846 8021; semi-volatile organic compounds, Method SW-846 8270; and TCLP lead, Method SW-846 3015/6010.

* Test Point 8, is located a distance of 25 feet northeast of Test Pit 5. The test pit was excavated to a depth of 6.1 feet. Sand and topsoil were encountered to a depth of 1.0 feet. Cinders and slag were encountered from a depth of 1.0 feet to 3.0 feet. Beyond that point sandy clay was observed. Petroleum contamination was first encountered at a depth of 2.0 feet. a strong petroleum odor was noted during the entire excavation. Groundwater began infiltrating the excavation from a depth of 2.5 feet.

Gross petroleum contamination was noted floating on top of the groundwater in the excavation. A photograph of this Test Pit can be found in Appendix B. After the excavation had been completed, a sample was obtained by compositing the soils from the entire depth of the excavation. The resultant sample was mixed, composited and placed in the appropriate, pre-cleaned and labeled sample containers. The sample containers were then placed on ice and delivered to the contract laboratory under a strict chain of custody within 4 hours of sampling. The samples from this test point were analyzed for the following parameters: volatile organic compounds, Method SW-846 8021; semi-volatile organic compounds, Method SW-846 8270; and TCLP lead, Method SW-846 3015/6010.

* Test Point 9, is located a distance of 75 feet northeast of Test Pit 5. The test pit was excavated to a depth of 6.4 feet. Sand and topsoil were encountered to a depth of 1.0 feet. Cinders and slag were encountered from a depth of 1.0 feet to 2.0 feet. Slag and clay was encountered from a depth of 2.0 to 3.0 feet. Beyond that point sandy clay was observed. Petroleum contamination was first encountered at a depth of 2.0 feet. A strong petroleum odor was noted during the entire excavation. Groundwater began infiltrating the excavation from a depth of 2.5 feet. Gross petroleum contamination was noted floating on top of the groundwater in the excavation. A photograph of this Test Pit can be found in Appendix B. After the excavation had been completed, a sample was obtained by compositing the soils from the entire depth of the excavation. The resultant sample was mixed, composited and placed in the appropriate, pre-cleaned and labeled sample containers. The sample containers were then placed on ice and delivered to the contract laboratory under a strict chain of custody within 4 hours of sampling. The samples from this test point were analyzed for the following parameters: volatile organic compounds, Method SW-846 8021; semi-volatile organic compounds, Method SW-846 8270; and TCLP lead, Method SW-846 3015/6010.

In addition to sampling the soil profile, a groundwater sample was obtained after the excavation filled with water. The sample containers were placed below the floating petroleum phase layer and then filled. The resultant sample was placed in the appropriate, pre-cleaned and labeled sample containers. The sample containers were then placed on ice and delivered to the contract laboratory under a strict chain of custody within 4 hours of sampling. The water samples from this test point were analyzed for the following parameters: volatile organic compounds, Method SW-846 8021; semi-volatile organic compounds, Method SW-846 8270; and TCLP lead, Method SW-846 3015/6010.

* Test Point 10, is located a distance of 50 feet northwest of Test Pit 5. The test pit was excavated to a depth of 6.4 feet. Sand and topsoil were encountered to a depth of 1.0 feet. Cinders and slag were encountered from a depth of 1.0 feet to 2.0 feet. Slag and clay was encountered from a depth of 2 to 3 feet. Beyond that point sandy clay was observed. Petroleum contamination was first encountered at a depth of 2.0 feet. A strong petroleum odor was noted during the entire excavation. Groundwater began infiltrating the excavation from a depth of 2.5 feet. Gross petroleum contamination was noted floating on top of the groundwater in the excavation. A photograph of this Test Pit can be found in Appendix B. After the excavation had been completed, a sample was obtained by compositing the soils from the entire depth of the excavation. The resultant sample was mixed, composited and placed in the appropriate, pre-cleaned and labeled sample containers. The sample containers were then placed on ice and delivered to the contract laboratory under a strict chain of custody within 4 hours of sampling. The samples from this test point were analyzed for the following parameters: volatile organic compounds, Method SW-846 8021; semi-volatile organic compounds, Method SW-846 8270; and TCLP lead, Method SW-846 3015/6010.

* Test Point 11, is located a distance of 50 feet southeast of Test Pit 5. The test pit was excavated to a depth of 6.6 feet. Sand and topsoil were encountered to a depth of 1.0 feet. Slag and sand were encountered from a depth of 1.0 feet to 2.0 feet. Beyond that point sandy clay was observed. Petroleum contamination was first encountered at a depth of 2.0 feet. A strong petroleum odor was noted during the entire excavation. Groundwater began infiltrating the excavation from a depth of 2.5 feet. Gross petroleum contamination was noted floating on top of the groundwater in the excavation. A photograph of this Test Pit can be found in Appendix B. After the excavation had been completed, a sample was obtained by compositing the soils from the entire depth of the excavation. The resultant sample was mixed, composited and placed in the appropriate, pre-cleaned and labeled sample containers. The sample containers were then placed on ice and delivered to the contract laboratory under a strict chain of custody within 4 hours of sampling. The samples from this test point were analyzed for the following parameters: volatile organic compounds, Method SW-846 8021; semi-volatile organic compounds, Method SW-846 8270; and TCLP lead, Method SW-846 3015/6010.

Quality control measures completed to ensure the quality of the data collected during this Level II Investigation included the following:

* All sampling equipment was decontaminated prior to each use for the collection of samples.

* All sample containers were received precleaned and unopened from the contract laboratory.

* All samples were obtained immediately after the excavation of each test point to prevent any significant volatilization of contaminants.

* All samples were placed in appropriate containers, labeled, sealed and preserved by cooling until analysis by the contract laboratory. All samples were handled under strict chain-of-custody procedures throughout their existence until their analysis was complete.

In addition to soil samples, a total of 5 samples were taken in order to determine if the warehouse facility posessed Asbestos Containing Materials. The asbestos samples are numbered from 1 to 5. The locations of the asbestos sample points can be found in the Warehouse Drawing that is located in Appendix A.

Sample 1 was obtained from a pipe elbow in the mechanical room of the warehouse. A photograph (Photo 23) of the sample matrix can be found in Appendix B.

Sample 2 was obtained from the ceiling plaster in the locker room of the warehouse. A photograph (Photo 22) of the sample matrix can be found in Appendix B.

Sample 3 was obtained from the vinyl floor tiles in the warehouse office area. A photograph (Photo 21) of the area the sample was obtained from can be found in Appendix B.

Sample 4 was obtained from the mastic used to lay the floor tiles in the warehouse office area. A photograph (Photo 21) of the area the sample was obtained from can be found in Appendix B.

Sample 5 was obtained from a fallen piece of roof material that was found on the floor of the warehouse.

In addition to the above, a total of 3 samples were taken in order to deremine if the warehouse facility posessed Lead Based Paint. The paint samples are numbered from 6 to 8. The locations of the asbestos sample points can be found in the Warehouse Drawing that is located in Appendix A.

Sample 6 was obtained from the painted concrete walls within a storage area in the warehouse structure.

Sample 7 was obtained from the ceiling plaster in the locker room of the warehouse. A photograph (Photo 22) of the sample matrix can be found in Appendix B.

Sample 8 was obtained from one of the structural supports in the warehouse structure. A photograph (Photo 26) of the sample matrix can be found in Appendix B.

5.0 INVESTIGATION RESULTS

The results of the analytical testing indicate:

1.) Petroleum contamination exists in the soil and groundwater profiles in each test pit. However, it should be noted that the results of the lead analysis indicate that the test pits and groundwater profile were free from lead contmination.

2.) The results of the asbestos sampling indicated that the roofing material for the warehouse is an asbestos containing material.

3.) Lead was found in varying degrees in all the paint samples taken. The highest value was noted in the structural supports.

6.0 DISCUSSION OF RESULTS

The purpose of this Environmental Investigation was to determine the extent of petroleum contamination on the property located at 1025 South Park Avenue, Buffalo, New York. Moreover, it is another function of this investigation to determine if there are any additional areas of environmental concern resulting from the current and past uses of this property. In this context, various conclusions can be drawn from the results of the investigation which was performed at the site.

Of greatest significance is the fact that the petroleum contamination was detected in both the soil profiles in each of the test pits as well as in the groundwater profile. Of particular note, it appears that the contamination was generally due to volatile organic compounds. However, contamination by semi-volatile organic compounds was noted.

The environmental regulations which apply most directly to this site are the NYSDEC's STARS Memo #1, Petroleum-Contaminated Soil Guidance Policy which states guidelines for petroleum spill cleanup and removal.

Other environmental regulations which apply to the remediation of this site include the NYSDEC's 6 NYCRR Part 703 (Ground Water Classifications, Quality Standards and Effluent Standards and/or Limitations). These regulations pertain to the discharge of pollutants to the groundwaters of New York State.

Based upon the analytical testing, the levels of contamination in each test pit, the above mentioned regulations are contravened.

With respect to the levels of asbestos that were found in the roofing materials of the warehouse structure, it is recommended that if the structure is demolished, all the applicable regulations found in New York State Department of Labor Code Rule No. 56 be followed.

With respect to the levels of lead in the sampled paint materials found in the warehouse structure, it is recommended that if the structure is demolished, all the applicable safety and environmental regulations be followed.

A survey of the property also revealed other areas of concern. Of particular note are the housekeeping practices on the subject parcel that are cause for environmental concern. Of importance is the large amount of fill, rubble, tires and demolition debris observed present in various locations throughout the property. It should be noted that this site condition could constitute violations of 6NYCRR Part 360 regulations which control activities at Solid Waste Disposal Facilities.

In addition, it was observed that there were 14 empty drums within the warehouse structure. Most of these drums were observed to be RCRA empty, that is less than one inch of contents. However, some drums were observed to contain debris and other objects. Based upon the marking of these containers, it appears they originally contained lubricants and other common petroleum based fluids.

7.0 RECOMMENDATIONS

In light of the findings and information available as documented within this report, it is our opinion that this site carries a moderate degree of environmental risk. This opinion is predicated upon the nature of contaminants present. Petroleum contamination does not pose an extreme danger to human health and environment, unlike other types of contamination. Moreover, technology currently exists that would sucessfully remediate the area. Taking the nature of the existing contamination as well as the availability of remedial technology, it is the opinion of Enasco, Inc. that a moderate degree of environmental risk is present. It should be understood that in the event that other contaminants are found, the level of environmental risk is subject to change.

Of lesser concern, lead bearing paint was found to be present in the structure present on-site. In addition, asbestos was found in the roofing materials. Upon demolition of the structure it is important that these materials be treated in accordance with the applicable environmental regulations. However, Enasco, Inc. recommends:

* Further exploratory investigation on the subject property in an attempt to better determine the extent of the petroleum contamination. Upon determination of the extent of contamination, a cost effective remediation plan should be devised. Based on the already known quantity of contaminated soil and the test results we can advise that in-situ soil remediation will be less costly than excavation, removal and disposal in an approved landfill. We are unable to estimate a cost for this plan until the full extent and volume of contaminated soil is defined. A copy of our proposal to define the volume of contaminated soil dated Nov. 29, 1994 is attached.

* The rubble, tires, construction debris and other materials that are abandoned be collected and disposed of in an environmentally sound manner.

* The empty drums that are found in the warehouse be collected and disposed of in an environmentally sound manner.

8.0 DECLARATION

This report is a Limited Environmental Investigation and other tests or further investigations are available and may be necessary to determine the extent of the environmental risks on site. The purpose of this report is to assist the customer in their evaluation of environmental risks. The customer will bear full responsibility for deciding at what level of testing and inspecting to base their decisions. This investigation has been performed for the benefit of the Buffalo Urban Renewal Agency, and the results and recommendations presented herein may be relied upon only by the Buffalo Urban Renewal Agency. Assignment of this report can only be made with the permission of Enasco, Inc.

9.0 CERTIFICATION

I hereby certify that I have examined the information and data obtained during this investigation of the subject property, and being familiar with the results of the environmental investigation, attest that this Environmental Investigation Report has been prepared in accordance with sound environmental auditing practices.

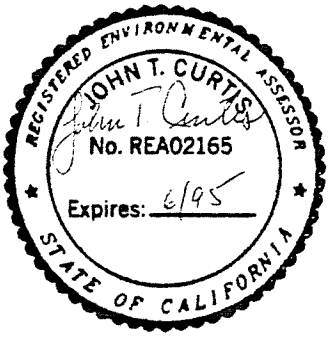
Submitted By: John T. Curtis

John T. Curtis, Registered Environmental Assessor - State of California

Environmental Chemist

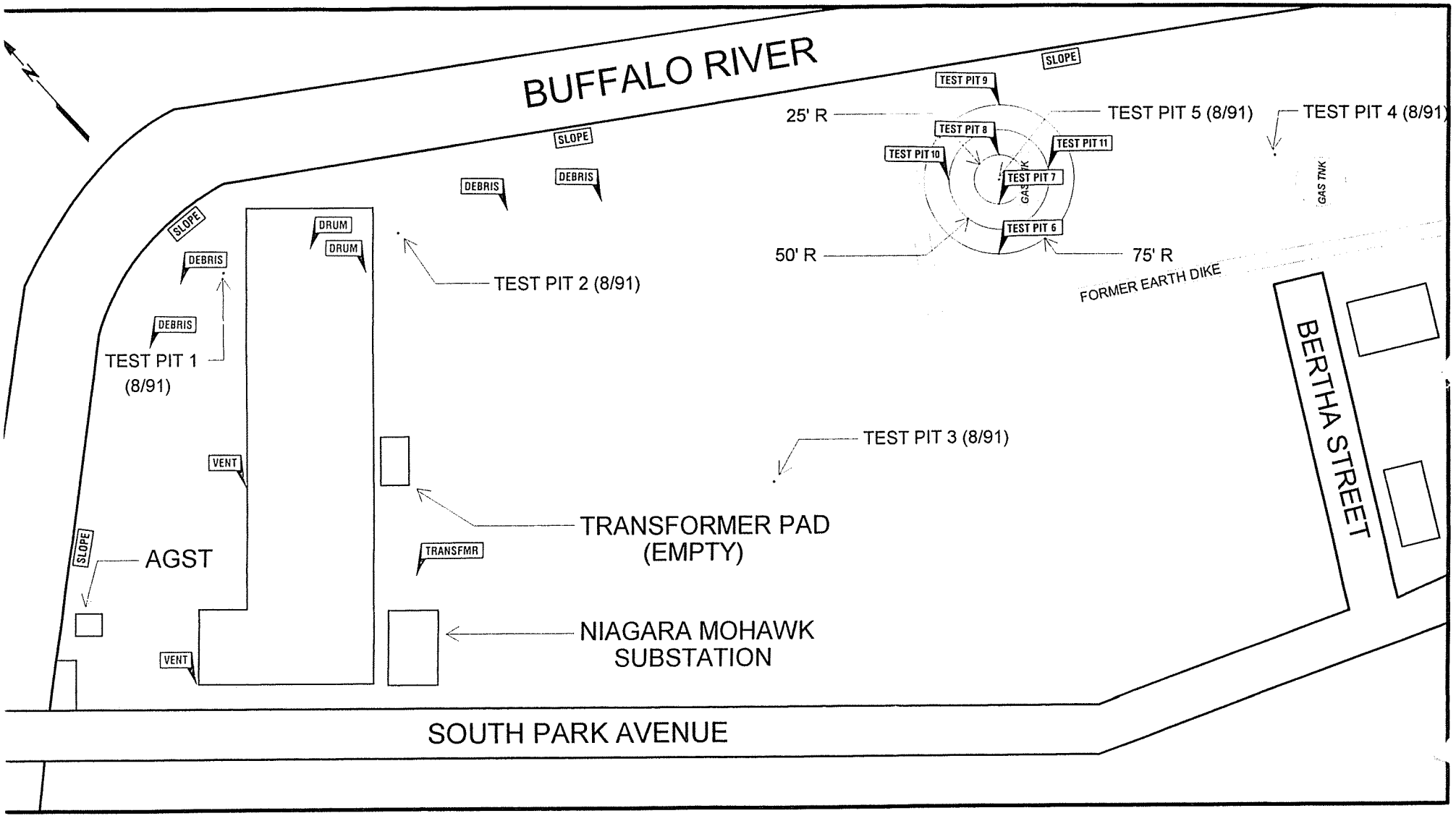
Enasco, Inc.

