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FINAL REMEDIATION REPORT

WORK ASSIGNMENT D003825-6

ROBESON INDUSTRIES SITE
CASTILE (T)

SITE NO. 9-61-008
WYOMING (C), NY

Prepared for:
NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
50 Wolf Road, Albany, New York

John P. Cahill, Commissioner

DIVISION OF ENVIRONMENTAL REMEDIATION

URS Greiner Woodward Clyde
282 Delaware Avenue
Buffalo, New York 14202

G27668

October 1999

FINAL REMEDIATION CONSTRUCTION REPORT
ROBESON INDUSTRIES SITE REMEDIATION
CASTILE, NEW YORK

NYSDEC SITE NO. 9-61-008

Prepared For:

NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION
WORK ASSIGNMENT D003825-6

OCTOBER 1999

Prepared By:

URS GREINER WOODWARD CLYDE
282 DELAWARE AVENUE
BUFFALO, NEW YORK 14202

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AT

ROBESON INDUSTRIES SITE REMEDIAL ACTION

CASTILE, NEW YORK

URS Greiner Woodward Clyde personnel have inspected the remedial action construction at the Robeson Industries Site according to generally accepted practices. Based on: field observations and inspections made by onsite personnel; field and laboratory test data; and data provided by the Contractor and its subcontractors, the remedial action construction at the site is considered to have been performed in substantial compliance with the NYSDEC Contract Documents and as stated in this report.

URS Greiner Woodward Clyde certifies that the remedial action is operational and functional.

The work was inspected and documented by competent people under my direct supervision.

OCTOBER 1999

Signature: James Lanzo

James Lanzo, P.E.

Date: 10/1/99

1.0 INTRODUCTION

1.1 Purpose and Scope

This Final Remediation Construction Report has been prepared to document the construction phase (including start-up and operation for one year) of the remedial action at the Robeson Industries site as required under Task 2.3 of Work Assignment D003825-06. This report shows that only approved methods, materials, and equipment, as required by the Contract documents, were used unless otherwise described in the following sections on variances and change orders. Provided within this document are:

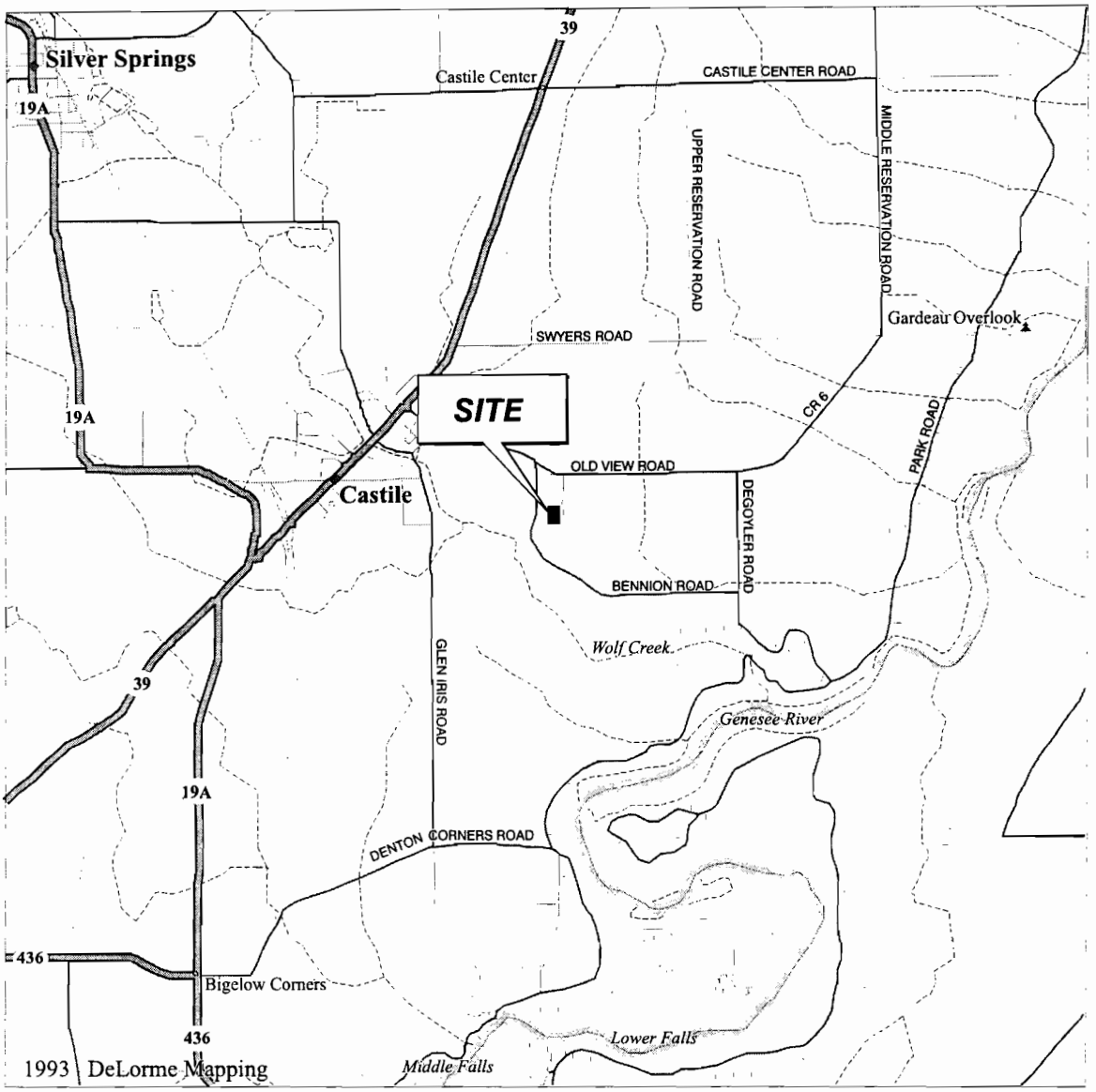
- Certification by a Professional Engineer licensed to practice in New York State
- Record Drawings
- Discussion of any variances and change orders.

1.2 Site History

The Robeson Industries site is located on a 21-acre parcel approximately 1 mile southeast of the Town of Castile in Wyoming County, New York (Figure 1). Cutlery and small appliances were manufactured and warehoused at the site from 1953 to 1989. The facility includes the original building constructed in 1953 (approximately 34,000 square feet) and an 89,000 square foot addition constructed in 1976 (Figure 2). The ground surface is relatively flat at the plant property, but slopes steeply to the west adjacent to the new section of the building.

The plant reportedly used trichloroethene (TCE) as a degreasing agent. TCE and related compounds were detected in soil and groundwater, indicating that the solvent was released to the environment. TCE disposal was reported to have occurred west of the old building in an area beneath the 1976 building addition.

