Work Plan and Design Document Interim Remedial Measure: Removal of PCB-Contaminated Soil

Ward Products Corporation
Amsterdam, New York
Site Code 4-29-004

FOR NYSDEC REVIEW

Prepared by:

RETEC ENGINEERING, P. C.

Under Contract To:

ThermoRetec Consulting Corporation
1001 West Seneca Street, Suite 204
Ithaca, New York 14850-3342

ThermoRetec Project No.: 3-2936-400

Prepared for:

Ward Products Corporation
61 Edson Street
Amsterdam, New York 12010

July 14, 1999

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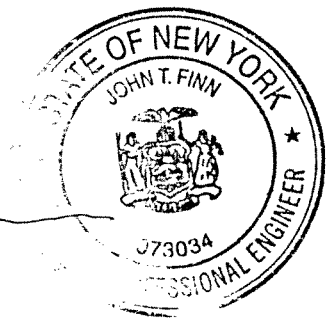
John T. Finn, Professional Engineer



Technically Reviewed by:

Al Larson, Project Manager - Normandeau Associates

July 14, 1999

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Statement of Limitations

Work for this project was performed, and this remedial design prepared, in accordance with generally accepted professional practices for the nature and condition of the work completed in the same or similar localities, at the time the work was performed. It is intended for the exclusive use of Normandeau Associates and Ward Products Corporation for specific application to Ward Products site in Amsterdam, New York. No other warranty, express or implied, is made.

1 Introduction

This document presents the Work Plan and detailed design for the interim remedial measure (IRM) addressing the PCB-contaminated soil at the Ward Products facility in Amsterdam, New York. It has been prepared in accordance with Section V. of the Consent Order (NYSDEC, 1997), and combines the required "Work Plan" and "detailed design specifications" into a single document. A similar Work Plan has been prepared for the Drain Pipe IRM at this site (RETEC, 1999).

The Report on Remedial Investigations (Normandeau, 1998) identified surface soils containing PCBs collected from the area around the Niagara Mohawk Power Corporation (NMPC) transformer pad. PCBs have not been used in Ward's manufacturing operations. The suspected source is a past release from the transformers owned by NMPC. Additional sampling and analysis of soils in this area was conducted by NMPC (NMPC, 1998). The samples collected under both investigations indicate that a limited quantity of surficial soil is contaminated at concentrations up to 11 mg/Kg, which is greater than the NYSDEC cleanup objective level of 1 mg/Kg (1 ppm) PCBs. Presently, this area is covered with gravel and general access to the area has been restricted.

This document describes the rationale, general plan, and detailed procedures for removal of the PCB-contaminated soil above the NYSDEC cleanup objectives.

1.1 Site Description

The site lies in an industrial area on the north side of Edson Street Extension. The site encompasses 8.6 acres and consists of a large paved parking lot in the western third of the property, a 69,556 square-foot single story building, and a lawn area in the southern and eastern portions of the property. The transformer pad is a 30 ft x 30 ft fenced gravel and concrete area located close to the building in the eastern lawn area.

The sample locations and summary of results for PCBs in soil were presented in the report by NMPC and is provided in Appendix A.

Recent photographs of the transformer pad area are provided in Appendix B.

The Report on Remedial Investigations provides a more complete description of the stratigraphy and hydrogeology, as well as the results of the environmental investigations.

1.2 IRM Project Responsibilities

The principal organizations involved in designing, and construction of the IRM at the site will be Ward Products Corporation, NYSDEC, RETEC, Normandeau, and Contractors.

1.2.1 Ward Products Corporation

As the site Owner, Ward is responsible to NYSDEC for the IRM design, construction, and evaluation, in accordance with the Order on Consent. Ward has the authority to monitor and control the quality of construction and related activities to ensure conformance with the engineering design plans and specifications. Ward has the authority to select and dismiss the contractors used to assist them with fulfilling these responsibilities. Ward also has the authority to select and accept or reject design plans and specifications, and materials and workmanship of the contractors and subcontractors.

1.2.2 New York State Dept. of Environmental Conservation (NYSDEC)

NYSDEC will review Ward's remedial designs, plans, and specifications for substantial compliance with the agency's regulations. Any substantial deviations from the requirements or approved design plans and their potential effect on the schedule must be approved by NYSDEC.

1.2.3 RETEC Engineering, P.C.

RETEC is the Engineer responsible for the IRM design. RETEC will also be conducting field engineering during the work and will make recommendations to Ward regarding field decisions during construction. They will prepare the Final Engineering Report.