SEAL:



APPENDIX A

Site Diagrams

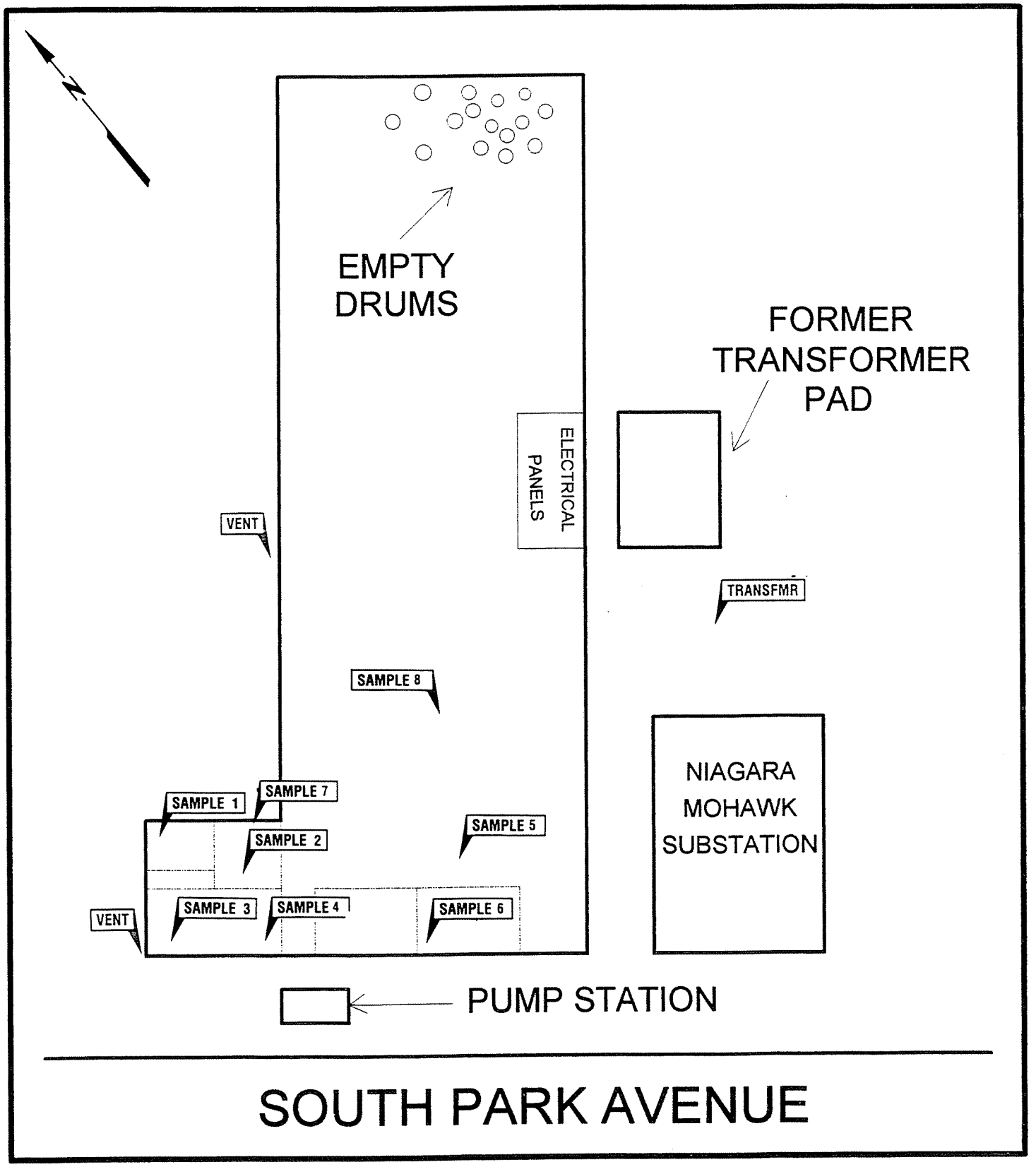


ENASCO INC.
100 Leslie Street, Buffalo, NY 14211

BUFFALO URBAN RENEWAL AGENCY

SITE PLAN - NOT TO SCALE

1025 SOUTH PARK AVENUE



ENASCO INC.
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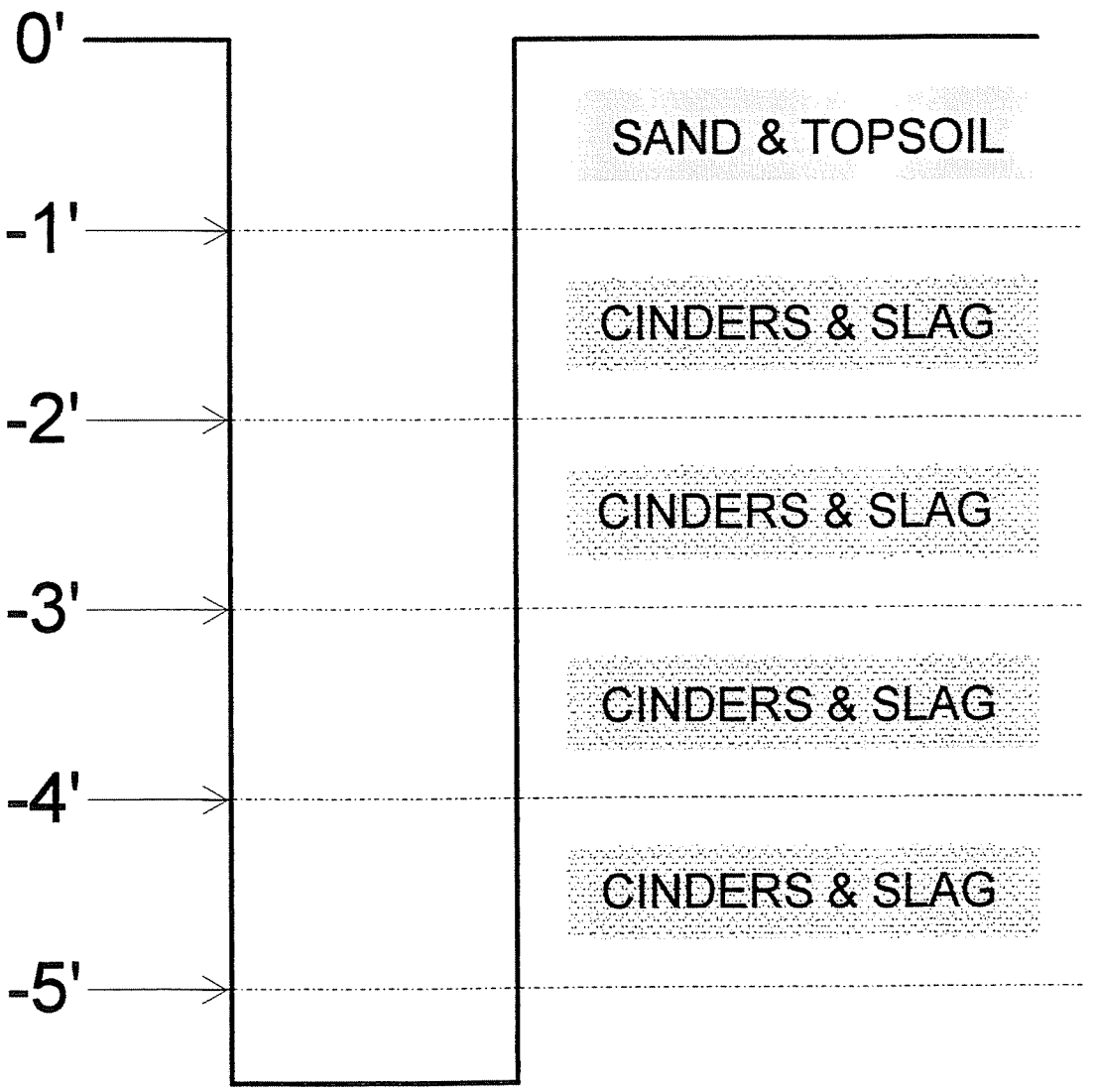
WAREHOUSE - NOT TO SCALE

1025 SOUTH PARK AVENUE



NOTES: 1.) PETROLEUM PRODUCT ENCOUNTERED AT -2'

2.) STRONG PETROLEUM ODOR ENCOUNTERED

3.) PERCHED WATER ENCOUNTERED -2.5'

ENASCO INC.
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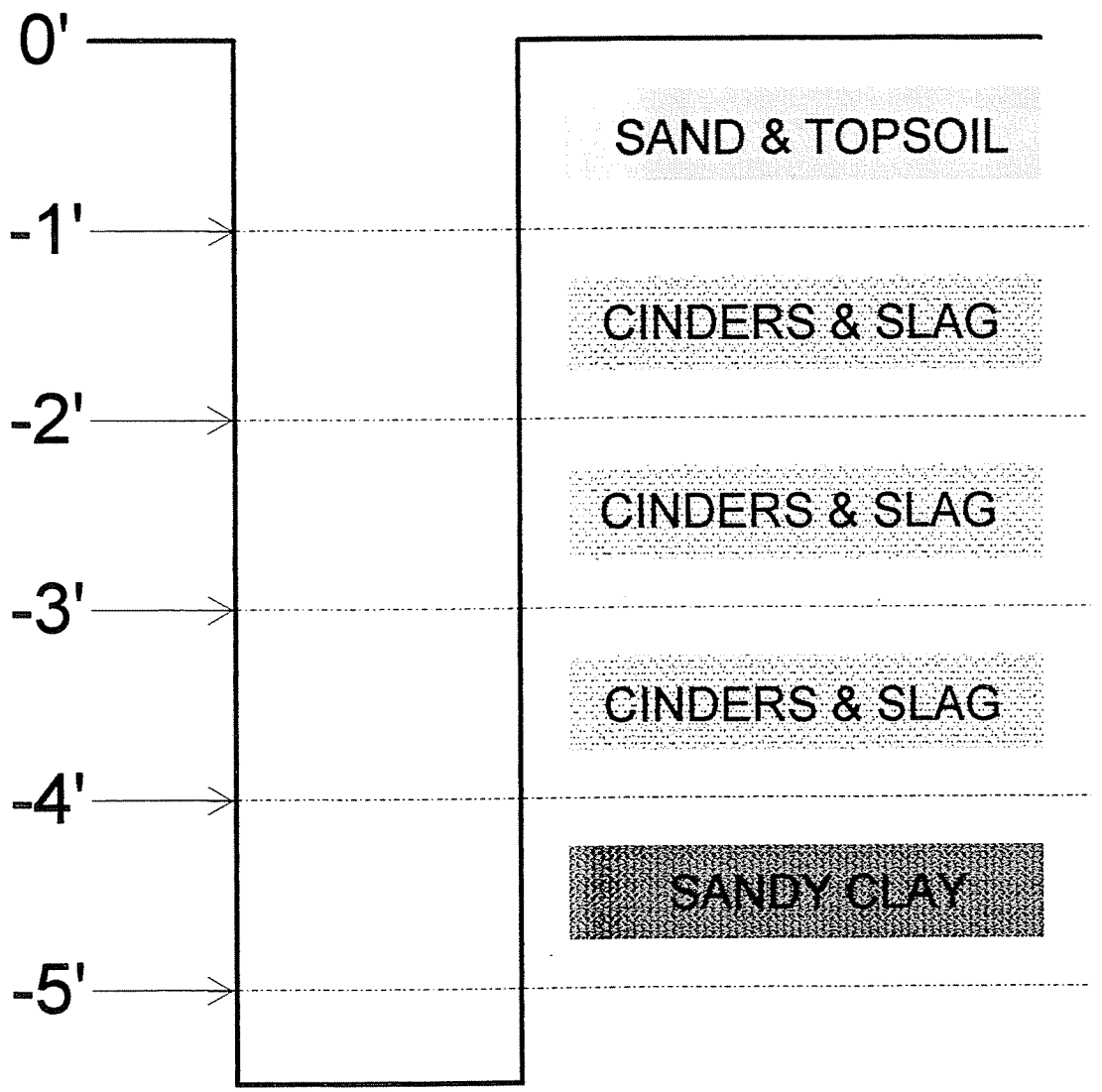
TEST PIT 1

1025 SOUTH PARK AVENUE



NOTES: 1.) PETROLEUM PRODUCT ENCOUNTERED AT -2'

2.) STRONG PETROLEUM ODOR ENCOUNTERED

3.) PERCHED WATER ENCOUNTERED -2.5'

ENASCO INC.
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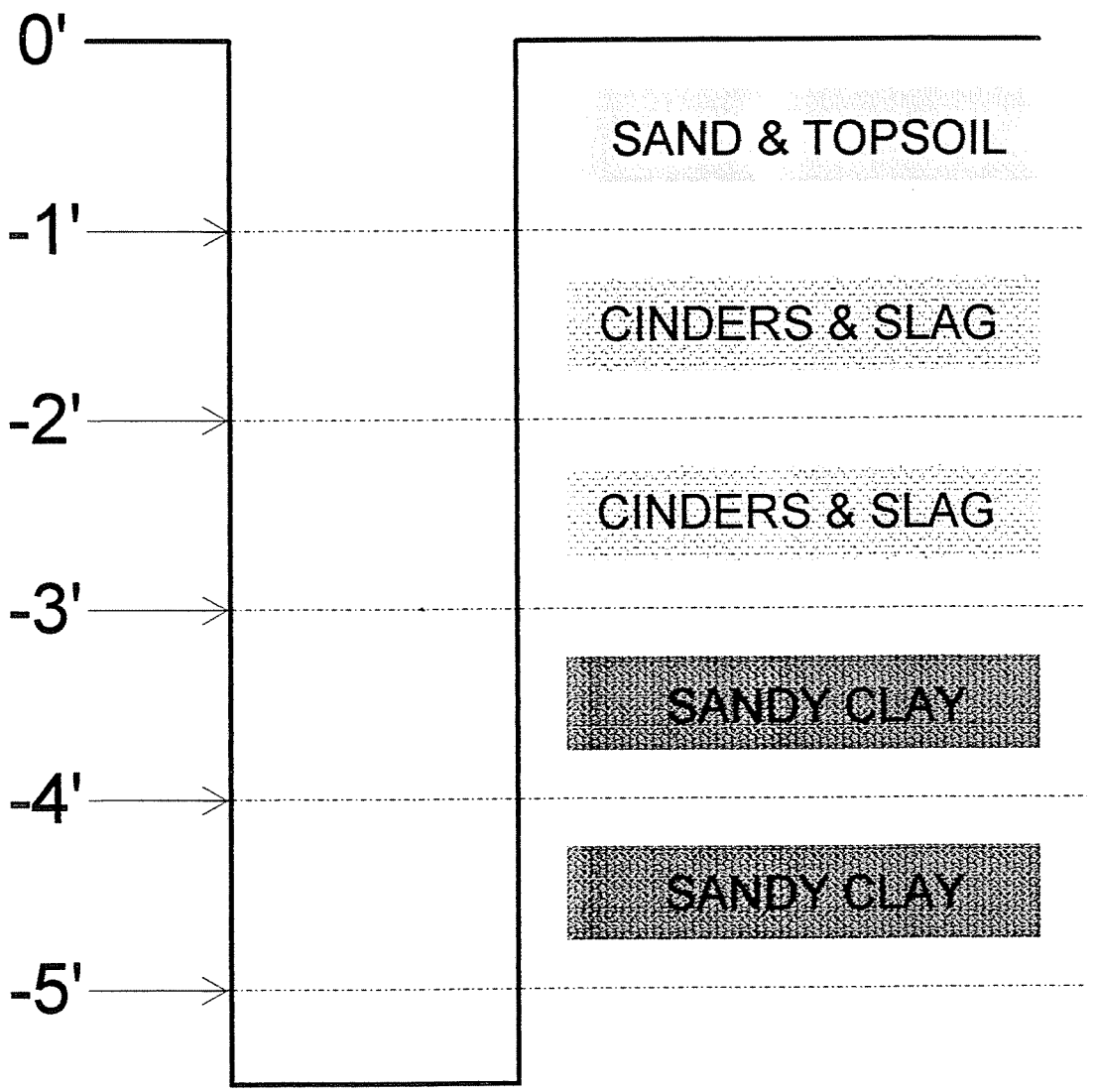
TEST PIT 2