On June 24, 1992, Robeson Industries, Inc. signed a Consent Order with the NYSDEC to perform a remedial investigation/feasibility study (RI/FS) at the site. The RI/FS was begun by Robeson Industries in 1992; however, in 1993 Robeson filed for bankruptcy. The RI/FS was



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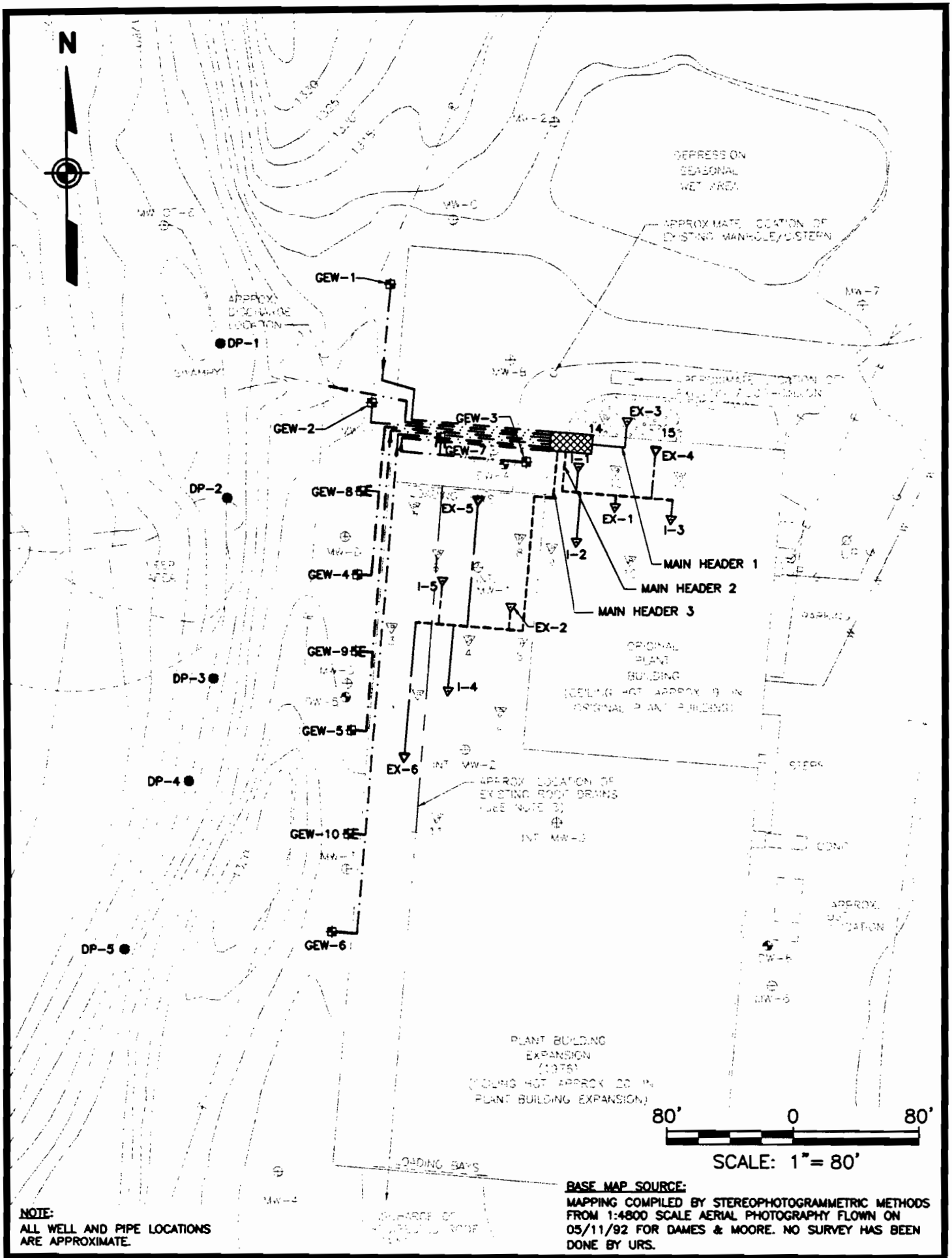
URS CONSULTANTS, INC.

ROBESON INDUSTRIES
SITE LOCATION MAP

FIGURE 1



NOTE:
ALL WELL AND PIPE LOCATIONS ARE APPROXIMATE.

BASE MAP SOURCE:
MAPPING COMPILED BY STEREOPHOTOGRAMMETRIC METHODS FROM 1:4800 SCALE AERIAL PHOTOGRAPHY FLOWN ON 05/11/92 FOR DAMES & MOORE. NO SURVEY HAS BEEN DONE BY URS.

URS CONSULTANTS, INC.

ROBESON INDUSTRIES SITE – TOWN OF CASTILE GWET AND SVET WELL LOCATIONS

FIGURE 2

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completed by NYSDEC's contractor, URS Greiner Woodward Clyde (URSGWC), in 1993, under the State Superfund Program (WA D002340-25). URSGWC also performed a supplemental Remedial Investigation and Feasibility Study which was completed in August 1994.

The Record of Decision (ROD) for the site was issued by the NYSDEC on March 30, 1995. A pre-design investigation and SVE pilot study was completed in July 1996 and a report was issued by URSGWC in November 1996. Contract documents for remedial construction were prepared by URSGWC and approved by the NYSDEC in March 1997. The remediation contract (Contract No. D003658) was awarded in August 1997 to Tyree Organization, Ltd., Latham, NY (Tyree). Construction of the remedial action began in September 1997, and was completed in February 1998.

Tyree started-up and operated the remedial systems for a period of one year (from February 13, 1998 to February 13, 1999) as required by the Contract Documents. Beginning February 13, 1999, URSGWC assumed responsibility for operation and maintenance of the remedial systems. URSGWC will continue to operate and maintain the remedial systems until February 13, 2001 under Work Assignment D003825-06.

2.0 SUMMARY OF REMEDIAL WORK

2.1 Summary of Remedial Construction Work

The main work items completed by the Contractor under this Contract included:

1. Construction of secure system housing, and all required above-ground and below-ground utilities (electrical, instrumentation, telephone, gas services, piping, etc.) associated with the Soil Vapor Extraction and Treatment (SVET) and Groundwater Extraction and Treatment (GWET) systems

2. Drilling, trenching, excavation, backfilling and regrading as necessary for installation of subgrade piping, manholes, soil vapor and groundwater extraction wells, and electrical/control installation

3. Decommissioning of former production/monitoring wells

4. Construction and subsequent removal of a staging area for contaminated soils

5. Excavation, sampling, testing, treatment, and on-site backfilling of soils and debris

6. Excavation, removal, and disposal of an existing 15,000 gallon underground storage tank (UST). Backfill and compaction of the void left by removal of the tank

7. Construction, startup, performance testing, reporting, operation, and maintenance of the SVET and GWET systems.

   The SVET System included eleven soil vapor extraction wells, pressure monitors, blowers, a vapor phase carbon adsorption system, and all associated piping, fittings, valves, instrumentation and other accessories.

The GWET System included six groundwater extraction wells, groundwater treatment process equipment (e.g., equalization/storage tank, air stripper), off-gas treatment (regenerative thermal oxidation unit) equipment, and all associated pumps, piping, fittings, valves, instrumentation and other accessories.

8. Operation of both the SVET and the GWET systems for a period of one year (including startup)

2.2 General Requirements

2.2.1 On-Site Inspection

Daily inspection of the construction activities was performed by URSGWC throughout the Contract. URSGWC prepared daily inspection reports to document the work performed by Tyree and their subcontractors, the equipment and labor used, and verification that the requirements of the Contract Documents were satisfied. Daily inspection reports are on file at the NYSDEC.

2.2.2 Record Drawings

Tyree prepared red-line drawings to show the "as-built" condition of the work completed. URSGWC verified these drawings based on our site inspections. Tyree's record drawings are included with this report as Appendix A.

2.2.3 Construction Photographs

Digital photographs were taken throughout construction. Photographs representing major work items are included in Appendix B. A complete set of construction photographs are on file at the NYSDEC.