1.2.4 Normandeau Associates Inc.

Normandeau will provide technical assistance during the project, especially regarding the interpretations of test results and observations made during the excavation and sampling activities.

1.2.5 Contractors

The Contractors referred to in this Work Plan will be selected by Ward from among qualified companies. The Contractors will be responsible for the performance of the work in accordance with the drawings and specifications incorporated in this Work Plan. All Contractors will be given a copy of the Order on Consent and will be required to comply with it as a condition of their contracts.

1.3 Project Approach

The the objective of this IRM is to remove accessible soil containing PCBs above the NYSDEC TAGM 4046 limits of 1 mg/Kg for surface soils and 10 mg/Kg for subsurface soils. For remediation of PCB-contaminated soils, NYSDEC and NYSDOH generally define surface soils as soils from 0 to 1 foot in depth, and subsurface soils as deeper than 1 foot. Accessible soils are soils readily excavated by conventional equipment and not lying beneath the building or the concrete transformer pad. The previous investigations indicate that the soil containing PCBs at concentrations greater than 1 mg/Kg are present in a limited area and to a depth of less than six inches. The project approach will be to remove the top eight inches of soil in this area, and collect four sidewall and four bottom confirmatory samples. The volume of soil to be excavated is estimated to be six cubic yards.

The scope of work for this IRM will include the following actions:

- Prepare the area and excavate soil.
- Transport, and off-site disposal
- Collect and analyze confirmatory soil samples
- Backfill area with clean soil and gravel

The details of these actions are described in **Section 2** of this Work Plan. General requirements and general specifications for conducting the work are described in **Section 3** of this Work Plan. Design drawings are included in this Work Plan.

If at any time during the course of this work the conditions at the site are substantially different than anticipated in this Work Plan, affecting the purpose of the work or the health and safety of the workers or Ward employees, the work area will be returned to a safe condition and work will be temporarily halted. A meeting will then be convened among representatives of NYSDEC, Ward, Normandeau, and RETEC to determine the appropriate actions and modifications to this work plan, the health and safety plan. Work will then resume in accordance with the revised plan.

1.4 Schedule

The optimal time to conduct this work will be a dry period in late August or in September. We recommend that the work be conducted prior to the IRM for the drain pipe, so that PCB-contaminated soils are not present in the area and will not interfere with the drain pipe work. The initial excavation will take one day, followed by two days for rush laboratory analyses of confirmatory soil samples. If confirmatory samples indicate that additional excavation is necessary to attain the cleanup objectives, then the schedule would be extended by an additional day of excavation.

2 Removal of PCB-Contaminated Soil

2.1 Performance Criteria and Design Basis

Excavation, transportation, and off-site disposal of low-level PCB-contaminated soils located near the NMPC transformer pad will provide for protection of human health and the environment. The following performance criteria apply:

1. Excavate accessible soil which contains PCBs at concentrations greater than the TAGM 4046 guidance values.

2. Avoid damaging the adjacent building and transformer pad.

3. Collect sidewall and bottom samples for laboratory analyses to confirm that soils exceeding TAGM 4046 guidance values have been excavated and to document the quality of soils remaining.

2.2 Technical Specifications

The Construction Drawing for the excavation and stockpiling is presented in Figure 2-1.

2.2.1 General

1. Contractor shall comply with the health and safety requirements for earthwork construction and trenching in accordance with OSHA regulations 40 CFR 1926 as well as the hazardous waste operator requirements of 40 CFR 1910 and the IRM Health and Safety Plan incorporated into this IRM Work Plan.

2. Establish locations of adjacent structures and pipes, including overhead electrical line from the transformer substation to the building and any subsurface utilities in the area of the excavation.

3. Contractor shall take all due care to avoid damage to the electrical line, electrical substation fencing and structures, building structures, and all other structures on the property, including all monitoring wells. Known subsurface utilities in the area include a drain pipe.

4. The Contractor shall maintain dust levels below NYSDEC TAGM 4031 requirements.

In the Technical Execution Plan referred to in Section 3 (and to be approved by RETEC), the Contractor shall describe the equipment and methods to be used for excavation, staging, and transportation of materials, and the locations and names of the trucking companies to be used.

2.2.2 Earthwork

The Contractor's sequence of activities shall be as follows:

1. If soil is to be stockpiled and not directly placed in containers for transportation, then prior to starting excavation, place and maintain until work is complete, a double-layer of 10 mil (minimum) plastic sheeting as a soil stockpile liner and cover.

2. Prior to starting excavation, place and maintain an equipment and personnel decontamination area, in accordance with the decontamination provisions of Section 3.