1025 SOUTH PARK AVENUE



NOTES: 1.) PETROLEUM PRODUCT ENCOUNTERED AT -2'

2.) STRONG PETROLEUM ODOR ENCOUNTERED

3.) PERCHED WATER ENCOUNTERED -2.5'

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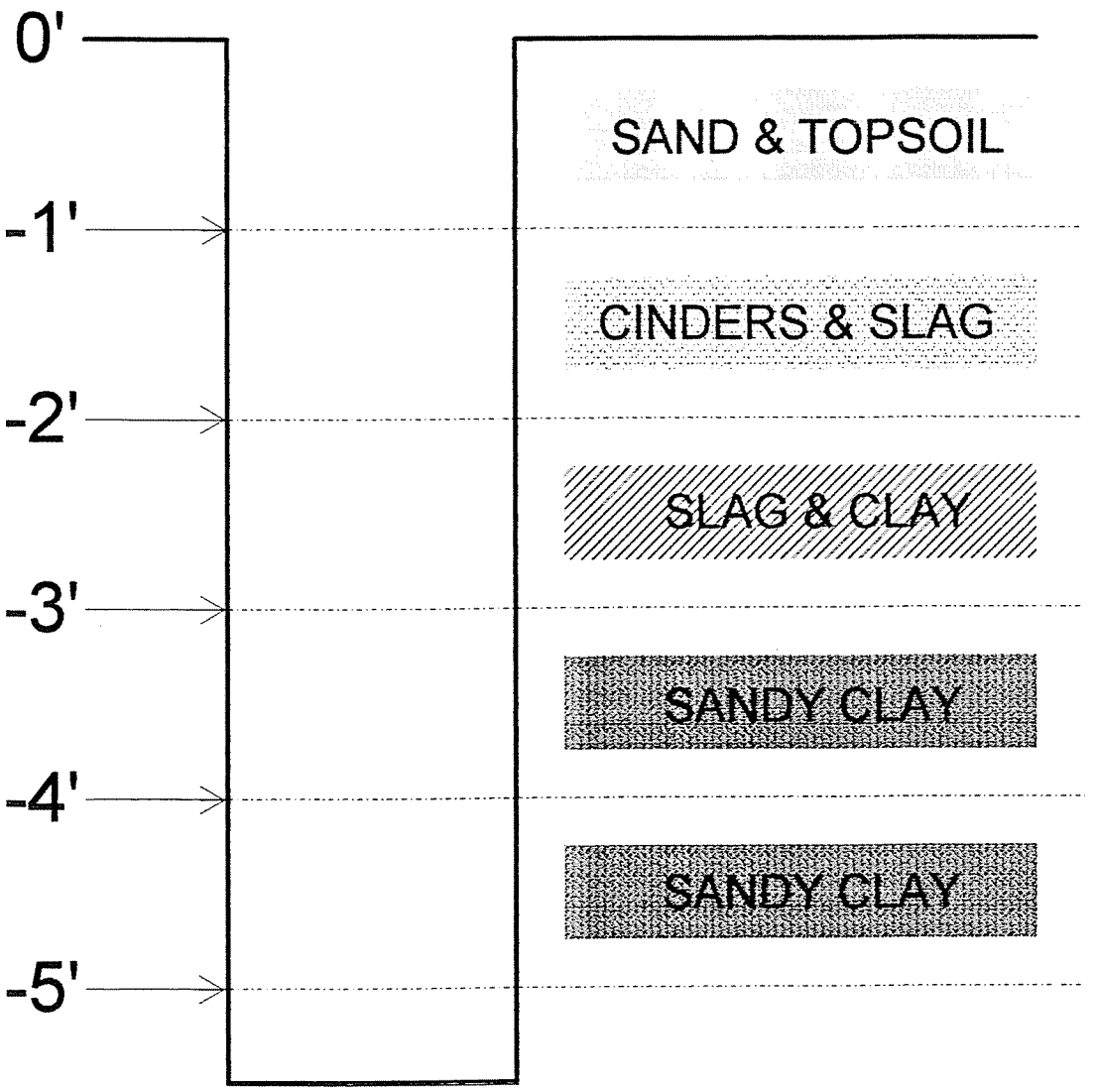
TEST PIT 3

1025 SOUTH PARK AVENUE



NOTES: 1.) PETROLEUM PRODUCT ENCOUNTERED AT -2'

2.) STRONG PETROLEUM ODOR ENCOUNTERED

3.) PERCHED WATER ENCOUNTERED -2.5'

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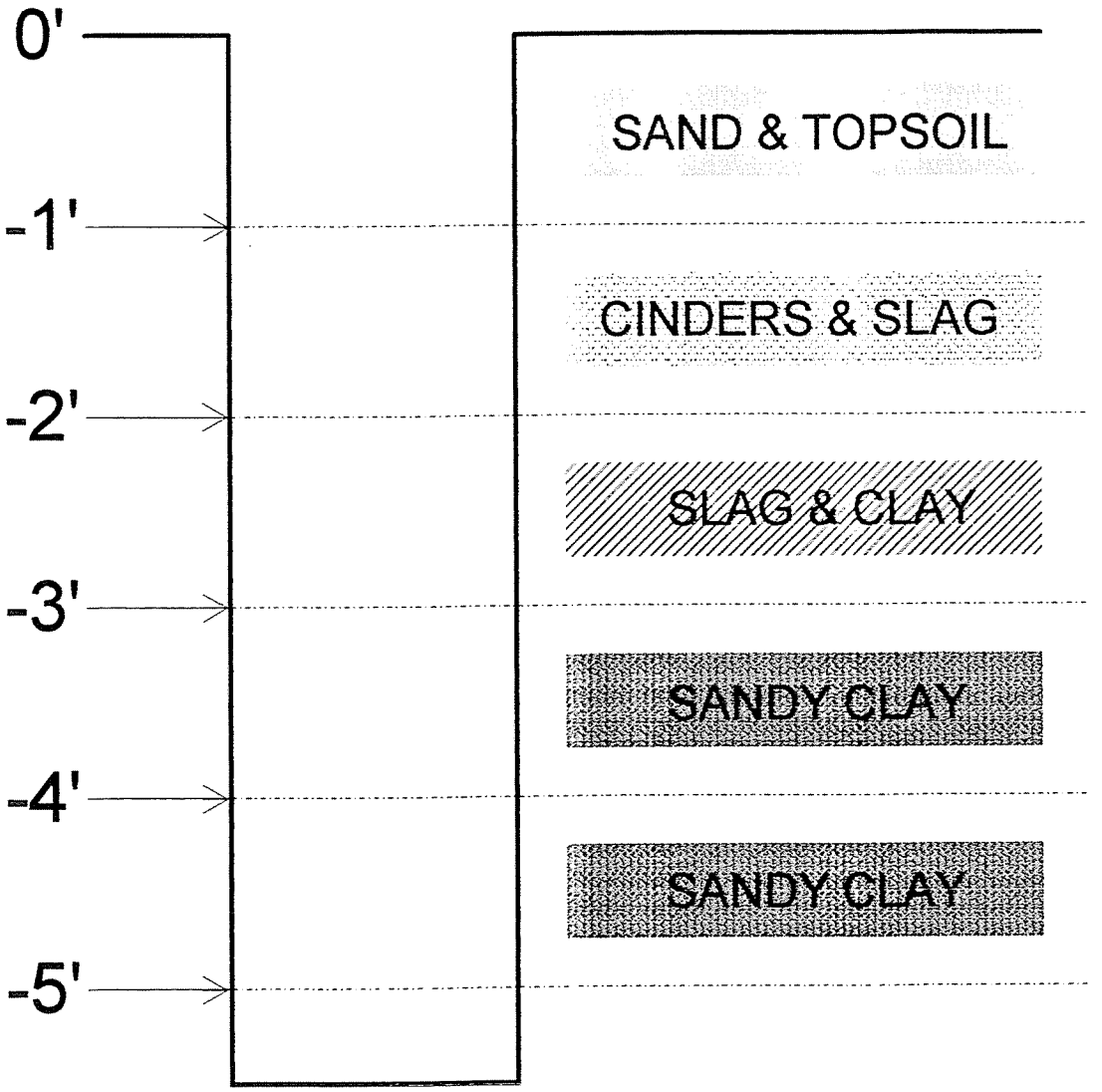
TEST PIT 4

1025 SOUTH PARK AVENUE



NOTES: 1.) PETROLEUM PRODUCT ENCOUNTERED AT -2'

2.) STRONG PETROLEUM ODOR ENCOUNTERED

3.) PERCHED WATER ENCOUNTERED -2.5'

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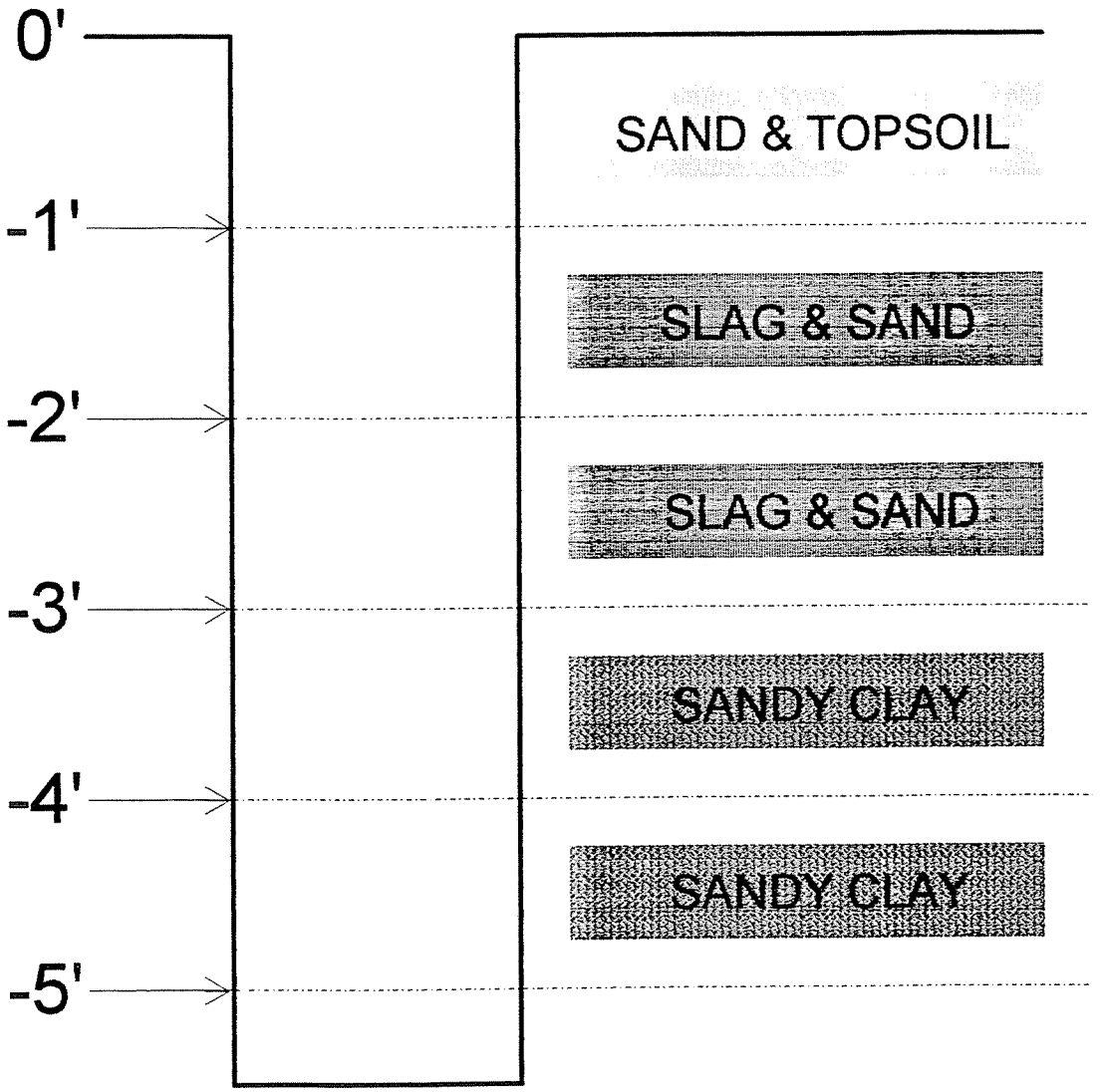
TEST PIT 5

1025 SOUTH PARK AVENUE



NOTES: 1.) PETROLEUM PRODUCT ENCOUNTERED AT -2'

2.) STRONG PETROLEUM ODOR ENCOUNTERED

3.) PERCHED WATER ENCOUNTERED -2.5'