2.2.4 Subcontractors

Tyree utilized the following subcontractors on the Robeson Industries Site:

Adams Security Agency, Inc., Rochester, NY - security

ANALAB, Inc., Edison, NJ – Analysis of Vapor samples

Bear Construction Supply, Inc. Niagara County, NY - supplies

Buffalo Drilling Co., Inc., Clarence, NY – drive points and piezometers

Griffin Industrial Services, Inc., New Woodstock, NY - UST contents removal

Jean's Construction, Castile, NY - miscellaneous site work

Matrix Environmental Technologies, Inc., Orchard Park, NY - treatment system startup and operation

Maxim Technologies, Inc., Hamburg, NY - extraction well installation

McGovern Electrical Services, Rensselaer County, NY – electrical work

NES, Seekonk, MA - remedial systems design

Roger's Fence Co., Poland, NY - fence installation and repairs

T.n'T. Construction, Arcade, NY - treatment facility roof repairs

Toxikon Corp., Bedford, MA – analysis of aqueous samples

2.3 Variances

Variances are modifications to the Contract Documents that do not involve changes to the contract cost or the contract time. Variances were implemented following approval by URSGWC of a request from the Contractor (Tyree), or as initiated by URSGWC. Specific variances to the contract are discussed in Section 3.0.

2.4 Change Orders

2.4.1 Description

Modifications to the Contract Documents for work items that change either the contract price or the contract time are processed through change orders. A total of four change orders, each consisting of multiple work items, were prepared for this contract. Appendix C contains a copy of the four executed change orders for this contract.

Change Order Nos. 1 and 2, issued in November 1997 and April 1998, consisted primarily of additional work items associated with preparing the site and constructing the treatment systems. Change Order No. 3 included a credit for liquidated damages incurred by the Contractor, as well as additional work items associated with site preparation. Change Order No. 4 was issued for the Department to purchase the SVET system, and to credit the Department for work items that were deleted from the Contract. Further discussion of specific change order items is also included in Section 3.0.

2.4.2 Cost Adjustments

Table 1 summarizes the original contract bid prices and quantities for the project. Over the course of the project, there were numerous adjustments to the original contract amounts for work items that were either added to or deleted from the scope of work. The most significant change was for the Department to purchase the SVET system from Tyree for continued operation. The Department also assumed responsibility for work items associated with the SVET system (confirmatory soil sampling and system decommissioning). Other significant changes included the installation of an additional groundwater extraction wells, installation of a bag filtration system, installation of additional monitoring piezometers and drive points, and removal of debris from the buildings. Table 1 also summarizes the change order costs and the final project cost. Specific change order items are discussed in Section 3.0. Additional information on each of the change order items is included in Appendix C.

2.4.3 Schedule Modifications

The Schedule for the project consisted of three parts:

Part 1: Construction of fully operational SVET and GWET systems, including 4 weeks of successful operation

Part 2: Achievement of soil cleanup goals and decommissioning of the SVET system

Part 3: Operation of the SVET and GWET systems for a period of up to 11 months

TABLE 1

SUMMARY OF CONTRACT COSTS

Robeson Industries Site

NYSDEC Site No. 9-61-008

Item No.	Description	Unit	CONTRACT		
			Quantity	Unit Price	Total
UC-1	Contaminated Soil, Sediments, Solids	Ton	15	$252.20	$3,783.00
UC-2	Diposal of Pre-existing Drill Cuttings	55 Gal. Drum	8	$258.50	$2,068.00
UC-3A	SVET System O&M (first 5 months)	Per Month	5	$7,212.00	$36,060.00
UC-3B	SVET System O&M (next 6 months)	Per Month	6	$1,120.50	$6,723.00
UC-3C	Confirmatory Soil Samples	Each	20	$669.55	$13,391.00
UC-4A	GWET System O&M (first 5 months)	Per Month	5	$10,503.40	$52,517.00
UC-4B	GWET System O&M (next 6 months)	Per Month	6	$1,223.50	$7,341.00
UC-5	Additional GW Extraction Wells	Each	3	$6,084.00	$18,252.00
UC-6	Existing MW Decommissioning	Each	2	$2,607.00	$5,214.00
UC-7	Health & Safety	Manday	45	$112.00	$5,040.00
UC-8	UST Soil Removal	Cubic Yard	100	$60.00	$6,000.00
UC-9	UST Contents Removal	Gallons	900	$3.00	$2,700.00
UC-10	Backfilling/Compaction	Cubic Yard	200	$25.00	$5,000.00
LS-1	General	L.S.	1	$11,149.00	$11,149.00
LS-2	Site Preparation + Poll. Liability	L.S.	1	$25,874.00	$25,874.00
LS-3	SVET System Installation / Startup	L.S.	1	$61,206.00	$61,206.00
LS-4	GWET System Installation / Startup	L.S.	1	$159,277.00	$159,277.00
LS-5	SVET System Decommissioning	L.S.	1	$6,587.00	$6,587.00
LS-6	Electrical	L.S.	1	$60,712.00	$60,712.00
LS-7	Utility Allowance	L.S.	1	$6,000.00	$6,000.00
LS-8	UST Removal	L.S.	1	$6,200.00	$6,200.00
	TOTAL ORIGINAL CONTRACT				**$501,094.00**

TABLE 1 (cont'd)

SUMMARY OF CONTRACT COSTS

Robeson Industries Site

NYSDEC Site No. 9-61-008

Item No.	Description	Unit	CONTRACT Quantity	Unit Price	Total
CHANGE ORDERS					
LS-2	Repair / Installation of Lighting	L.S.	1	$6,831.31	$6,831.31
LS-2	Direct Vent Furnace	L.S.	1	$563.20	$563.20
LS-2	Building Roof and Wall Repairs	L.S.	1	$4,766.00	$4,766.00
LS-2	Securing Building Doors & Windows	L.S.	1	$1,723.00	$1,723.00
LS-4	Extension of Natural Gas Line	L.S.	1	$2,353.00	$2,353.00
LS-7	Increased Utility Installation Charges	L.S.	1	$5,659.53	$5,659.53
LS-2	Removal of Septic Tank Contents	L.S.	1	$698.25	$698.25
LS-4	Bag Filtration System	L.S.	1	$8,108.70	$8,108.70
UC-5	Installation of Fourth Well	Each	1	$11,953.50	$11,953.50
LS-2	Fence Repairs	L.S.	1	$1,459.20	$1,459.20
	SUBTOTAL CHANGE ORDER No. 1				**$44,115.69**
LS-2	Rear Steps / Platform	L.S.	1	$435.75	$435.75
LS-2	Additional Roof Repairs	L.S.	1	$236.25	$236.25
LS-2	Relocation of Rain Gutter	L.S.	1	$254.10	$254.10
LS-2	Protective Pipe Structure	L.S.	1	$257.25	$257.25
LS-4	Drive Points and Piezometers	L.S.	1	$16,645.65	$16,645.65
LS-4	Well & Pump Silt Removal	L.S.	1	$4,620.00	$4,620.00
LS-4	Tee Handles for Extraction Wells	L.S.	1	$360.00	$360.00
	SUBTOTAL CHANGE ORDER No. 2				**$22,809.00**
LS-2	Building Debris Removal	L.S.	1	$13,328.55	$13,328.55
LS-3	Additional Well Depths	L.S.	1	$781.73	$781.73
LS-4	Well Locks	L.S.	1	$193.60	$193.60
LS-9	Liquidated Damages	L.S.	1	($11,594.00)	($11,594.00)
	SUBTOTAL CHANGE ORDER No. 3				**$2,709.88**
LS-5	SVET System Decommissioning	L.S.	1	($6,587.00)	($6,587.00)
LS-10	SVET System Purchase	L.S.	1	$20,000.00	$20,000.00
UC-1	Contaminated Soil, Sediment, and Solids	L.S.	1	($3,783.00)	($3,783.00)
UC-2	Disposal of Pre-Existing Staged Drill Cuttings	L.S.	1	($2,068.00)	($2,068.00)
UC-3A	SVET System O&M (up to 5 months)	L.S.	1	($1,430.00)	($1,430.00)
UC-3B	SVET System O&M (additional months)	L.S.	1	($1,210.00)	($1,210.00)
UC-3C	Confirmatory Soil Sampling and Analysis	L.S.	1	($13,391.00)	($13,391.00)
UC-4A	GWET System O&M (up to 5 months)	L.S.	1	($750.00)	($750.00)
	SUBTOTAL CHANGE ORDER No. 4				**($9,219.00)**
	TOTAL CHANGE ORDERS				**$60,415.57**