3. Excavate soil to the limits shown in Figure 2-1. Place excavated soil directly in containers for off-site transport, or place in lined and covered stockpile.

4. Stage all work to allow for emergency vehicle access to the electrical substation at all times.

5. Allow for sidewall and bottom samples to be conducted by the Engineer. Allow a 48-hour turnaround time for analytical results prior to additional excavation or backfilling.

6. Decontaminate equipment in accordance with Section 7.3.3

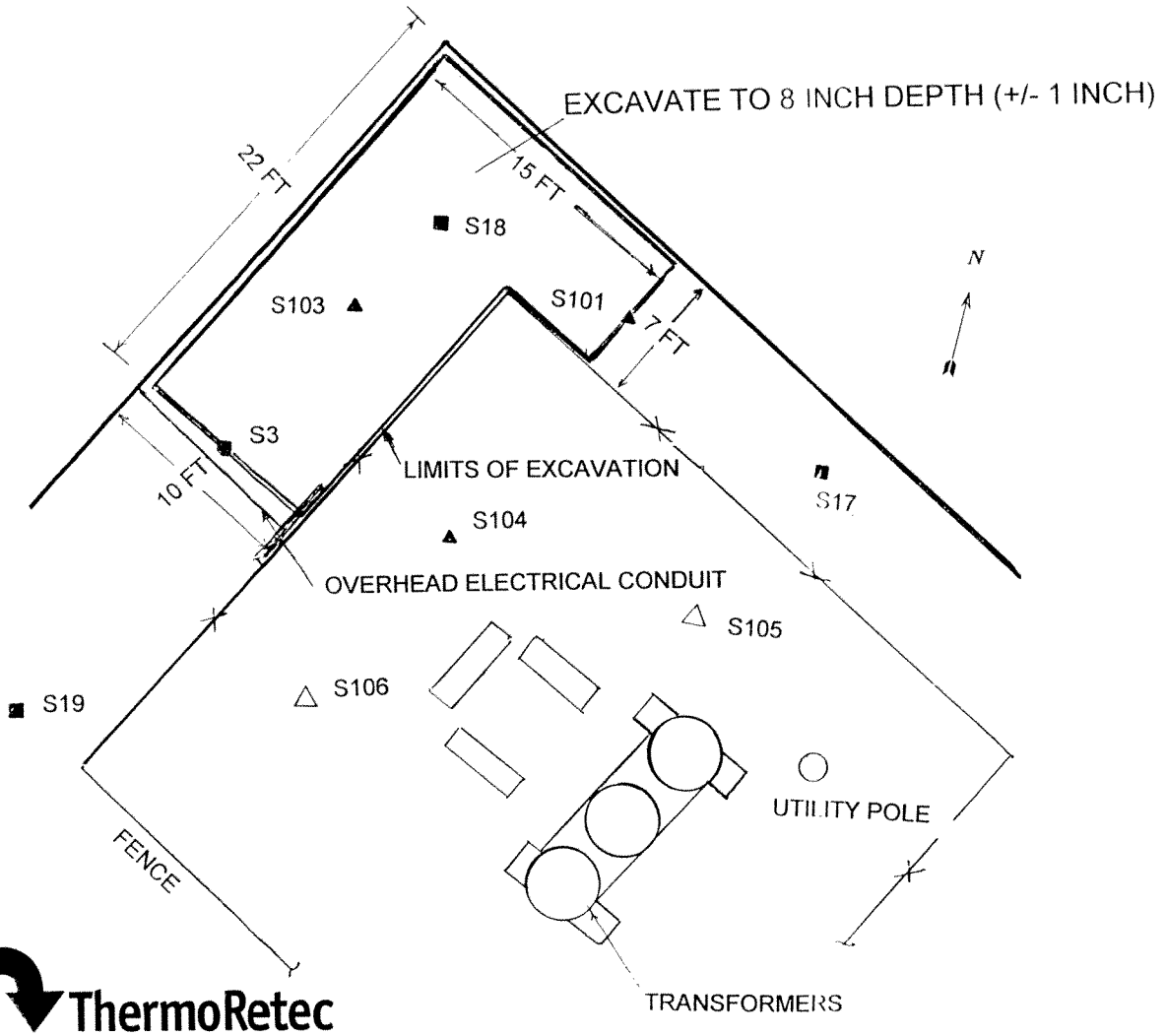
7 If Engineer's evaluation of the analytical results indicates that additional excavation is required, excavate additional soil identified by the Engineer, using procedures 1 through 6, above.