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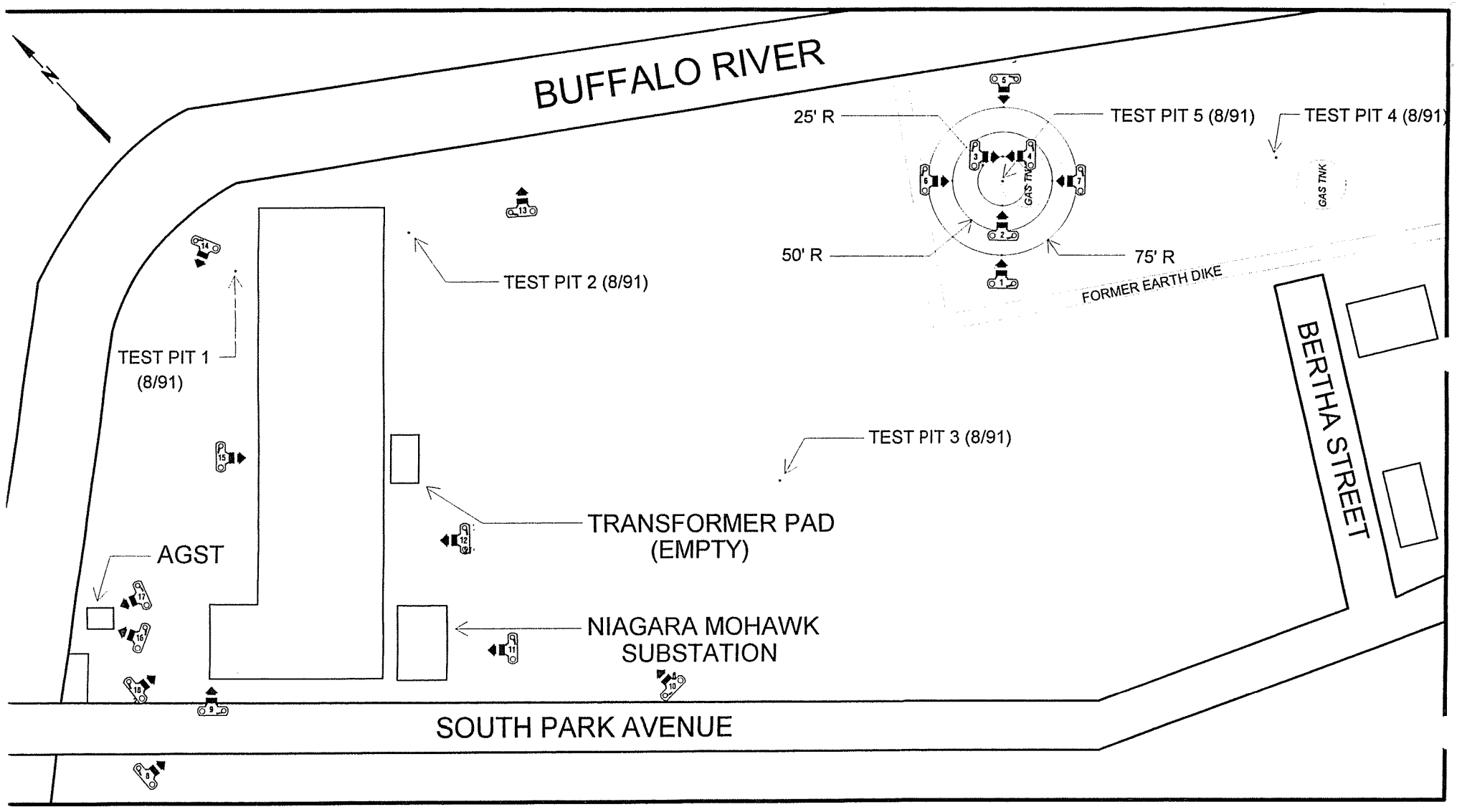
TEST PIT 6

1025 SOUTH PARK AVENUE

APPENDIX B

Photographs



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BUFFALO URBAN RENEWAL AGENCY