TOTAL CONTRACT	**$561,509.57**

Part 1

Tyree received Notice-to-Proceed (NTP) from the Department on July 28, 1997. The original contract specified a period of 120 days for Part 1 Substantial Completion (construction and startup of the treatment systems). Change Order No. 1 increased the period for Part 1 Completion by 42 days: 14 days due to delays by the utility companies in providing service to the site, and 28 days due to the time required for the installation of additional groundwater extraction wells. Change Order No. 2 further increased the period for Part 1 completion by 28 days to account for delays caused by the siltation and subsequent redevelopment of the groundwater extraction wells. Thus, the period of Part 1 Substantial Completion was increased by a total of 70 days to February 3, 1998 by Change Orders 1 and 2. Tyree completed construction and began operation (start-up) of the SVET and GWET systems on February 12, 1998. However, Tyree did not achieve Part 1 Substantial Completion until April 20, 1998. Substantial completion was delayed mainly because Tyree did not provide software to allow remote monitoring of the systems as required by the Contract.

Part 2

The period of Part 2 Substantial Completion (i.e., 365 days) was based on the estimate that soil cleanup criteria would be achieved after 1 year of SVET system operation. However, the SVET system continued to effectively remove significant quantities of contaminants from soil, and at the end of the 1 year operating period, Part 2 had not been completed. The Department purchased the SVET system from Tyree, and URSGWC is currently operating the SVET system under NYSDEC Work Assignment D003825-06. URSGWC will decommission the system on completion of remediation under the same work assignment.

Part 3

The originally specified period for Part 3 Substantial Completion was 480 days. Based on the extensions described under Part 1 Substantial Completion, the time for Part 3 was also extended by 70 days (550 days total) to January 29, 1999. However, based on the February 12, 1998 date on which operation of the treatment systems began, and allowing for the 4 weeks of initial startup

testing and 11 months of actual operation, the date for Part 3 Substantial Completion was determined to be February 13, 1999.

2.5 Final Inspection

The substantial completion inspection for the project was conducted on February 10, 1999. This inspection was attended by representatives of Tyree, Matrix Environmental (Tyree's operations subcontractor), and URS Greiner Woodward Clyde. Based on the inspection, it was determined that Tyree's construction and operation of the project was complete with the exception of the punchlist items noted below:

1. Removal of fiberboard drums, used filters, and other miscellaneous material left at the site by Tyree.

2. Submittal of revised and approvable Operations & Maintenance manuals for the GWET and SVET systems.

3. Submittal of a second copy of the remote monitoring software for use by the Department.

4. Supply portable instruments for monitoring performance of the SVET system.

5. Submittal of operating reports for the final 3 months of system operation.

The Certificate of Substantial Completion was issued on February 13, 1999. The Certificate of Final Completion was granted on May 4, 1999.

3.0 DETAILED DESCRIPTION OF VARIANCES AND CHANGE ORDERS

3.1 Site Work and Site Facilities

Most variances and change orders associated with the Site Preparation and Site Facilities portions of the Contract Documents were due to concerns about safety and/or vandalism at the site. The variances and change orders included the following:

1. The Contract Documents called for the SVET system to be temporarily housed inside the old industrial buildings and for the GWET system to be housed in a separate treatment trailer. The Contractor elected to install both of the remedial systems in the same treatment room, constructed inside the old industrial buildings. Combining the two systems in the same room provided benefits such as savings on heating costs and facilitated the use of the same controller to operate both systems. *(Variance)*

2. Burnable debris was removed from the old industrial buildings. The debris, which included significant quantities of cardboard and other flammable material, was taken offsite to a landfill. Because of previous experience at the site, the Department was concerned that the debris would be burned by vandals. *(Change Order No. 3)*

3. Five additional light fixtures were installed inside of the treatment building and in the industrial buildings where the SVET extractions wells and piping are located. The additional lights were installed to improve worker safety. Several of the light fixtures outside the building were also repaired in order to provide increased visibility on the site property and to discourage vandalism. *(Change Order No. 1)*

4. A gas-fired furnace was substituted for an electric furnace to heat the treatment building. The gas-fired unit was selected because it would not shut down during a power outage. There was concern that if the power was out for several days (such as during a severe snow storm), an electric heater would not work, and the

treatment equipment would possibly freeze and be damaged. *(Change Order No. 1)*

5. Upon investigation of the section of building proposed for housing the treatment system, cracks were observed in the block walls and foundation. Additionally, there was a small amount of rain leakage observed in the room. Therefore, change orders were issued to install additional bracing on the western wall of the building, to repair the roof of the structure, to redirect the rain gutters on the roof, and to repair the platform and ladder at the rear entrance to the building *(Change Order Nos. 1 and 2)*

6. During the course of the work at the site, the Contractor located the septic tank that was previously used when the production facility was in operation. The Department was concerned that this tank could be a source of contamination at the site. Therefore, the Contractor removed the contents of the tank to determine whether it was a source of contamination and whether the building roof drains were still connected to the tank. The Contractor determined that the septic tank was not a source of contamination, and that the roof drains were not connected. *(Change Order No. 1)*

7. For additional security and protection of the treatment systems, a change order was issued to permanently secure and close all of the loading bay doors, garage doors, windows, and other openings at the site. Existing doors were locked or bolted shut; plywood was used to close other openings. *(Change Order No. 1)*

8. A second fence across the driveway to the site was repaired to control vehicular access to the site and to minimize vandalism. *(Change Order No. 1)*

9. A protective structure was constructed around the aboveground sections of pipe that connect the GWET extraction wells to the treatment building. The structure helped to maintain the heat tracing for the pipe and to minimize the possibility of vandalism. *(Change Order No. 2)*

10. The original Contract Documents called for the decommissioned wells to be grouted after the casing was pulled. However, Tyree and the drilling subcontractor considered the east interior production well to be too deep to pull the casing. Therefore, this well was grouted in place. *(Variance)*

3.2 Underground Storage Tank (UST) Removal

Tyree removed one 15,000-gallon UST from the site as required by the Contract Documents. The UST had been used for the storage of heating oil when the facility was in operation. Tyree first removed 2,760 gallons of fuel oil and bottoms from the tank. The tank was then excavated, cleaned, and removed from the site. After removal of the tank, Tyree collected a total of five samples from the sidewalls and bottom of the excavation. All analytical results indicated that the concentrations of petroleum compounds within the soil surrounding the excavation were below the detection limits of the analyses. As such, the soil met the guidance values set forth by the NYSDEC STARS Memo #1. Analytical results for the tank removal are included in Appendix D.