8. Upon approval by Engineer, the excavation shall be backfilled with clean run-of-bank gravel provided by the Contractor. The gravel shall be compacted with an excavator bucket.

2.2.3 Profiling, Transportation and Disposal

The Contractor shall profile, manifest, and transport the excavated soil to off-site disposal facilities designated by Ward Products. Ward Products will contract directly with the disposal facilities to be used. The names and locations of these facilities will be provided to potential Contractors in the Invitation to Bid.

Immediately following the completion of these activities, the Contractor shall remove all equipment, PPE, plastic sheeting, and other materials so that the work area is restored to a neat condition.



ThermoRetec

PCB Soil

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3 General Requirements

This section describes the general requirements for conducting the work, including health and safety requirements, quality assurance, the Technical Execution Plan, environmental monitoring and control, and project reporting.

3.1 Health and Safety

A health and safety plan (HASP) for the Engineer's activities for this project is provided under separated cover. A health and safety plan shall be prepared by the Contractor responsible for the work described in Section 2 prior to the start of work. It shall satisfy the requirements of industry standards for work at hazardous waste sites (29 CFR 1910.120), standards for the construction industry (29 CFR 1926), general industry standards (29 CFR 1910), and standards for specific hazardous materials (29 CFR 1900.1000). Subjects covered in the HASP shall include:

- Health & Safety Risk Analysis
- Personal Protective Equipment
- Air Monitoring & Action Levels
- Site Control
- Decontamination
- Emergency Response Plan
- Lockout/Tagout
- Heavy Equipment Operations
- Excavation and Trenching
- Material Safety Data Sheets
- Health and Safety Records and Reports

The Engineer will make available to this Contractor for review a copy of the Engineer's HASP. The Contractor's HASP shall be at least as stringent as the Engineer's.

Prior to the work, this Contractor shall provide to the Engineer evidence (photocopies) of the following items for each person who will be entering the work zone:

- Respirator fit test
- OSHA 40 hour training or 8 hour refresher training
- Annual physical

Persons without these items both on-file and up-to-date with the Engineer will not be allowed to enter the work zone.

Hours of operation shall be daylight hours between 8 AM and 5 PM, Monday through Friday, unless otherwise allowed in writing by Ward.

3.2 Quality Assurance

This work will utilize the quality assurance procedures established in the Remedial Investigation Work Plan (Normandeau, 1997). We anticipate using Adirondack Laboratories, the laboratory used for the Investigation, with ASP short form deliverables.

3.3 Technical Execution Plan

A Technical Execution Plan shall be prepared by the Contractor(s) during the bidding process for this work and submitted with the Contractor(s)' bid for the Engineer's review and for Ward's approval. It shall describe the materials, equipment, methods, and schedules to be used to perform the work. It shall provide resumes of key project personnel. It shall provide the names, addresses, contact persons, and other information relevant to the Contractor's proposed trucking subcontractors for hazardous and non-hazardous solids. The selected Contractor(s) may be required by the Engineer to provide additional clarifications to their Plan prior to, and during the course of, the work.

3.4 Environmental Monitoring and Control

Environmental monitoring and mitigation procedures will be followed to manage impacts during construction and to control fugitive emissions.

3.4.1 Erosion and Sedimentation Control

Erosion and sedimentation control are not anticipated to be major issues for this work because the work area is surrounded by buildings and a grass lawn. However, the Contractor shall comply with general erosion and sedimentation control practices.

3.4.2 Dust, Vapor, and Odor Monitoring

In accordance with 29 CFR 1910.120(h), an on-site air monitoring program will be implemented by the Engineer to identify and quantify airborne levels of hazardous substances to determine the appropriate level of employee protection required for personnel working on-site.

In addition to the work area monitoring program, the Engineer will monitor community air quality upwind and downwind of the work area to provide real-time estimates of total hydrocarbons, odor and particulate releases to the community as a result of remedial activities.

Methods for monitoring work area air quality are addressed in the Engineer's HASP. Although chlorinated VOCs are not anticipated to be encountered during this work, as a precautionary measure, the Engineer will include the use of a PID with an 11.7 V bulb for chlorinated VOCs, compound-specific Draeger tubes for TCE and vinyl chloride, and a MiniRam monitor for real-time dust monitoring. Measurements of these air quality parameters will be made at least once each working day.

The results of the monitoring will be used by the Engineer to ensure that all action levels outlined in the HASP are followed. As the IRM proceeds, it may be necessary for the Contractor, at the Engineer's request, to control compounds or odors which are released due to the Contractor's activities. Either the rate of excavation shall be reduced or engineering controls such as polyethylene sheeting shall be used as necessary to cover the exposed materials.