KEY TO PHOTOGRAPHS

1025 SOUTH PARK AVENUE

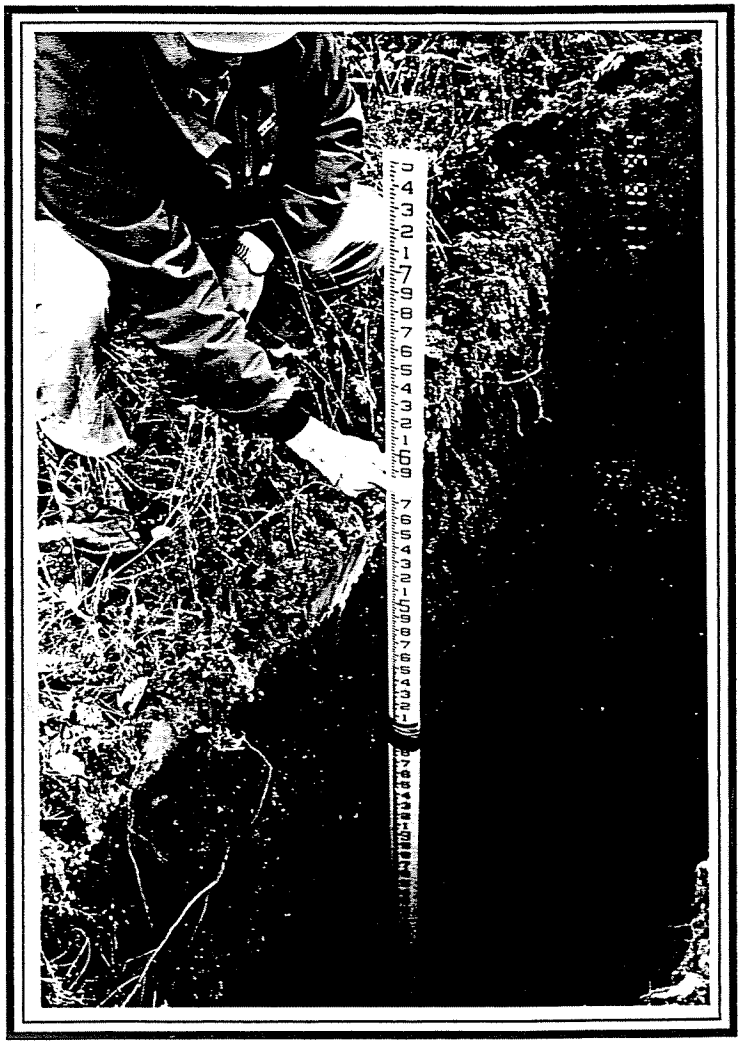


PHOTO 1 : Test Pit #1

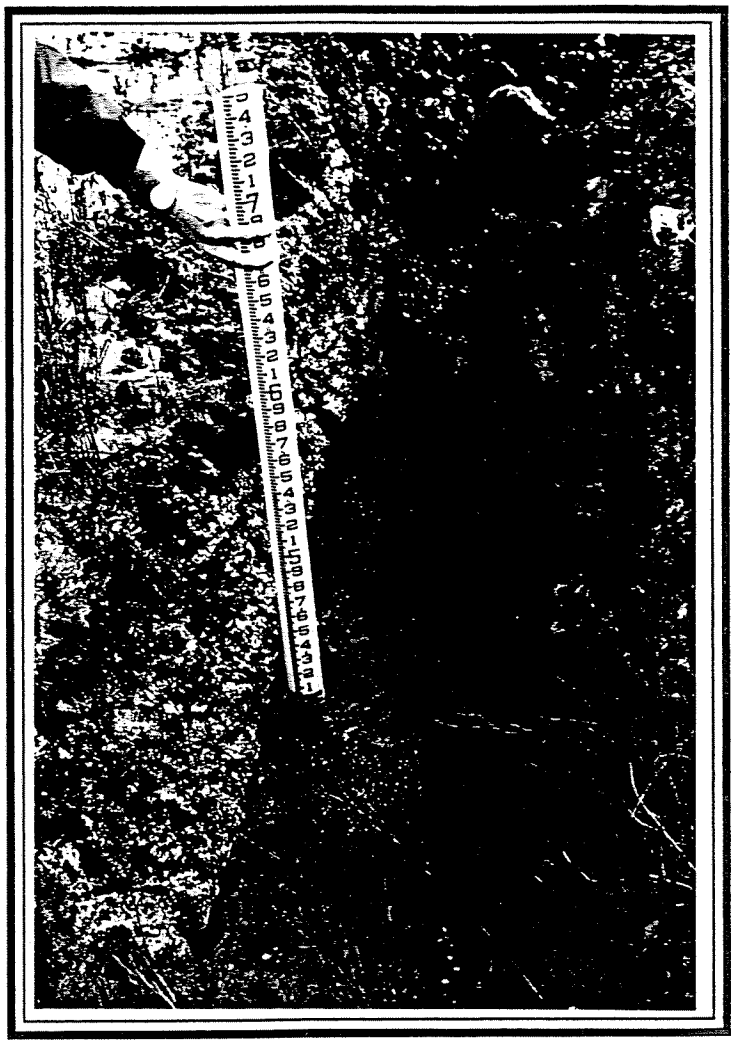


PHOTO 2 : Test Pit #2

PHOTO 3 : Test Pit #3

PHOTO 4 : Test Pit #3

PHOTO 5 : Test Pit #4

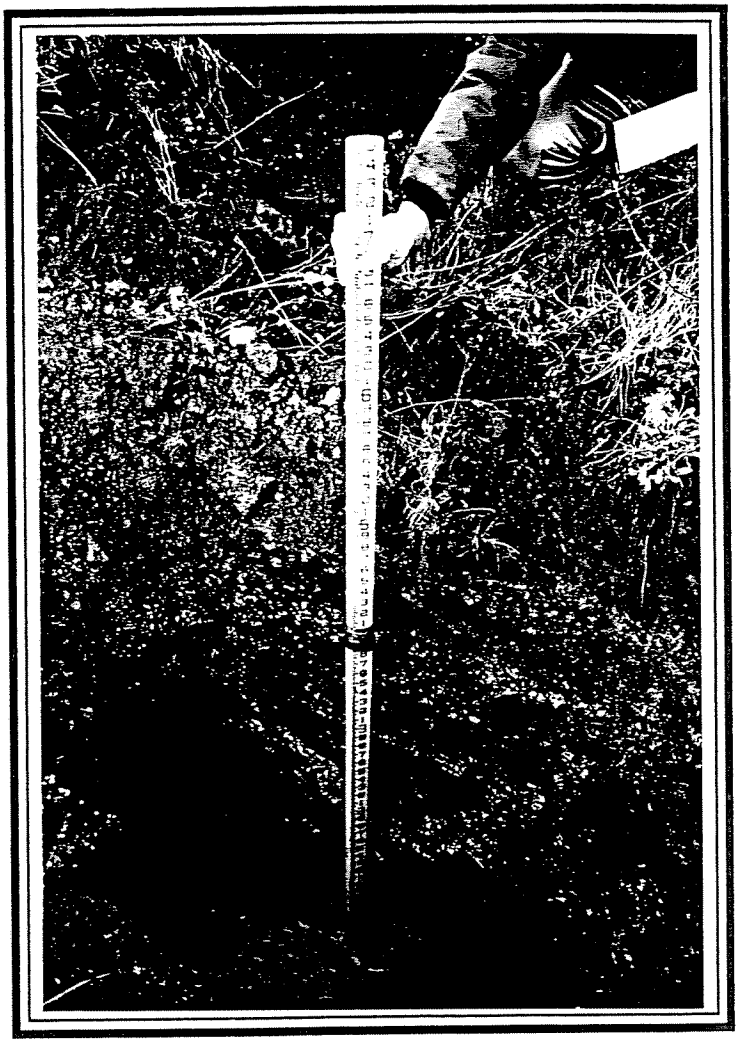


PHOTO 6 : Test Pit #5

PHOTO 7 : Test Pit #6

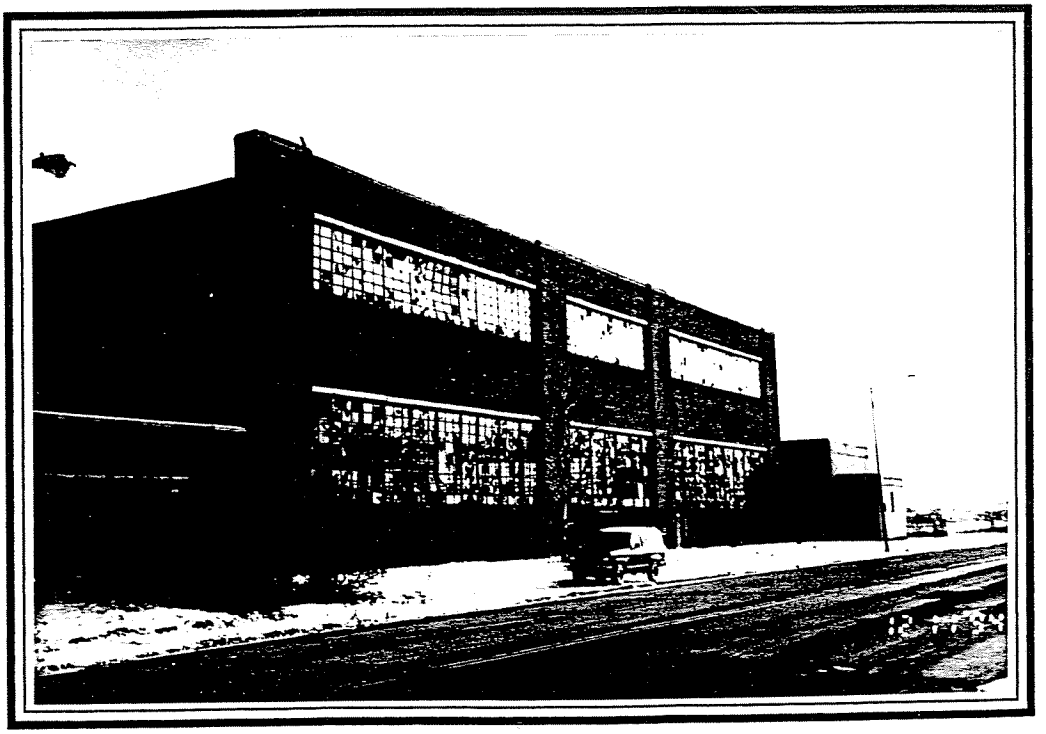


PHOTO 8 :Warehouse SW Side

PHOTO 9 : Vent Pipe

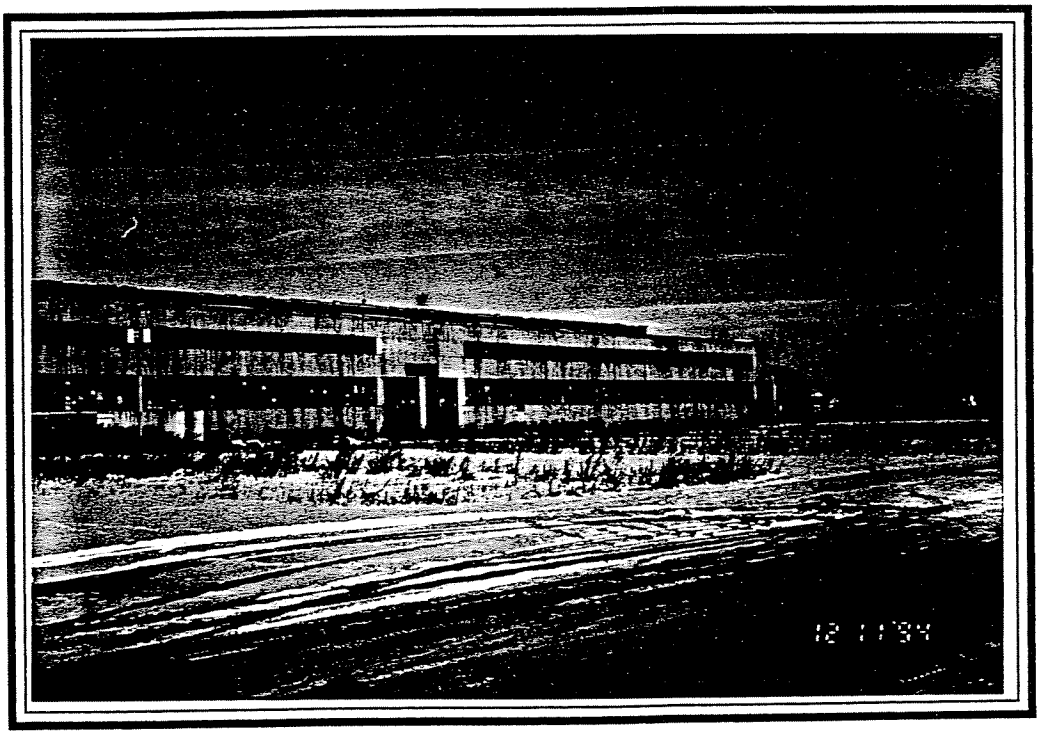


PHOTO 10: Warehouse E Side