There was one variance associated with the tank removal. The Contract Documents called for the void left by the tank removal to be backfilled with soil and compacted in 12-inch lifts. Due to the depth of the void, a significant amount of overexcavation would have been required to cutback the slide slopes of the excavation to a point where workers could have safely entered the excavation for compaction of the soil lifts. Therefore, at the Contractors request, 4-inch to 8-inch cobbles were used for the backfill material, eliminating the need for compaction. Near the surface, smaller stone was used for backfill. The smaller stone was compacted in place.

3.3 Soil Vapor Extraction and Treatment (SVET) System

3.3.1 SVET Well Installation

Variances to the Contract Documents for installation of the SVET wells are summarized below:

1. All soil vapor extraction wells were installed in the general locations shown on the Contract Drawings. Three of the wells (EX-4, EX-5, and EX-6) shown on Figure 2 are deeper than the 11½-foot depth shown on the drawings. Vapor extraction wells were to be completed at a depth 2 feet above the water table (estimated at 11½-feet bgs). Due to the low water table at the site during well installation, these three wells were installed to an average depth of 15½ feet. *(Change Order No. 3)*

2. Tyree used solid pipe to connect the wells to the manifold pipe instead of flexible hoses as shown on the contract drawings. *(Variance)*

3. Tyree did not install a dedicated pitot tube flow device at the wellheads as shown on the contract drawings. Tyree drilled a hole in the manifold piping approximately 10 diameters downstream from each extraction well and placed a rubber plug in each hole. Tyree then used a portable flow device to measure the flow rate at each location. *(Variance)*

4. The contract drawings showed separate connections for a sampling port and for a vacuum monitoring gauge. Only one connection was installed and used as both a sampling port and for connection of a vacuum monitoring gauge. *(Variance)*

All modifications to the wells and piping are indicated on the Record Drawings, Appendix A.

3.3.2 SVET Equipment Installation

Variances to the Contract Documents included:

1. The transmitters for measuring the air flow rate in the three header lines were located inside the treatment room for security. The contract drawings show the transmitters located outside the room. *(Variance)*

2. Filters were installed on the inlet of the Bypass Air lines to ensure that dust and solids did not get into the vacuum blowers. *(Variance)*

3. Silencers were installed on the discharge of each vacuum blower. *(Variance)*

4. A redundant valve on the inlet side of the carbon canisters was eliminated. *(Variance)*

5. The flow transmitter for measuring the total volume of discharged gas was relocated from the upstream side of the carbon canisters to the downstream side. *(Variance)*

6. The size of the carbon adsorption canisters was increased to decrease the pressure drop through the units. *(Variance)*

All modifications to the SVET system equipment are shown on the Record Drawings, Appendix A.

3.4 Groundwater Extraction and Treatment (GWET) System

3.4.1 GWET Well Installation

Variances to the contract documents for the groundwater extraction wells were as follows:

1. The contract documents required the installation of six groundwater extraction wells, with provisions for the installation of up to three additional wells. Because of the very low yield achieved by the first six wells installed, four additional wells, three of which were already included in the original contract documents, were installed. The fourth additional well was installed as a contingency item, since construction of the well after contract completion would have been more expensive. *(Change Order No. 1)*

2. Based on the existing monitoring wells and other information, it was impossible to determine how much water was flowing through the site and causing the contaminated seep on the hillside. With the low total yield achieved by the 10 extraction wells, and the widely different pumping rates achieved from each of the wells (e.g., well pair GEW-4/8 generates 25 times more water than pair GEW-6/10), there were concerns about the effectiveness of the collection wells in dewatering the seep. Therefore, the contract documents were modified to include the installation of 10 groundwater monitoring piezometers. These monitoring piezometers, along with the existing monitoring wells, will be used to monitor the groundwater levels at the site. Five drive points were also installed in the vicinity of the seep to help determine the progress in dewatering the seep. *(Change Order No. 2)*

3. Due to the weight of the groundwater extraction pumps and the difficulty of connecting these pumps to the discharge piping via the pitless connector, the Contractor welded T handles to the pump piping to facilitate their installation and removal. *(Change Order No. 2)*

4. The contract documents showed the pumps in the groundwater extraction wells being supported by flexible PVC. Tyree used polyethylene piping to support the pumps. *(Variance)*

5. The contract documents showed a check valve on the discharge piping from the submersible pumps. This valve was not installed since the pumps were supplied with an integral check valve. *(Variance)*

3.4.2 GWET Equipment Installation

Variances to the contract documents included:

1. Due to the problems experienced with silt and sediment during the startup of the extraction pumps, there was concern that silt would also build up in the system

equipment and impair operation. To address this potential problem, the Contractor installed a bag filtration system to remove solids from the groundwater prior to the treatment system. The filtration system consists of two parallel systems, each with two filters in series. During operation, one system is on-line while the other system is on standby. *(Change Order No. 1)*

2. The contract documents specified that the utility company would install the natural gas piping to the point of use at the thermal oxidation unit. However, the location chosen for the thermal oxidation required that the gas piping be installed through an area of potentially contaminated soil. The utility company would not do any intrusive work in an area that was contaminated. Therefore, the gas meter was installed in a clean location at the northeast corner of the industrial buildings, and Tyree assumed responsibility for installing approximately 200 feet of 1¼ inch diameter gas piping from the meter to the oxidation unit. *(Change Order No. 1)*

3.5 Operation and Maintenance

3.5.1 Systems Startup

There were relatively few problems with startup of the SVET system, and thus no variances or change orders were issued. Two change orders / variances to the Contract Documents were issued during the startup of the GWET system:

1. During the installation and initial development of the 10 extraction wells, significant quantities of silt were collected. Aggressive techniques, such as pump and surge, were used in order to adequately develop the wells. Once well development was completed, the wells were inactive for approximately two weeks until the groundwater treatment equipment was installed and ready for operation. When Tyree attempted to start the GWET system, the groundwater extraction pumps would not operate. Investigation revealed that silt in the groundwater had settled to the bottoms of the wells, in some cases covering the submersible pumps in silt. It is believed that the action of taking the submersible pumps in and out of

the extraction wells caused additional surging action, and pulled additional silt into the developed wells. The small particles of silt in the groundwater were sufficient to foul the pumps and prevent them from operating. Therefore, additional well cleaning was required to remove accumulated silt from the wells. Additionally, the pumps were removed from the wells and cleaned. *(Change Order No. 2)*

2. The contract documents required that the PLC / autodialer be capable of historically logging and downloading data. However, the equipment supplied by the Contractor did not have the capability of performing this function. The Department waived this requirement when the Contractor offered to record data and issue monthly reports. *(Variance)*