3.4.3 Mobilization, Demobilization, Decontamination

Ward will provide designated equipment lay down areas to the Contractor. The Contractor shall confine their operations to the areas designated by Ward.

During the remedial activities, the work areas shall be secured and barricaded (temporary fencing, cones and caution tape) to ensure the safety of the Ward facility workers, visitors and Contractor's personnel.

During the course of this work, the Contractor shall :

- Avoid (or repair at no cost to Ward) damage to existing structures, and
- Avoid adverse effects to human health and the environment.

- Contractor shall not disrupt or hinder the work of others.
- All work shall be conducted in accordance with all OSHA and local regulations.
- Trucking of all materials both on- and off-site shall be done in accordance with applicable DOT standards. Trucks hauling materials to and from the site shall use only designated haul roads and shall ensure that the remedial activity does not conflict with other Ward operations.
- Equipment and personnel which come in contact with impacted materials shall be cleaned prior to demobilization from the site. Equipment decontamination procedures shall consist of a steam cleaning to the Engineer's satisfaction on a decontamination pad with a sump.
- All decontamination water shall be containerized on-site. Prior to transport and disposal, the water shall be tested by the Contractor according to the acceptance criteria of the Contractor's receiving facility.
- Soil collected on the decontamination pad shall be combined with other excavated soil and disposed of at the Contractor's receiving facility.
- Small quantities of visibly contaminated PPE, plastic and miscellaneous materials shall be containerized, tested by the Contractor and shipped off-site to the Contractor's receiving facility.

3.5 Project Reporting

During the course of the work, the Contractor shall regularly provide to the Engineer:

- Daily field logs and cost sheets
- Weekly progress reports (if work continues for more than one week),
- Equipment and material testing records, including analytical results, and
- Weigh tickets

During the course of the work, the Engineer shall regularly provide weekly Progress Reports to Ward and NYSDEC which will include:

- The previous week's actions,
- Next weeks's planned actions,
- Sampling and analytical results,
- Design changes and other modifications to the Workplan, and
- Revised project schedules.

Upon completion of the IRM activities, the Engineer will prepare a Final Engineering Report, approved by a professional engineer licenced in the state of New York. The report will be incorporated into the report for the Drain Pipe IRM, and following items will be included in the report:

- A description of all field work,
- As-built drawings,
- All pertinent analytical results,
- Copies of the bills of lading and manifests from the disposal of materials, and
- Status of the site upon completion,

An IRM Operation & Maintenance Plan will not be applicable to this IRM, as there are no operational activities associated with this IRM.

4 References

Niagara Mohawk Power Corporation, 1998. Letter Report, "Limited Soil Investigation," December 22, 1998.

Normandeau Associates, Inc., 1997. Remedial Investigation Work Plan, Ward Products Corporation, June, 1997.