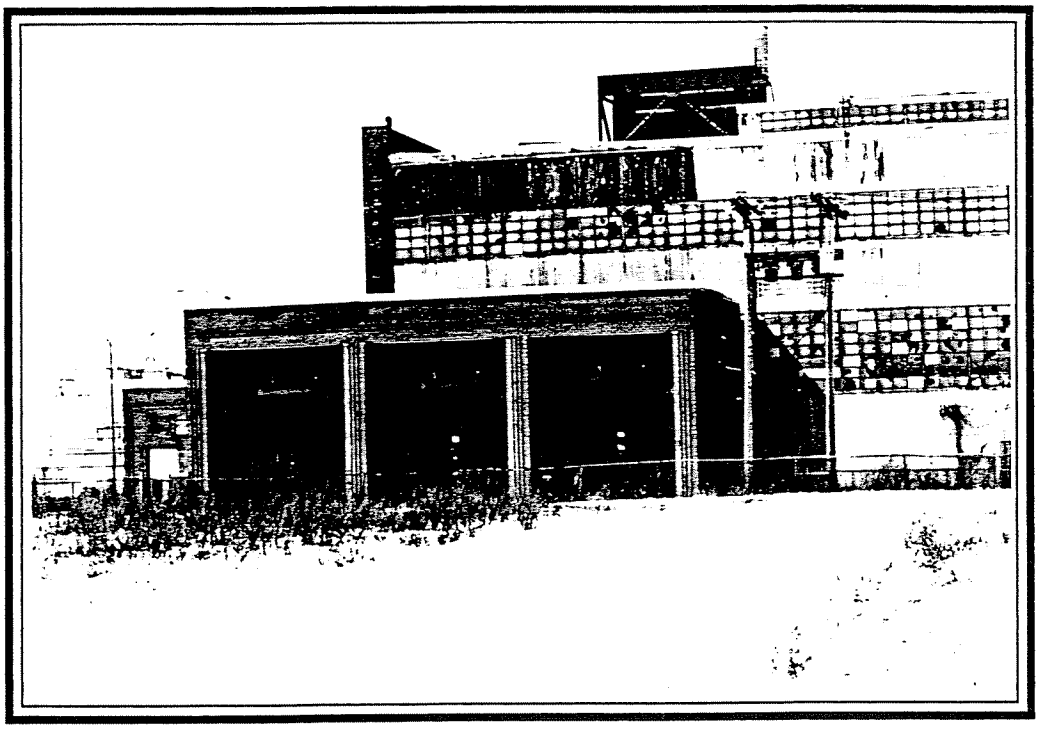


PHOTO 11 : Ni-Mo Substation

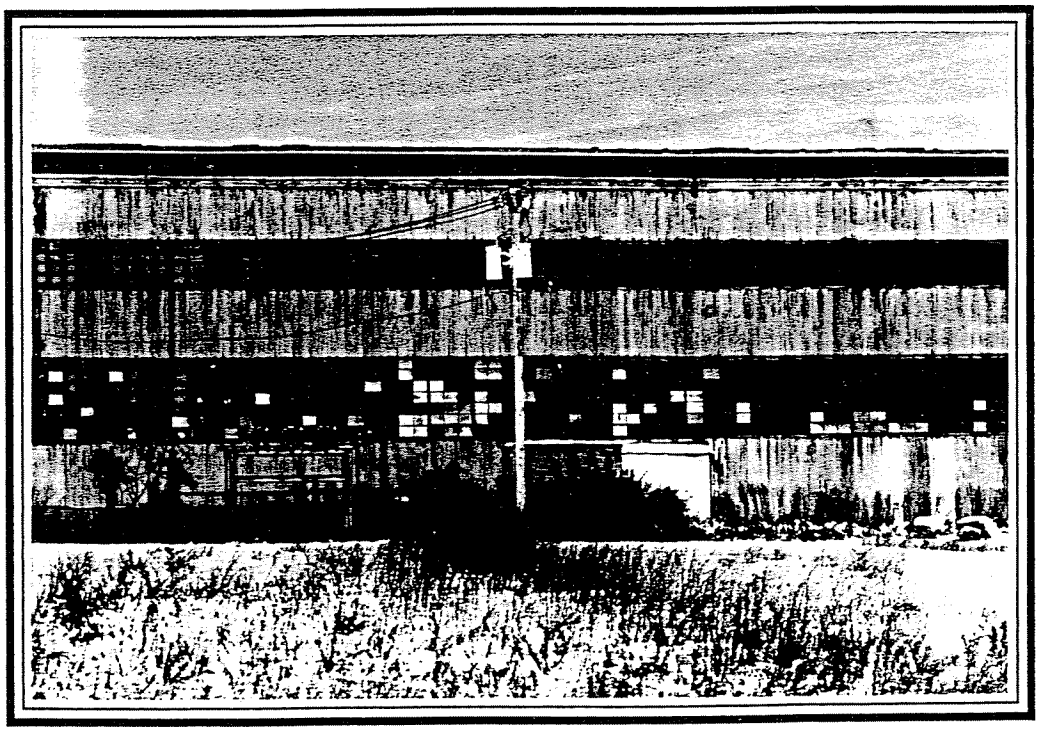


PHOTO 12 : Transformers

PHOTO 13 : Tires & Debris

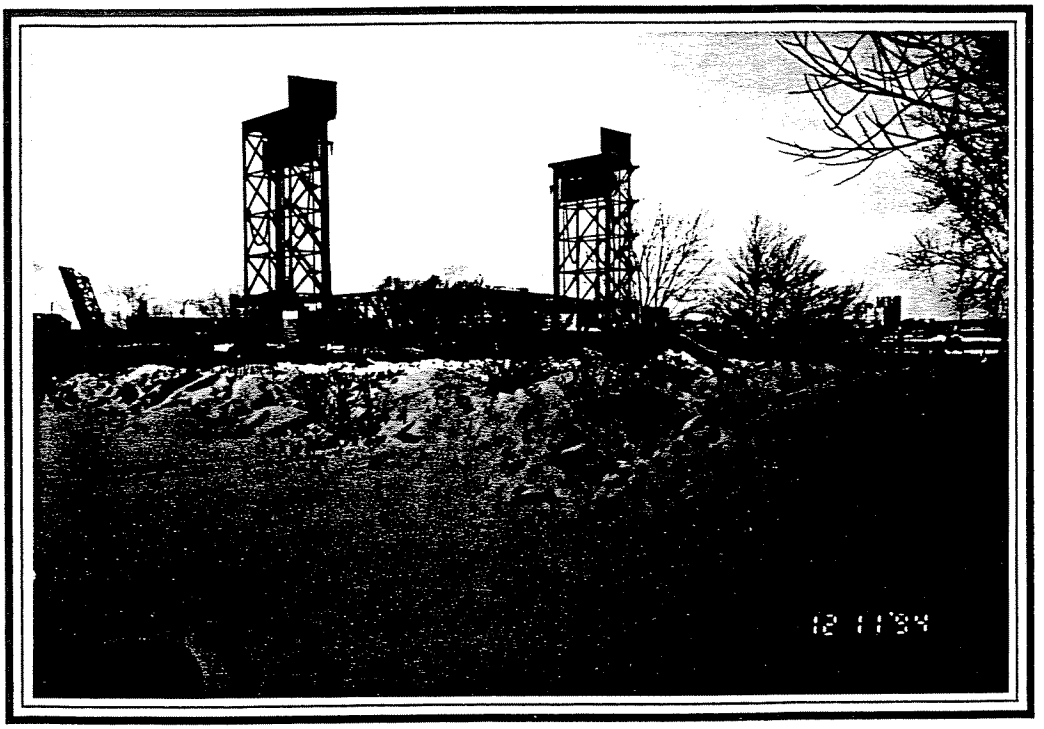


PHOTO 14 : Demolition Debris

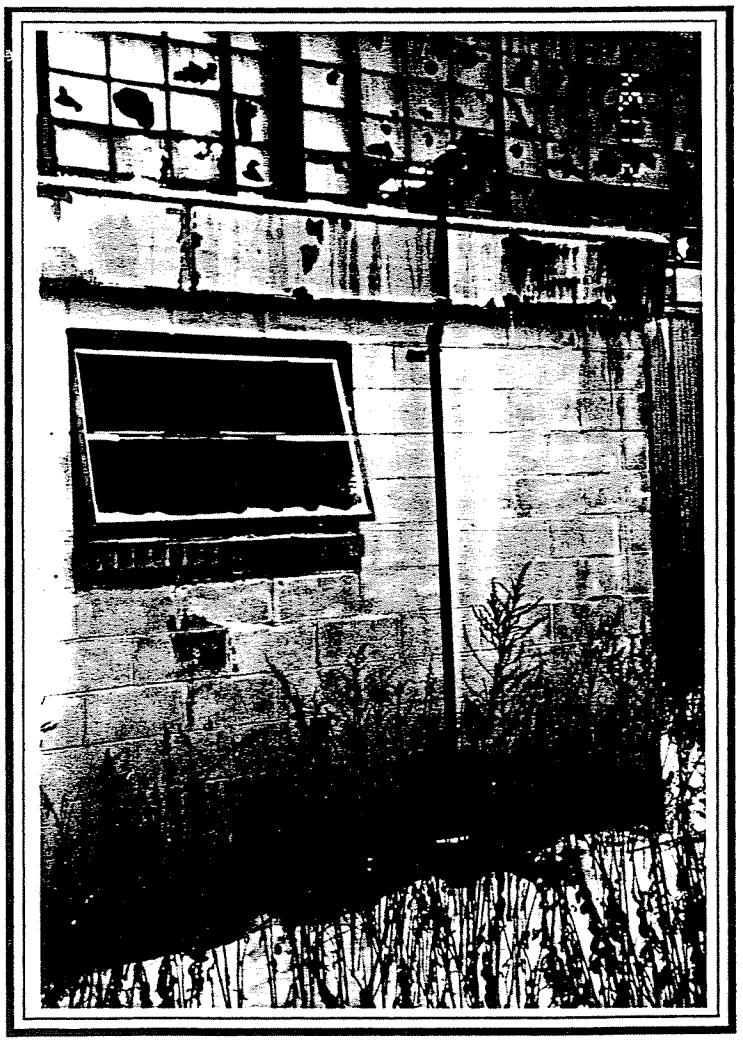


PHOTO 15 : Vent Pipe

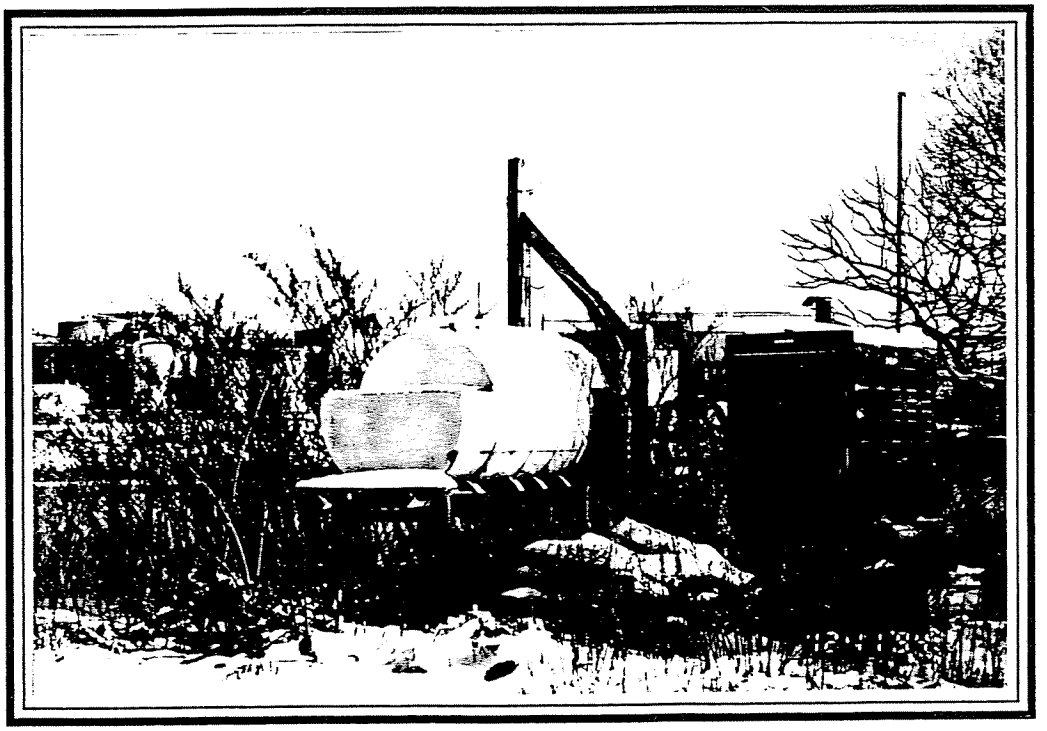


PHOTO 16 : Fuel Storage Tank

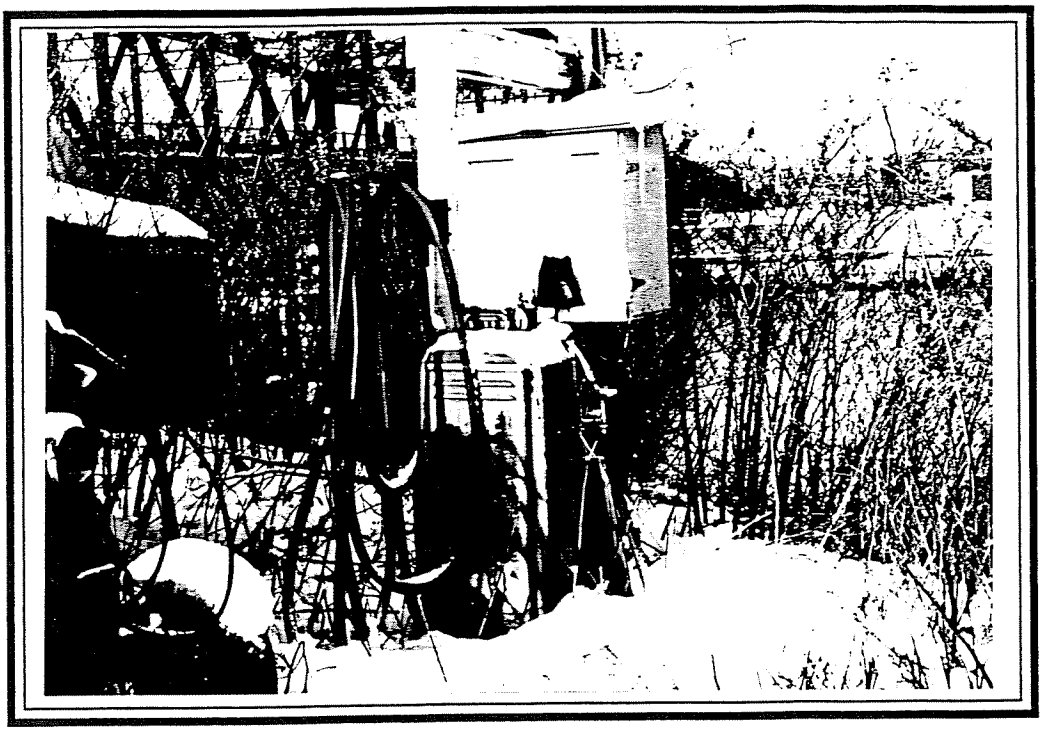


PHOTO 17 : Fuel Pump

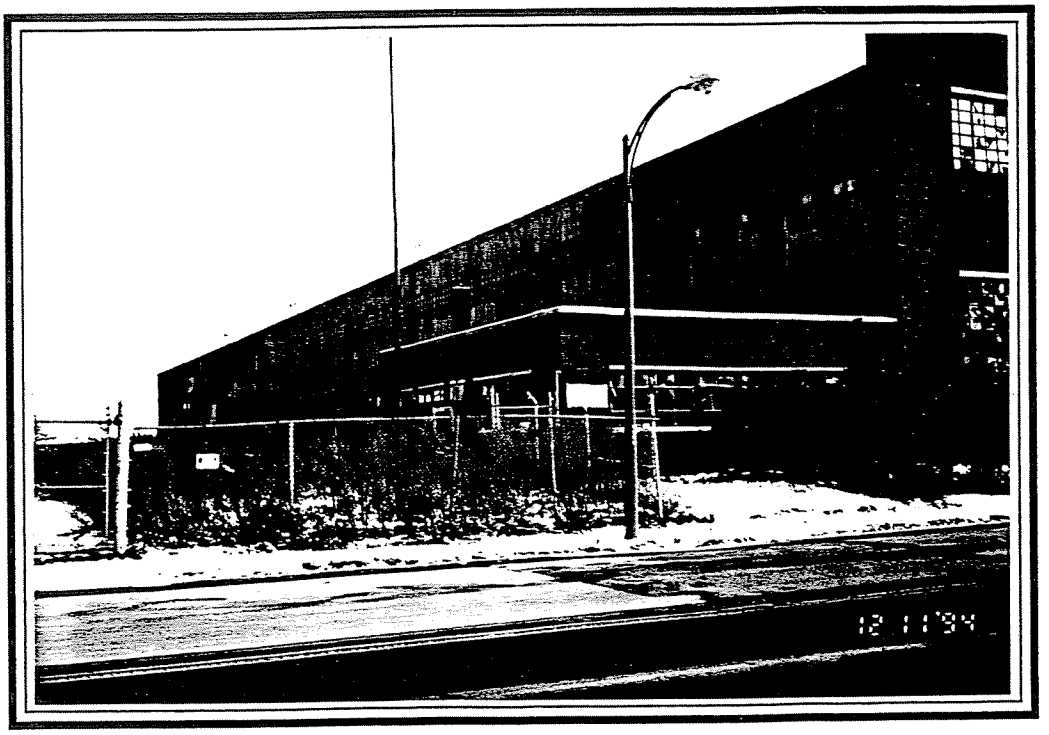
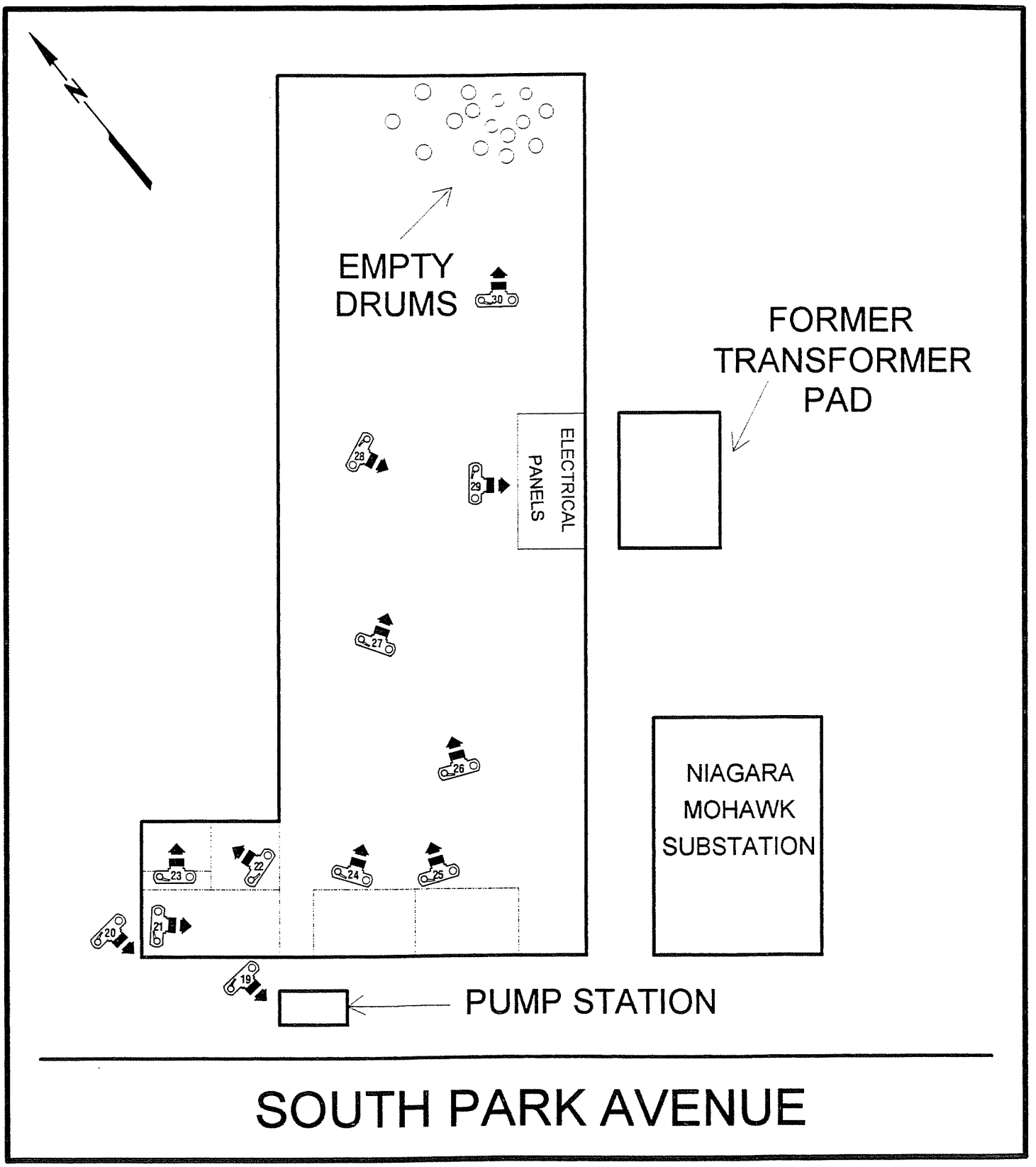