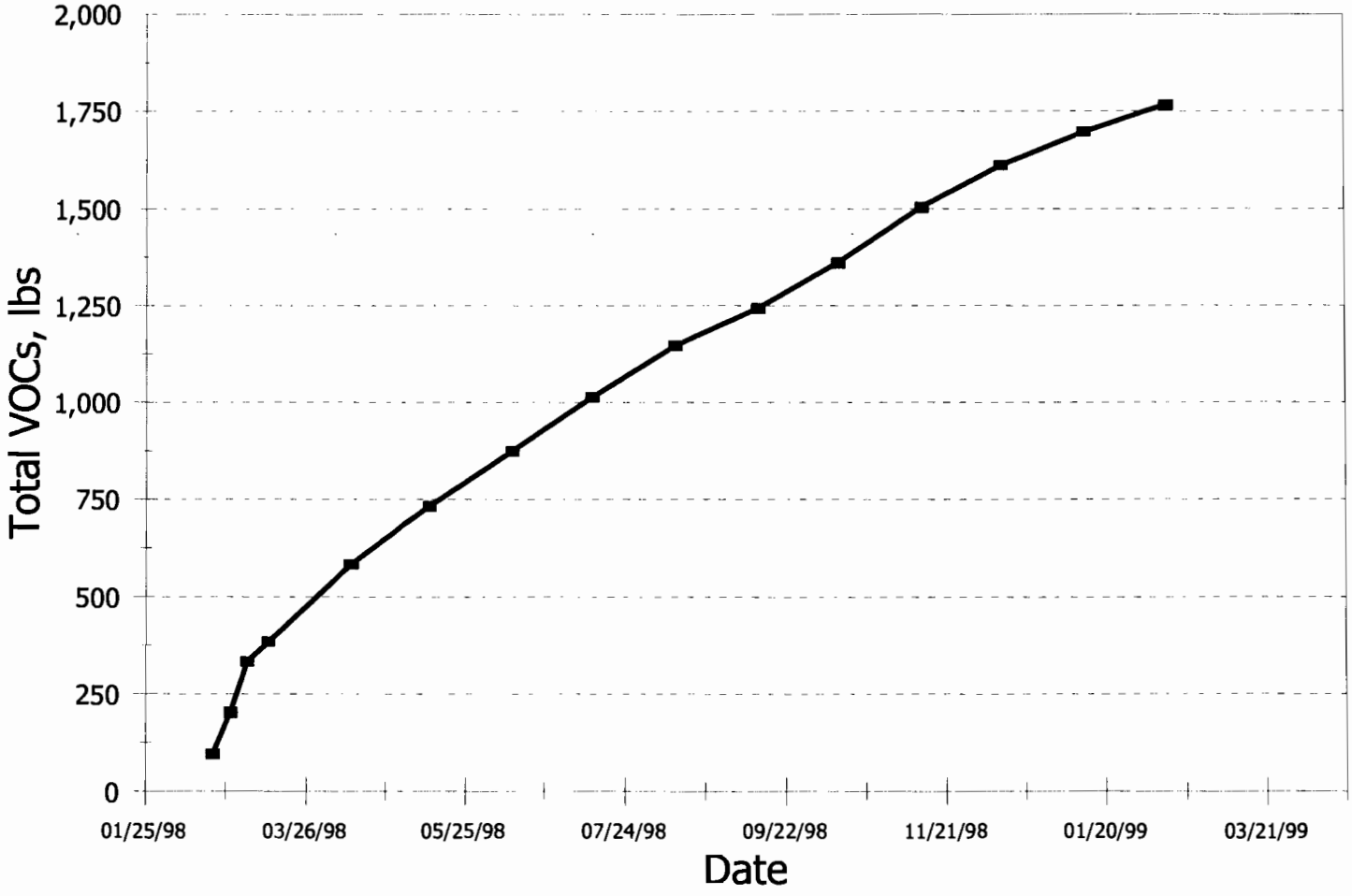
3.5.2 SVET System Operation

As shown on Figure 3, the SVET system removed approximately 1,750 pounds of volatile contaminants from soil at the Robeson site during the first year of operation. At the end of the operating period the removal rate was approximately 100 pounds per month. Additional information on the performance of the SVET system is located in the Annual Operating Report and in the monthly operating reports submitted by Tyree.

The only significant variance during the operating period occurred when vapor samples were not collected (due to an oversight by Tyree) during the July/August and the August/September operating periods.

It was expected that the SVET system would achieve the soil cleanup goals within a one year period. However, as shown on Figure 3, at the end of the one year operating period, the system continued to remove significant quantities of contaminants. Therefore, URSGWC evaluated several options for continued remediation of the soil at the site, including: 1) extending Tyree's contract, 2) renting the SVET system from Tyree, and 3) purchasing the SVET system from Tyree (see URSGWC's letter to NYSDEC dated January 28, 1999). Based on URSGWC's evaluation, the Department purchased the SVET system from Tyree and contracted URSGWC to operate and

Figure 3
SVET Cumulative VOCs Removed



Based on an estimated 400 cfm air flow for the first three weeks of operation until accurate flow readings were collected.

maintain the system. Change Order No. 4, in Appendix C, includes additional information regarding this modification to the contract.

In addition to the purchase of the system from Tyree, the Department deleted two tasks included in Tyree's contract. These tasks included collection of confirmatory soil samples and decommissioning of the SVET system equipment and wells. These tasks will be performed by URSGWC.

3.5.3 GWET System Operation

Figures 4 and 5 summarize the performance of the GWET system for the year that Tyree was responsible for operation. As shown on these figures, the system is estimated to have collected more than 2 1/2 million gallons of water, containing 120 pounds of volatile contaminants.

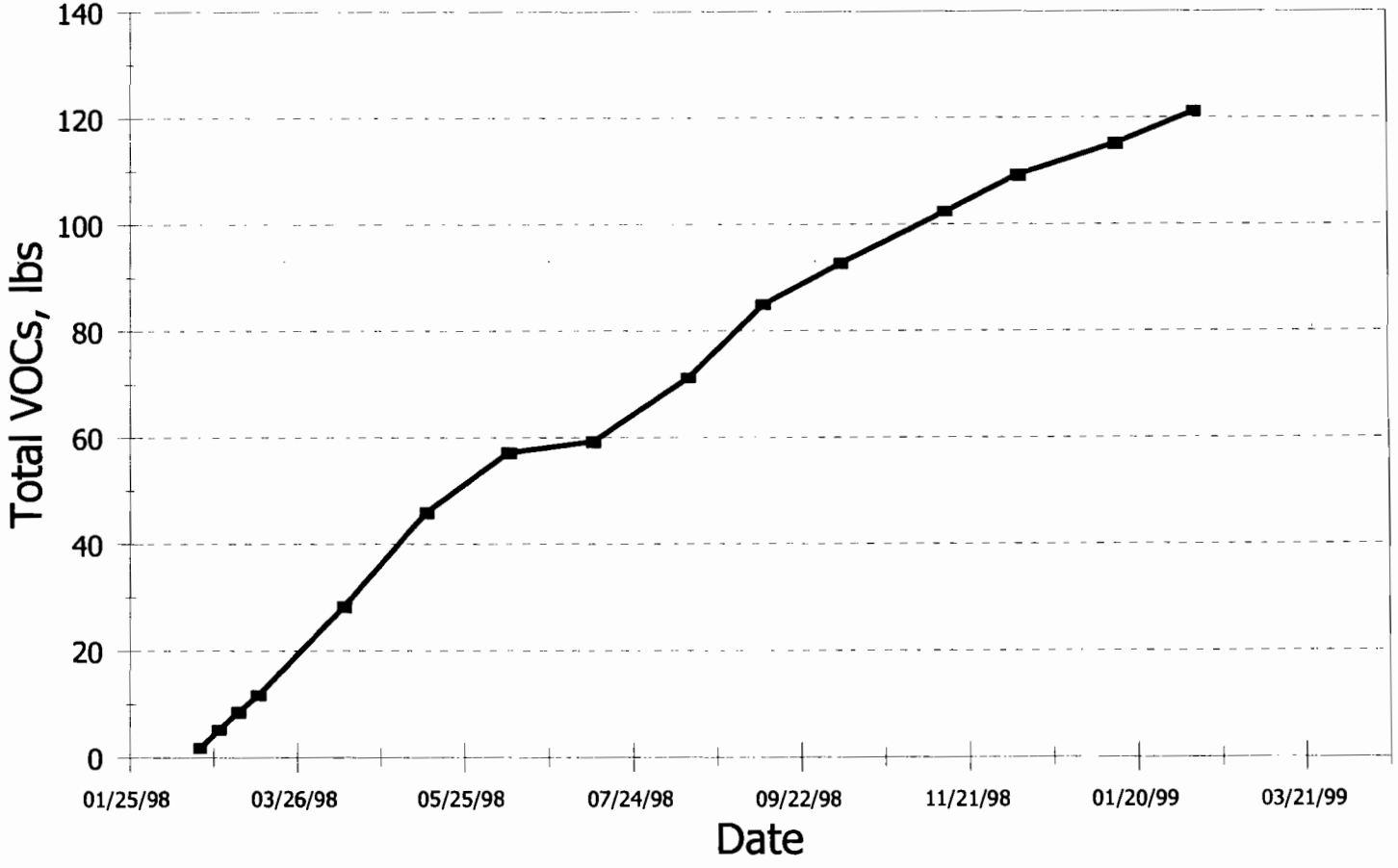
The system was down during the summer months, especially during May and June 1998, because lightening storms caused power failures in the Castile area. Once the power came back on, the SVET system resumed operation. The GWET system remained off however, because the thermal oxidation unit must be manually restarted (automatic restart was not recommended due to safety concerns). During the month of June, the GWET system operated only 55% of the time. The average on-time for the entire year was approximately 85%. During the year, some of the level transmitters in the extraction wells, and some of the system flowmeters were sent offsite for repair.