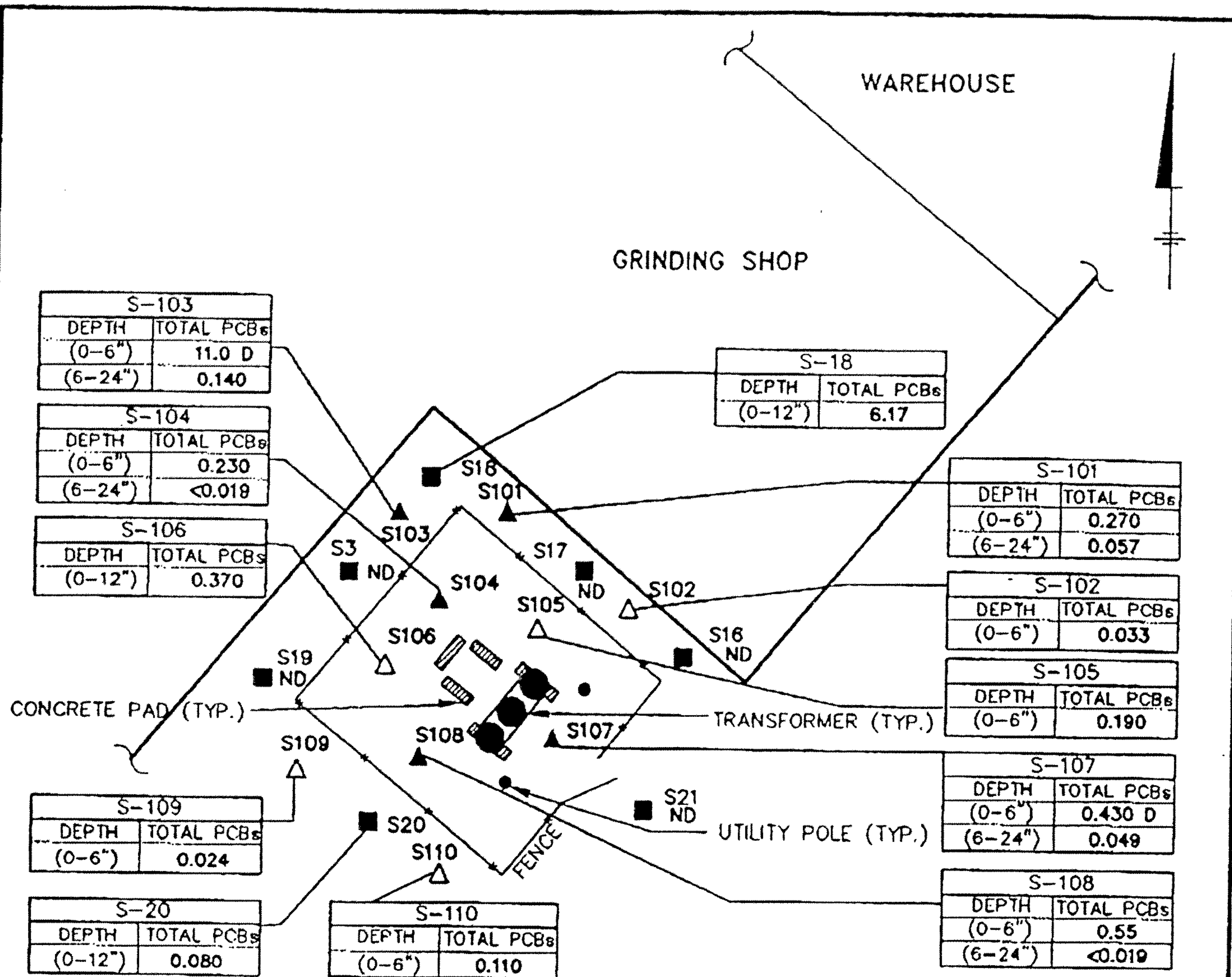
Normandeau Associates Inc., 1998. Report on Remedial Investigations, Ward Products Corporation, October, 1998.

RETEC, 1999. Work Plan and Design Document, Interim Remedial Measure: Drain Pipe. Submitted for NYSDEC Review June 23, 1999.

State of New York, 1997. Order on Consent, Ward Products, Inc. Index # w4-0762-96-06, Site Code #4-29-004.

APPENDIX A

PCBs in Soil
Summary of Analytical Results from Previous Investigations



NOTES:

1. BASE MAP AND PREVIOUS SOIL SAMPLE LOCATIONS DIGITIZED FROM FIGURE ENTITLED "EXTERIOR SOIL SAMPLING LOCATIONS NEAR GRINDING SHOP AND TRANSFORMER PAD," FIGURE 6, PREPARED BY NORMANDEAU ASSOCIATES, DATED JUNE 24, 1998.
2. ALL SAMPLING LOCATIONS AND SITE FEATURES ARE APPROXIMATE.
3. ppm = PARTS PER MILLION.
4. ND = NOT DETECTED ABOVE LABORATORY DETECTION LIMITS.
5. < = EACH AROCLOR NOT DETECTED ABOVE THE PRESENTED CONCENTRATION.
6. D = COMPOUND DETECTED IN THE ANALYSIS AT A SECONDARY DILUTION FACTOR.

LEGEND:

△ S109 SURFACE SOIL SAMPLING LOCATION

▲ S107 SURFACE AND SUBSURFACE SOIL SAMPLING LOCATION

■ PREVIOUS SOIL SAMPLE LOCATION

S-20	
DEPTH	TOTAL PCBs
(0-12")	0.080

S-20 — SAMPLE ID.