PHOTO 18 : Warehouse W Side



ENASCO INC.
100 Leslie Street, Buffalo, NY 14211

WAREHOUSE - PHOTOGRAPHS

1025 SOUTH PARK AVENUE

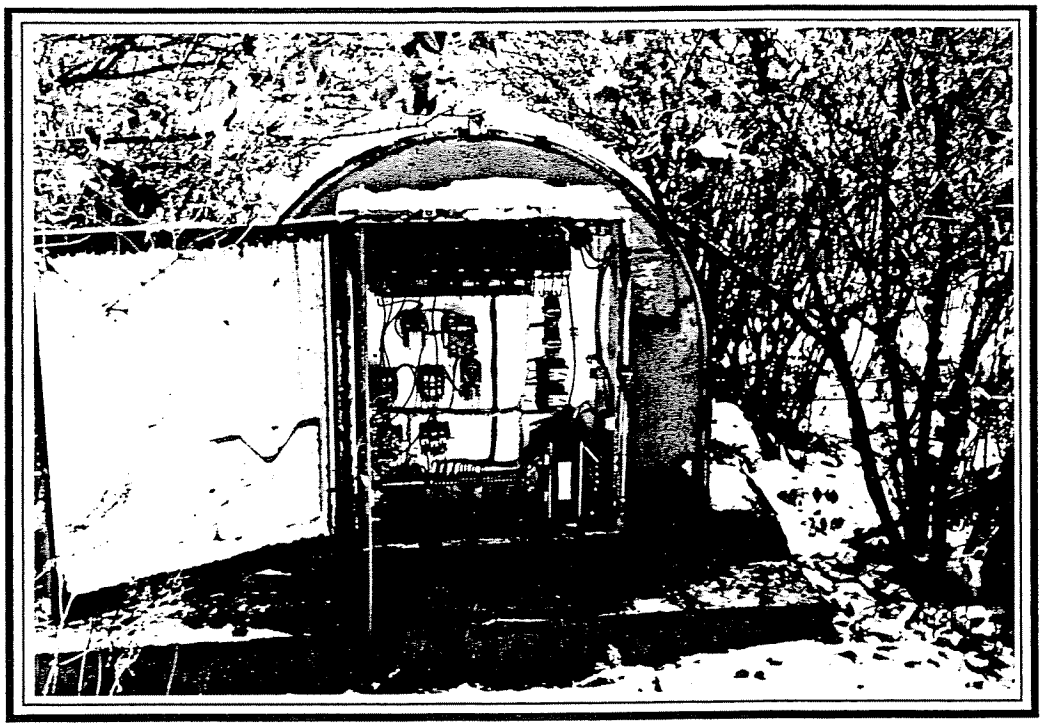


PHOTO 19 : Pump Control

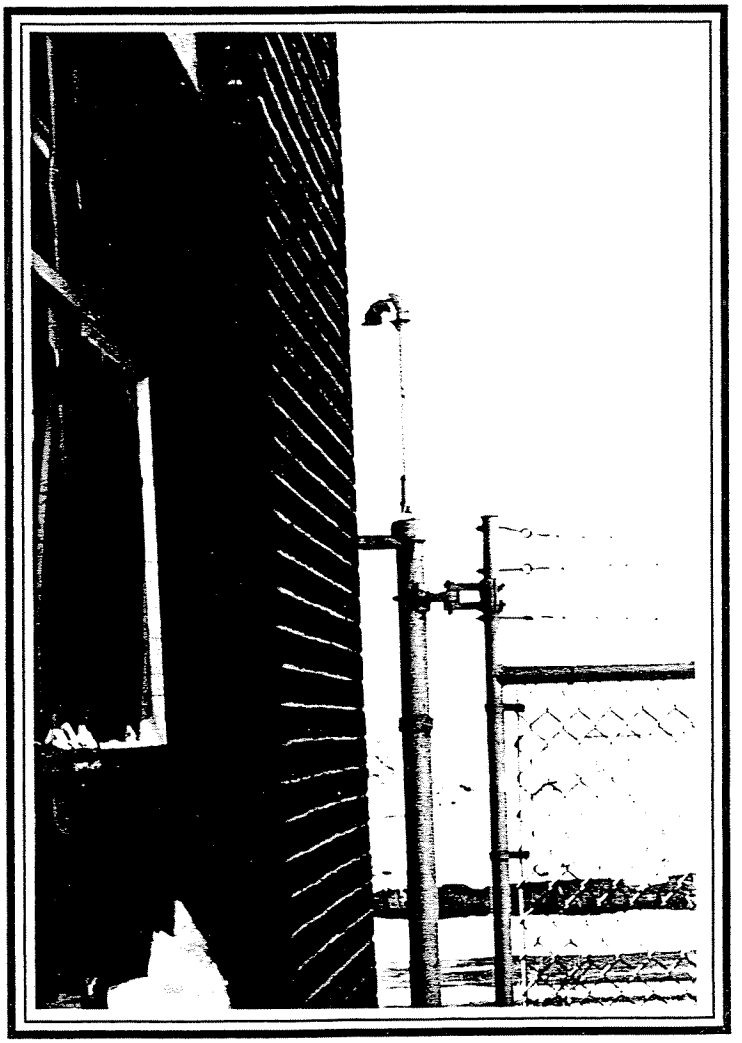


PHOTO 20 : Vent Pipe

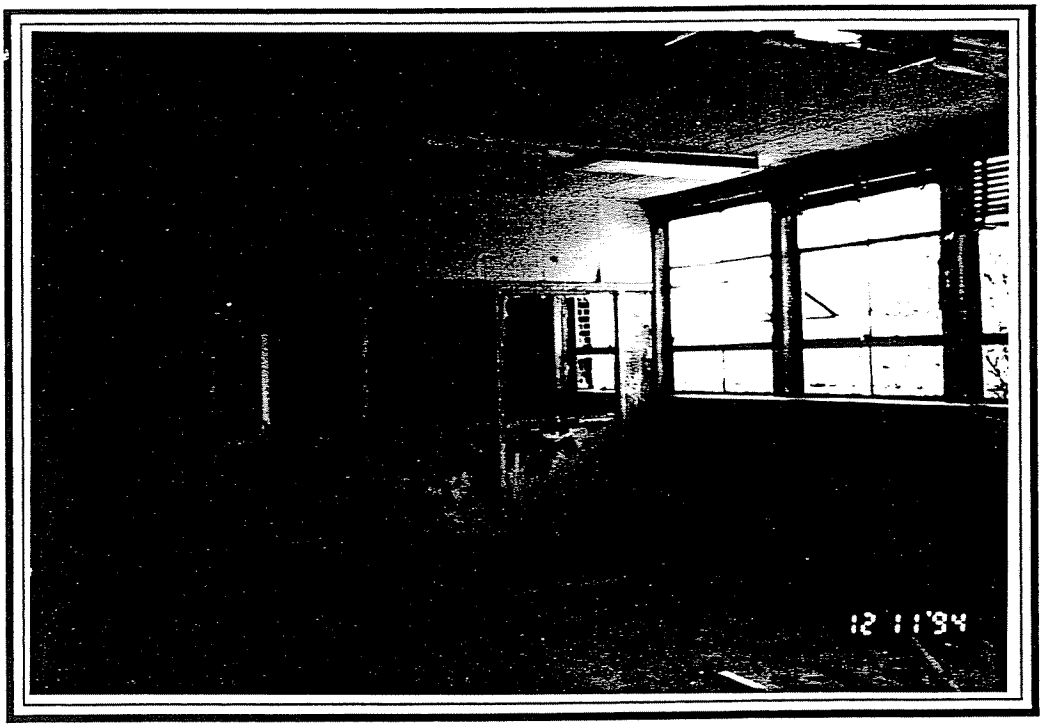


PHOTO 21 : Inside Office

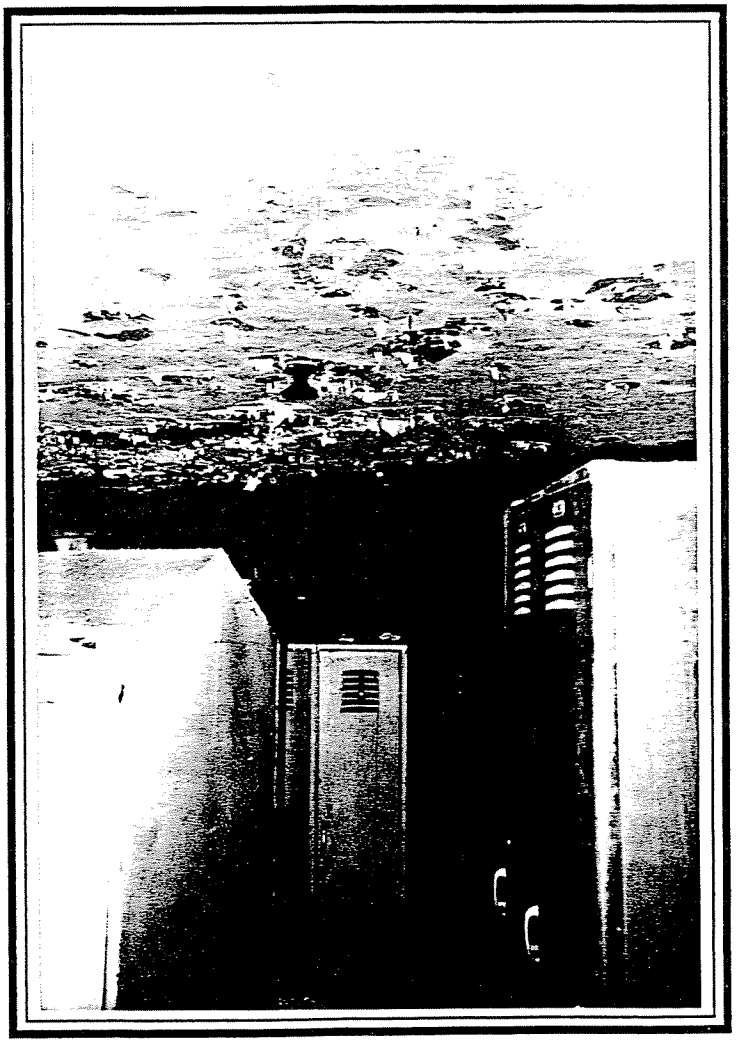


PHOTO 22 : Locker Room

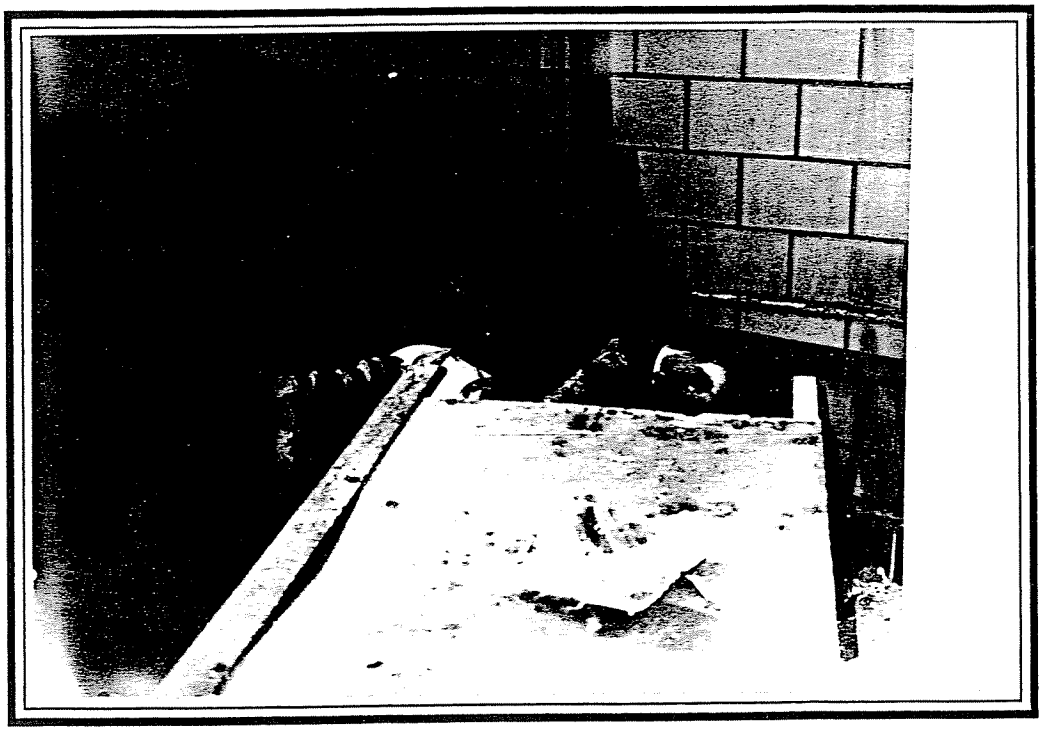


PHOTO 23 : Mechanical Room

PHOTO 24 : Warehouse Interior

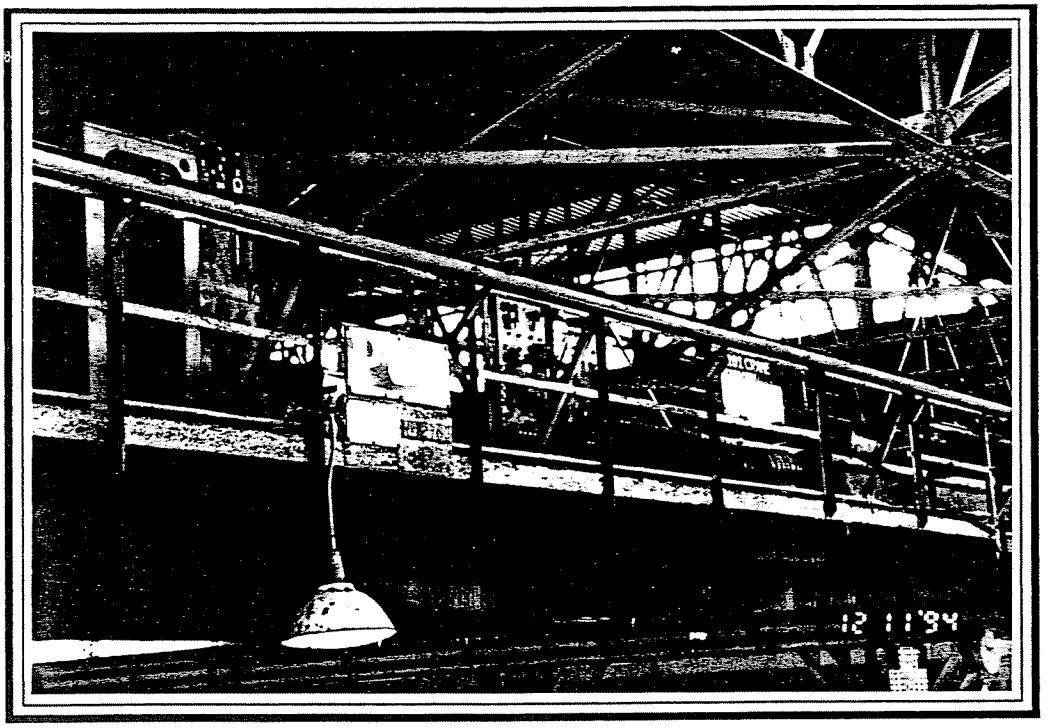


PHOTO 25 : Overhead Crane

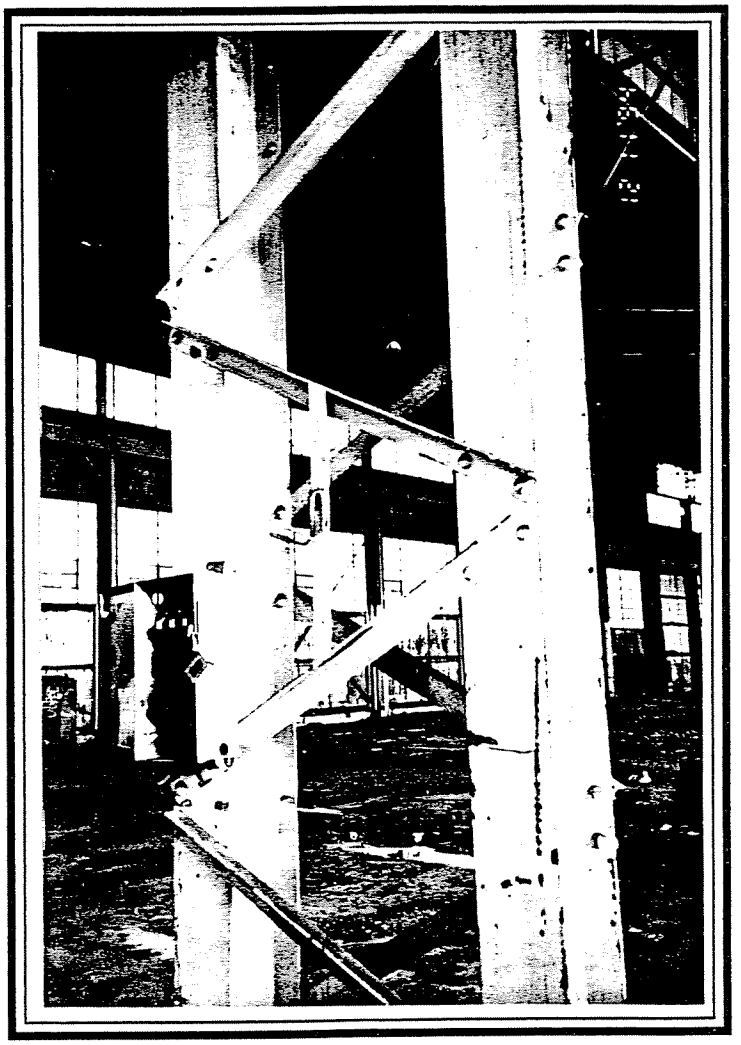


PHOTO 26 : Support W/ Lead Paint

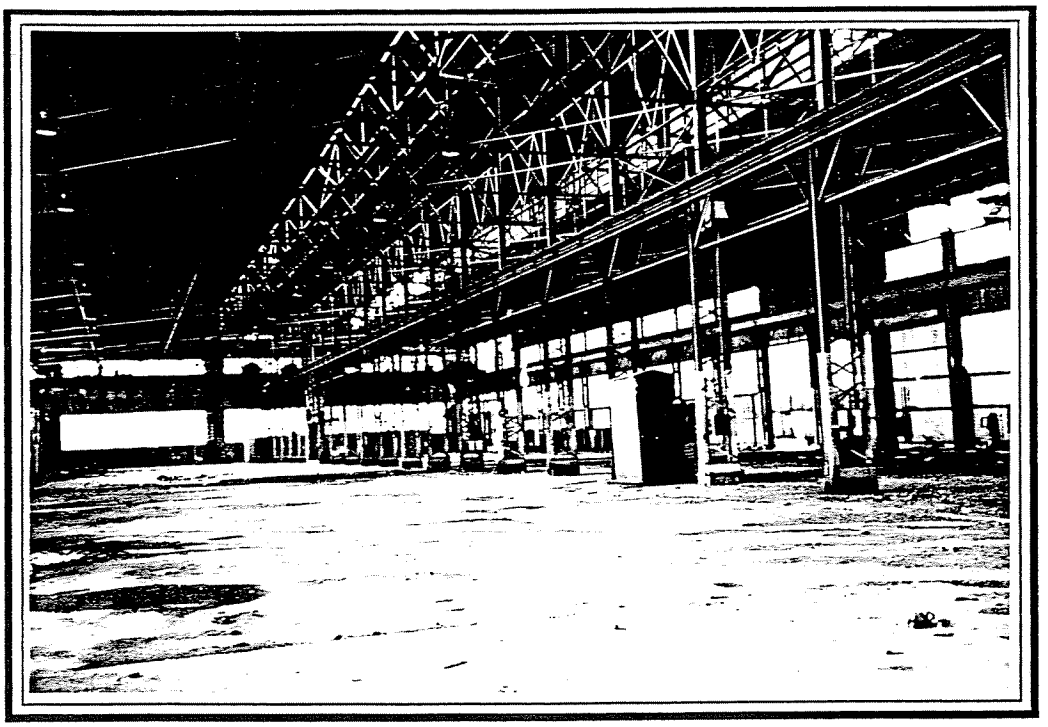


PHOTO 27 : Warehouse Interior

PHOTO 28 : Control Panel

PHOTO 29 : Electrical Panels

PHOTO 30 : Drums

APPENDIX C

Analytical Testing Results

WASTE STREAM TECHNOLOGY

Laboratory Chronicle

Report Date : 12/5/94
Group Number : 9401-302

Prepared For :
Mr. Jack Curtis
ENASCO
100 Leslie St.
Buffalo, NY 14211

Site : South Park

Field and Laboratory Information

Client Id	WST Lab #	Matrix	Date Sampled	Date Received	Time
001	WS09904	Soil	11/16/94	11/16/94	1555
002	WS09905	Soil	11/16/94	11/16/94	1555
003	WS09906	Soil	11/16/94	11/16/94	1555
004	WS09907	Soil	11/16/94	11/16/94	1555
005	WS09908	Soil	11/16/94	11/16/94	1555
006	WS09909	Soil	11/16/94	11/16/94	1555
004A	WS09910	Water	11/16/94	11/16/94	1555
L1	WS09911	Solid	11/16/94	11/16/94	1555
L2	WS09912	Solid	11/16/94	11/16/94	1555
L3	WS09913	Solid	11/16/94	11/16/94	1555
Sample Status Upon Receipt : No irregularities.					

Analytical Services

Analytical Parameters	Number of Samples	Turnaround Time
8021	7	Standard
8270	7	Standard
TCLP Lead	7	Standard
Total Lead	3	Standard

Report Released By : Daniel W. Voe

ENVIRONMENTAL LABORATORY ACCREDITATION
CERTIFICATION NUMBER (ELAP) 11179

WASTE STREAM TECHNOLOGY

METHODOLOGIES

The specific methodologies employed in obtaining the analytical data reported are indicated on each of the result forms. The method numbers shown refer to the following U.S. Environmental Protection Agency Reference:

U.S. Environmental Protection Agency, "Method for Chemical Analysis of Water and Wastes," EPA 600/4-79-020, March 1983 Revision.

U.S. Environmental Protection Agency, "Test Methods for Evaluating Solid Waste - Physical/Chemical Methods," Office of Solid Waste and Emergency Response, November 1986, SW-846, Third edition.

U.S. Environmental Protection Agency, Federal Register, 40 CFR Part 136, October 1984.

U.S. Environmental Protection Agency, Federal Register, 40 CFR Part 268, Appendix I, November 1986.

ORGANIC DATA COMMENT PAGE

Laboratory Name - Waste Stream Technology

USEPA Defined Organic Data Qualifiers:

U - Indicates compound was analyzed for but not detected.

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicates the presence of a compound that meets identification criteria, but the result is less than the sample quantitation limit but greater than zero.

C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.

B - This flag is used when the analyte is found in the associated blank as well as the sample.

E - This flag identifies all compounds whose concentrations exceed the calibration range of the GC/MS instrument or that specific analysis.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.

G - Matrix spike percent recovery is greater than expected upper limit of analytical performance.

L - Matrix spike percent recovery is less than the expected lower limit of analytical performance.

Waste Stream Technology Inc.