One important requirement for the GWET system was to eliminate a seep on the hillside west of the site.

There has not yet been any observable decrease in flow from the groundwater after one year of operation. Three reasons have been identified to explain the continued seep flow as discussed below:

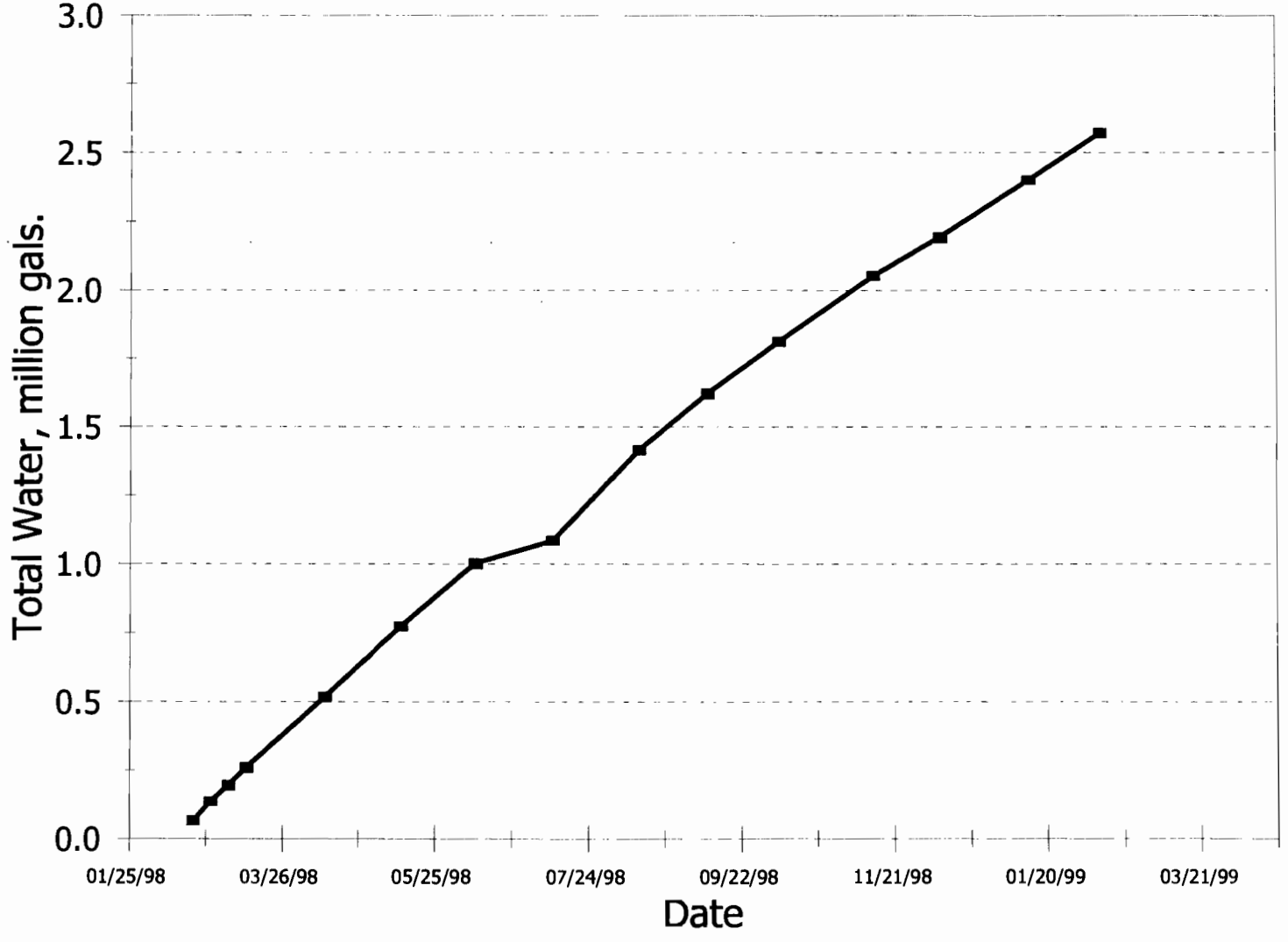
1. The SVET system operates at 40 to 45 inches of water column vacuum. This vacuum causes the water table to rise, minimizing the dewatering achieved by the GWET system. Considering that the seep area is directly downgradient from the

Figure 4
GWET Cumulative VOCs Removed



Note: Contaminant removal for the month of June based on the average of May and July sampling events.

Figure 5
GWET Total Groundwater Collected



location of the SVET system, it is likely the SVET system is slowing seep dewatering.

2. The treated effluent from the GWET system is discharged to a small stream at the top of the hillside, just inside the property line of the Robeson site (this was done to avoid construction on the neighboring property). As the treated effluent flows down the hillside, water may infiltrate and increase flow to the seep.

3. There has not been sufficient time for the seep to dewater yet. (The DAR estimated dewatering could take up to two years).