0.080 — PCB RESULTS (ppm)

(0-12") — SAMPLE DEPTH (INCHES)

0 20' 40'

APPROXIMATE SCALE IN FEET

NIAGARA MOHAWK POWER CORPORATION
WARD PRODUCTS CORPORATION SITE
AMSTERDAM, NEW YORK

LIMITED SOIL INVESTIGATION

SOIL SAMPLE RESULTS FOR PCBs (ppm)

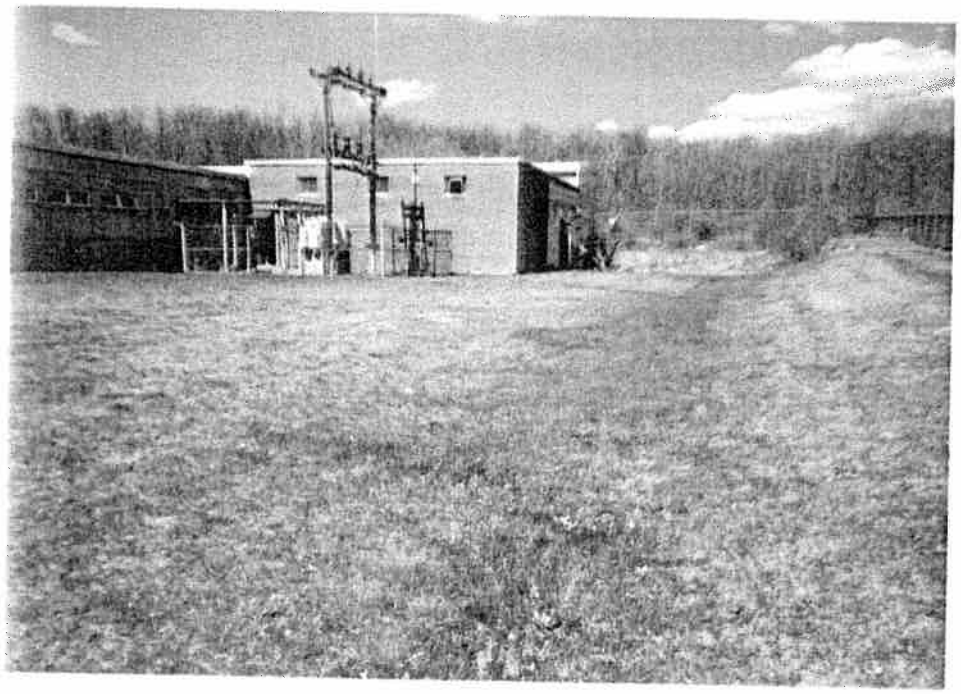
BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE 2

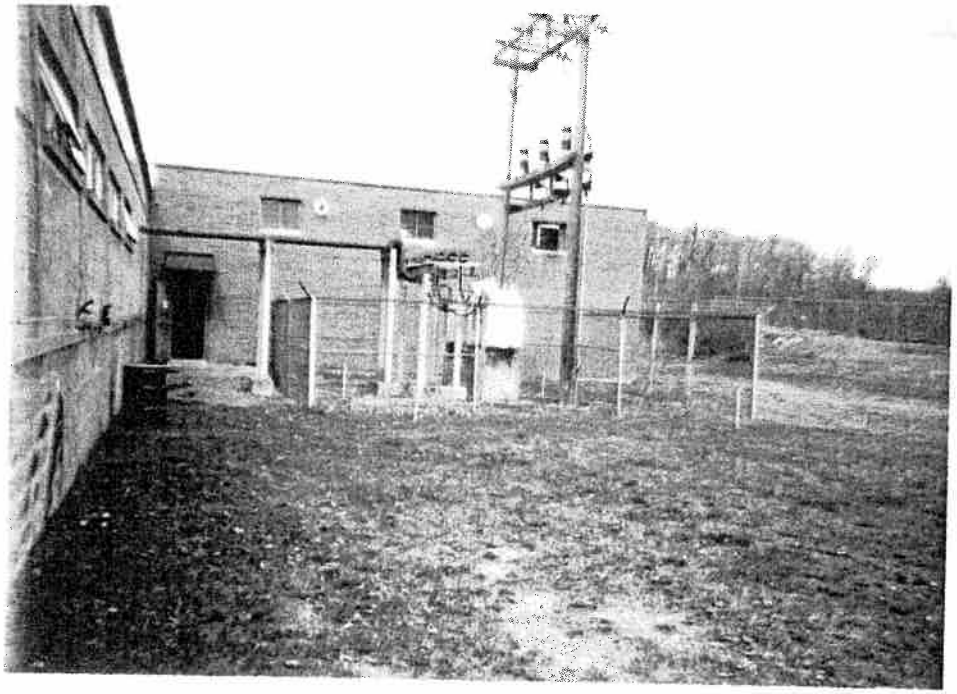
L:ON=*,OFF=REF
P: STD-PCP/AP
12/21/98 SYR-54-PGL RCB