3051/6010 ICP Result Report

Site : South Park
Date Sampled : 11/16/94
Date Received : 11/16/94 @ 1555

Group Number : 9401-302
Report Units : mg/kg
Matrix : Solid

WST Lab ID	Client ID	Date Digested	Date Analyzed	Total Lead
WS09911	L1	11/19/94	11/21/94	490
WS09912	L2	11/19/94	11/21/94	700
WS09913	L3	11/19/94	11/21/94	89100
MB111994-3	NA	11/19/94	11/21/94	< 13.2

MB denotes Method Blank.

NA denotes Not Applicable.

Total Pb Detection Limit: 13.2 mg/kg

WASTE STREAM TECHNOLOGY

Waste Stream Technology Inc.

3051/6010 ICP Result Report

Site : South Park
Date Sampled : 11/16/94
Date Received : 11/16/94 @ 1555

Group Number : 9401-302
Report Units : mg/L
Matrix : Aqueous

WST Lab ID	Client ID	Date Digested	Date Analyzed	Total Lead
WS09910	004A	11/21/94	11/21/94	0.282

Total Pb Detection Limit: 0.132 mg/L

WASTE STREAM TECHNOLOGY

Waste Stream Technology Inc.

TCLP 3015/6010 ICP Result Report

Site : South Park
Date Sampled : 11/16/94
Date Received : 11/16/94 @ 1555
TCLP Extraction Date : 11/18/94

Group Number : 9401-302
Report Units : mg/L (PPM)
Matrix : TCLP Extraction Fluid

WST Lab ID	Client ID	Date Digested	Date Analyzed	Lead
WS09904	001	11/21/94	11/21/94	< 0.132
WS09905	002	11/21/94	11/21/94	< 0.132
WS09906	003	11/21/94	11/21/94	< 0.132
WS09907	004	11/21/94	11/21/94	< 0.132
WS09908	005	11/21/94	11/22/94	< 0.132
WS09909	006	11/21/94	11/21/94	< 0.132
MB111894-2	NA	11/21/94	11/21/94	< 0.132

MB denotes Method Blank.

NA denotes Not Applicable.

Pb Detection Limit: 0.132 mg/L

WASTE STREAM TECHNOLOGY

WASTE STREAM TECHNOLOGY

TCLP/8270 Base Neutral Extractables Report*

Site : South Park
Date Sampled : 11/16/94
3510 Extraction Date : 11/20/94
TCLP Extraction Date : 11/19/94
Date Analyzed : 11/28/94

Group Number : 9401-302
Date Received : 11/16/94 @ 1555
Sample Matrix : TCLP Extract
Report Units : PPB (ug/L)

	WST Lab ID		WS09904	WS09905	WS09906
	Client ID		001	002	003
Compound	Detection Limit	TCLP Limit**			
anthracene	10	10	U	U	U
fluorene	10	10	U	8.3 J	7.6 J
phenanthrene	10	10	U	12	9.0 J
pyrene	10	10	U	U	U
acenaphthene	10	10	U	7.5 J	7.2 J
benzo[a]anthracene	10	10	U	U	U
fluoranthene	10	10	U	U	U
benzo[b]fluoranthene	10	10	U	U	U
benzo[k]fluoranthene	10	10	U	U	U
benzo[a]pyrene	10	10	U	U	U
dibenzo[a,h]anthracene	10	10	U	U	U
benzo[g,h,i]perylene	10	10	U	U	U
indeno[1,2,3-cd]pyrene	10	10	U	U	U
naphthalene	10	10	U	81	98
chrysene	10	10	U	U	U
Surrogate Compound					
% Recovery		**QC Limit**			
Nitrobenzene-d5		35 - 114	72	79	64
2-Fluorobiphenyl		43 - 116	74	77	62
p-Terphenyl-d14		33 - 141	68	68	52

* NYSDEC Petroleum Contaminated Soil Compound List.

** TCLP limits are based on the attainable detection limits not necessarily those listed for DEC Guidance.

WASTE STREAM TECHNOLOGY

TCLP/8270 Base Neutral Extractables Report*

Site : South Park
Date Sampled : 11/16/94
3510 Extraction Date : 11/20/94
TCLP Extraction Date : 11/19/94
Date Analyzed : 11/28 & 11/29/94

Group Number : 9401-302
Date Received : 11/16/94 @ 1555
Sample Matrix : TCLP Extract
Report Units : PPB (ug/L)

	WST Lab ID		WS09907	WS09908	WS09909
	Client ID		004	005	006
Compound	Detection Limit	TCLP Limit**			
anthracene	10	10	U	U	U
fluorene	10	10	12	11	8.1 J
phenanthrene	10	10	16	13	11
pyrene	10	10	U	U	U
acenaphthene	10	10	10	9.2 J	7.5 J
benzo[a]anthracene	10	10	U	U	U
fluoranthene	10	10	U	U	U
benzo[b]fluoranthene	10	10	U	U	U
benzo[k]fluoranthene	10	10	U	U	U
benzo[a]pyrene	10	10	U	U	U
dibenzo[a,h]anthracene	10	10	U	U	U
benzo[g,h,i]perylene	10	10	U	U	U
indeno[1,2,3-cd]pyrene	10	10	U	U	U
naphthalene	10	10	250	111	70
chrysene	10	10	U	U	U
Surrogate Compound					
% Recovery		QC Limit			
Nitrobenzene-d5		35 - 114	86	78	78
2-Fluorobiphenyl		43 - 116	77	71	75
p-Terphenyl-d14		33 - 141	73	69	81

* NYSDEC Petroleum Contaminated Soil Compound List.

** TCLP limits are based on the attainable detection limits not necessarily those listed for DEC Guidance.

WASTE STREAM TECHNOLOGY

TCLP/8270 Base Neutral Extractables Report*

Site : South Park
3510 Extraction Date : 11/20/94
TCLP Extraction Date : 11/19/94
Date Analyzed : 11/28/94

Group Number : 9401-302
Date Sampled : NA
Date Received : NA
Report Units : PPB

	WST Lab ID		MB112094	
	Client ID		NA	
Compound	Detection Limit	TCLP Limit**		
anthracene	10	10	U	
fluorene	10	10	U	
phenanthrene	10	10	U	
pyrene	10	10	U	
acenaphthene	10	10	U	
benzo[a]anthracene	10	10	U	
fluoranthene	10	10	U	
benzo[b]fluoranthene	10	10	U	
benzo[k]fluoranthene	10	10	U	
benzo[a]pyrene	10	10	U	
dibenzo[a,h]anthracene	10	10	U	
benzo[g,h,i]perylene	10	10	U	
indeno[1,2,3-cd]pyrene	10	10	U	
naphthalene	10	10	U	
chrysene	10	10	U	
Surrogate Compound				
% Recovery		**QC Limit**		
Nitrobenzene-d5		35 - 114	72	
2-Fluorobiphenyl		43 - 116	74	
p-Terphenyl-d14		33 - 141	68	

* NYSDEC Petroleum Contaminated Soil Compound List.

** TCLP limits are based on the attainable detection limits not necessarily those listed for DEC Guidance.

MB denotes Method Blank.

NA denotes Not Applicable.

WASTE STREAM TECHNOLOGY

WASTE STREAM TECHNOLOGY

8270 Base Neutral Extractables Report*

Site : South Park
Date Sampled : 11/16/94
3510 Extraction Date : 11/23/94
Date Analyzed : 11/28/94

Group Number : 9401-302
Date Received : 11/16/94 @ 1555
Sample Matrix : Aqueous
Report Units : PPB (ug/L)

	WST Lab ID	WS09910	
	Client ID	004	
Compound	**Detection Limit**		
anthracene	10	98	
fluorene	10	257	
phenanthrene	10	708	
pyrene	10	102	
acenaphthene	10	177	
benzo[a]anthracene	10	U	
fluoranthene	10	27	
benzo[b]fluoranthene	10	15	
benzo[k]fluoranthene	10	15	
benzo[a]pyrene	10	26	
dibenzo[a,h]anthracene	10	U	
benzo[g,h,i]perylene	10	11	
indeno[1,2,3-cd]pyrene	10	U	
naphthalene	10	850	
chrysene	10	U	
Surrogate Compound			
% Recovery			
Nitrobenzene-d5		132 #	
2-Fluorobiphenyl		54	
p-Terphenyl-d14		44	

* NYSDEC Petroleum Contaminated Soil Compound List.

# denotes recovery outside QC limits.

WASTE STREAM TECHNOLOGY

5030/8021* Results Report

Site : South Park
Date Sampled : 11/16/94
Analysis Date : 11/23/94

Group Number : 9401-302
Date Received : 11/16/94 @ 1555
Sample Matrix : Soil
Report Units : PPB (ug/kg)

	WST Lab ID	WS09904	WS09905	WS09906
	Client ID	TP 001	TP 002	TP 003
Compound	Detection Limit			
Methyl-t-butylether	1250	U	U	U
Benzene	313	U	391	U
Toluene	425	U	684	2330
Ethylbenzene	300	942	1270	3100
m,p- Xylene	563	U	2720	6860
o-xylene	500	U	2130	3970
Isopropylbenzene	300	U	332	648
n-Propylbenzene	350	1680	1230	4990
1,3,5-Trimethylbenzene	200	1260	2000	4530
t-Butylbenzene	263	U	U	U
1,2,4-Trimethylbenzene	263	10600	7320	13300
sec-Butylbenzene	813	U	U	U
p-isopropyltoluene	238	U	U	U
n-Butylbenzene	400	U	4750	9680
Naphthalene	238	15200	15800	24200
Detection Limit Multiplier		2	1	2
Percent Solids		81	82	73
Surrogate Compound				
% Recovery of a,a,a-Trifluorotoluene	QC Limits 83 - 119	122 #	101	131 #

* NYSDEC Petroleum Contaminated Water/Soil Compound List.

# denotes a recovery outside of QC limits due to matrix effects.

WASTE STREAM TECHNOLOGY

5030/8021* Results Report

Site : South Park
Date Sampled : 11/16/94
Analysis Date : 11/23/94

Group Number : 9401-302
Date Received : 11/16/94 @ 1555
Sample Matrix : Soil
Report Units : PPB(ug/kg)

	WST Lab ID	WS09907	WS09908	WS09909
	Client ID	004 TP	005 TP	006 TP
Compound	Detection Limit			
Methyl-t-butylether	2500	U	U	U
Benzene	625	U	U	U
Toluene	850	U	U	U
Ethylbenzene	600	2510	3150	2610
m,p- Xylene	1125	1790	4180	2670
o-xylene	1000	U	2140	3900
Isopropylbenzene	600	U	603	1140
n-Propylbenzene	700	U	3540	4610
1,3,5-Trimethylbenzene	400	1300	5110	3520
t-Butylbenzene	525	U	U	U
1,2,4-Trimethylbenzene	525	8580	12300	6800
sec-Butylbenzene	1625	U	U	U
p-isopropyltoluene	475	U	U	U
n-Butylbenzene	800	2830	10600	5310
Naphthalene	475	10800	21900	9780
Detection Limit Multiplier		1	1	1
Percent Solids		80	81	76
Surrogate Compound				
% Recovery of a,a,a-Trifluorotoluene	QC Limits 83 - 119	134 #	118	115

* NYSDEC Petroleum Contaminated Water/Soil Compound List.

# denotes a recovery outside QC limits due to matrix effects.

WASTE STREAM TECHNOLOGY

5030/8021* Results Report

Site : South Park
Date Sampled : NA
Analysis Date : 11/29/94

Group Number : 9401-302
Date Received : NA
Report Units: PPB

	WST Lab ID	MB112394	
	Client ID	NA	
Compound	Detection Limit		
Methyl-t-butylether	1250	U	
Benzene	313	U	
Toluene	425	U	
Ethylbenzene	300	U	
m,p- Xylene	563	U	
o-xylene	500	U	
Isopropylbenzene	300	U	
n-Propylbenzene	350	U	
1,3,5-Trimethylbenzene	200	U	
t-Butylbenzene	263	U	
1,2,4-Trimethylbenzene	263	U	
sec-Butylbenzene	813	U	
p-isopropyltoluene	238	U	
n-Butylbenzene	400	U	
Naphthalene	238	U	
Detection Limit Multiplier		1	
Percent Solids		NA	
Surrogate Compound			
% Recovery of a,a,a-Trifluorotoluene	QC Limits 83 - 119	111	

* NYSDEC Petroleum Contaminated Water/Soil Compound List.

MB denotes Method Blank
NA denotes Not Applicable.

WASTE STREAM TECHNOLOGY

5030/8021* Results Report

Site : South Park
Date Sampled : 11/16/94
Date Extracted : 11/23/94
Date Analyzed : 11/29/94

Group Number : 9401-302
Sample Matrix : Water
Report Units : PPB (ug/L)

	WST Lab ID	WS09910	MB112394	
	Client ID	004A	NA	
Compound	Detection Limit			
tert-Butylmethyl ether	100	U	U	
Benzene	25.0	32.5	U	
Toluene	34.0	286	U	
Ethylbenzene	24.0	85.8	U	
m,p- Xylene	45.0	322	U	
o-xylene	40.0	254	U	
Isopropylbenzene	24.0	U	U	
n-Propylbenzene	28.0	61.9	U	
1,3,5-Trimethylbenzene	16.0	95.9	U	
tert-Butylbenzene	21.0	U	U	
1,2,4-Trimethylbenzene	21.0	221	U	
sec-Butylbenzene	65.0	U	U	
p-Isopropyltoluene	19.0	U	U	
n-Butylbenzene	32.0	42.3	U	
Naphthalene	19.0	452	U	
Detection Limit Multiplier**		1	1	
Surrogate Compound				
% Recovery	**QC Limit**			
a,a,a-Trifluorotoluene	83 - 117	109	114	

* NYSDEC Petroleum Contaminated Water/Soil Compound List.

MB denotes Method Blank.
NA denotes Not Applicable.

WASTE STREAM TECHNOLOGY

WASTE STREAM TECHNOLOGY
302 GROTE STREET
BUFFALO, NY 14207
(716) 876-5290

CHAIN OF CUSTODY RECORD

PROJECT NO: SOUTH PARK
SITE NAME: SOUTH PARK
SAMPLERS (SIGNATURE): Fuch Curtis

SAMPLE NO.	DATE	TIME	COMP	GRAB	MATRIX	SAMPLE LOCATION	SIZE & NO. OF CONTAINERS	8021	8270/TCLP	TOTAL Pb					PRESERVATIVES	REMARKS
1	11/16	11:45		X	SOIL	001	3	2	1							[illegible]
2	11/16	12:05		X	SOIL	002	3	2	1							05
3	11/16	12:30		X	SOIL	003	3	2	1							06
4	11/16	13:00		X	SOIL	004	3	2	1							07
5	11/16	13:20		X	SOIL	005	3	2	1							08
6	11/16	13:45		X	SOIL	006	3	2	1							09
4A	11/16	12:35		X	WATER	004A	4	3	1							10
L1	11/16	14:06		X	SOLID	L1	1			1						11
L2	11/16	14:12		X	SOLID	L2	1			1						12
L3	11/16	14:23		X	SOLID	L3	1			1						13

RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED BY (SIGNATURE)
Fuch Curtis	[illegible]	[illegible]			
RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED BY (SIGNATURE)
RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED BY (SIGNATURE)	DATE/TIME	REMARKS	

Distribution Original accompanies shipment. Copy to coordinator field files

LAB USE: REFRIGERATOR # ______ SHELF # ______