APPENDIX B

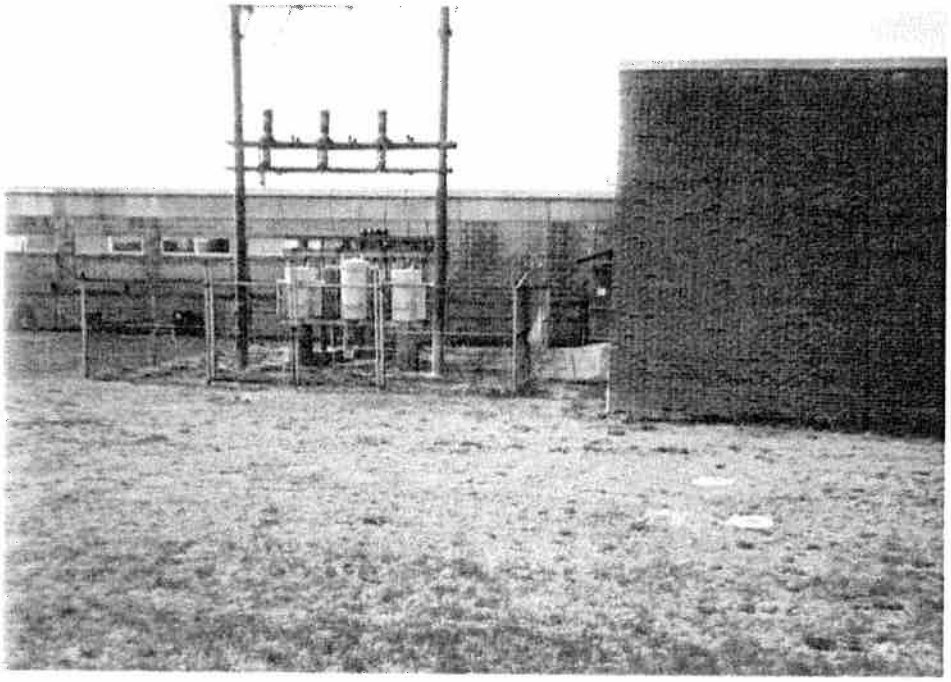
Photographs



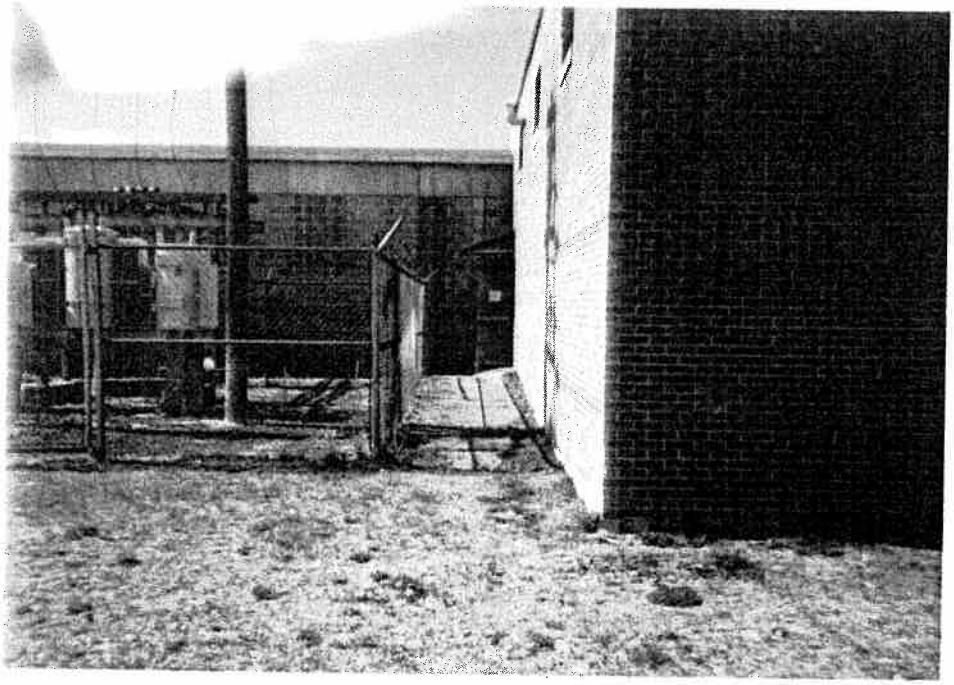
1. View north. Ward Products building and NMPC transformer pad.



2. View northeast. NMPC transformer pad.



3. View northwest. NMPC transformer pad.



4. View northeast. NMPC transformer pad.