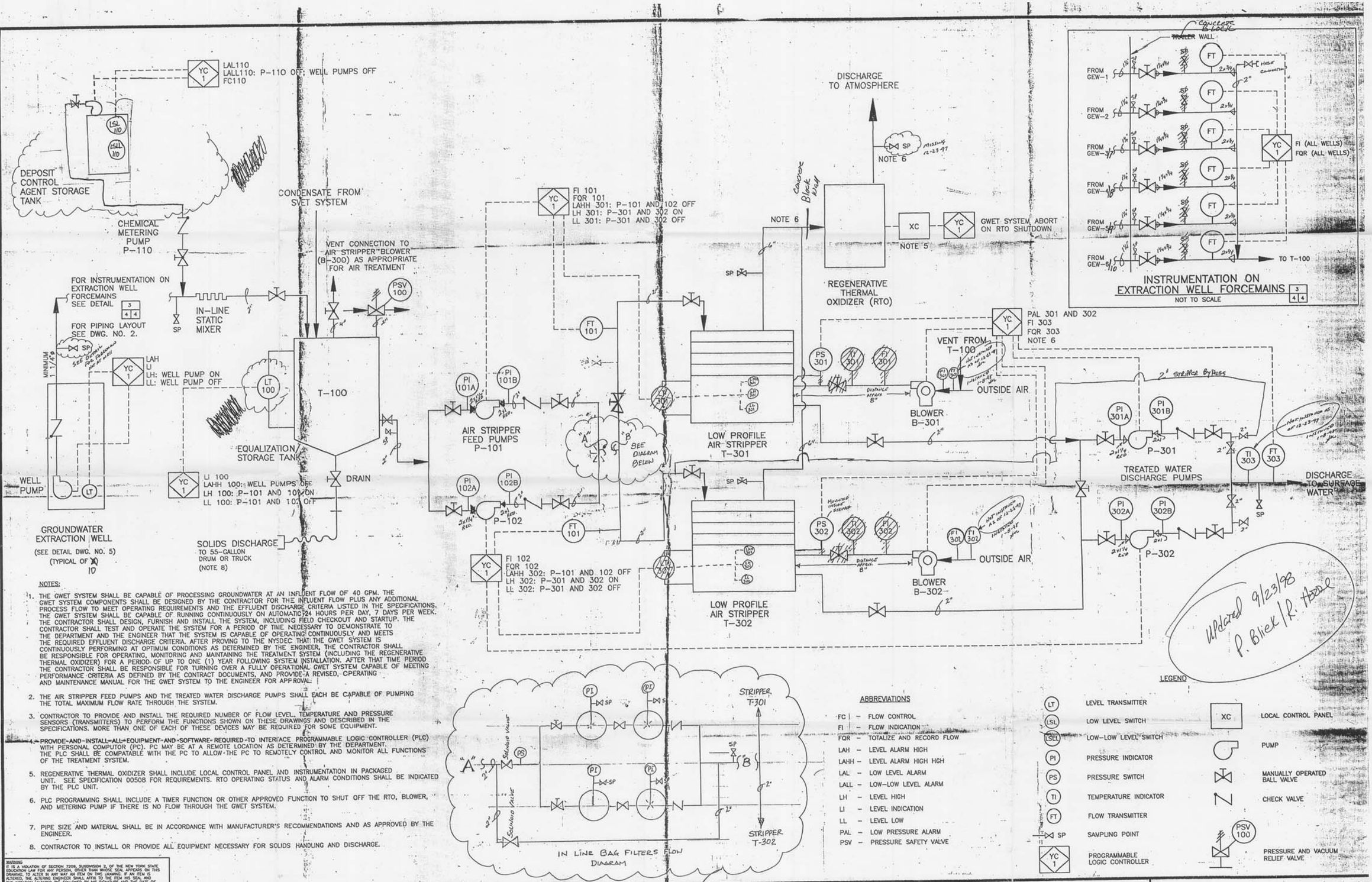
Based on the information collected to date, URSGWC recommends that the GWET system operation be continued for an additional year without implementing significant modifications.

After the second year of operation, we recommend an evaluation of the impact of the GWET system on the seep to be carried out as follows:

1. Shutdown the SVET system.
2. Allow water levels to stabilize (estimated to be 1 to 2 weeks).
3. Measure water levels in the monitoring wells.
4. Compare water level measurements to historical data.
5. Recommend further action (e.g., additional extraction wells), if required.

APPENDIX A

RECORD DRAWINGS



NOTES:

1. THE GWET SYSTEM SHALL BE CAPABLE OF PROCESSING GROUNDWATER AT AN INFLUENT FLOW OF 40 GPM. THE GWET SYSTEM COMPONENTS SHALL BE DESIGNED BY THE CONTRACTOR FOR THE INFLUENT FLOW PLUS ANY ADDITIONAL PROCESS FLOW TO MEET OPERATING REQUIREMENTS AND THE EFFLUENT DISCHARGE CRITERIA LISTED IN THE SPECIFICATIONS. THE GWET SYSTEM SHALL BE CAPABLE OF RUNNING CONTINUOUSLY ON AUTOMATIC 24 HOURS PER DAY, 7 DAYS PER WEEK. THE CONTRACTOR SHALL DESIGN, FURNISH AND INSTALL THE SYSTEM, INCLUDING FIELD CHECKOUT AND STARTUP. THE CONTRACTOR SHALL TEST AND OPERATE THE SYSTEM FOR A PERIOD OF TIME NECESSARY TO DEMONSTRATE TO THE DEPARTMENT AND THE ENGINEER THAT THE SYSTEM IS CAPABLE OF OPERATING CONTINUOUSLY AND MEETS THE REQUIRED EFFLUENT DISCHARGE CRITERIA. AFTER PROVING TO THE NYSDEC THAT THE GWET SYSTEM IS CONTINUOUSLY PERFORMING AT OPTIMUM CONDITIONS AS DETERMINED BY THE ENGINEER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OPERATING, MONITORING AND MAINTAINING THE TREATMENT SYSTEM (INCLUDING THE REGENERATIVE THERMAL OXIDIZER) FOR A PERIOD OF UP TO ONE (1) YEAR FOLLOWING SYSTEM INSTALLATION. AFTER THAT TIME PERIOD THE CONTRACTOR SHALL BE RESPONSIBLE FOR TURNING OVER A FULLY OPERATIONAL GWET SYSTEM CAPABLE OF MEETING PERFORMANCE CRITERIA AS DEFINED BY THE CONTRACT DOCUMENTS, AND PROVIDE A REVISED, OPERATING AND MAINTENANCE MANUAL FOR THE GWET SYSTEM TO THE ENGINEER FOR APPROVAL.
2. THE AIR STRIPPER FEED PUMPS AND THE TREATED WATER DISCHARGE PUMPS SHALL EACH BE CAPABLE OF PUMPING THE TOTAL MAXIMUM FLOW RATE THROUGH THE SYSTEM.
3. CONTRACTOR TO PROVIDE AND INSTALL THE REQUIRED NUMBER OF FLOW LEVEL, TEMPERATURE AND PRESSURE SENSORS (TRANSMITTERS) TO PERFORM THE FUNCTIONS SHOWN ON THESE DRAWINGS AND DESCRIBED IN THE SPECIFICATIONS. MORE THAN ONE OF EACH OF THESE DEVICES MAY BE REQUIRED FOR SOME EQUIPMENT.
4. PROVIDE AND INSTALL ALL EQUIPMENT AND SOFTWARE REQUIRED TO INTERFACE PROGRAMMABLE LOGIC CONTROLLER (PLC) WITH PERSONAL COMPUTER (PC). PC MAY BE AT A REMOTE LOCATION AS DETERMINED BY THE DEPARTMENT. THE PLC SHALL BE COMPATABLE WITH THE PC TO ALLOW THE PC TO REMOTELY CONTROL AND MONITOR ALL FUNCTIONS OF THE TREATMENT SYSTEM.
5. REGENERATIVE THERMAL OXIDIZER SHALL INCLUDE LOCAL CONTROL PANEL AND INSTRUMENTATION IN PACKAGED UNIT. SEE SPECIFICATION 00508 FOR REQUIREMENTS. RTO OPERATING STATUS AND ALARM CONDITIONS SHALL BE INDICATED BY THE PLC UNIT.
6. PLC PROGRAMMING SHALL INCLUDE A TIMER FUNCTION OR OTHER APPROVED FUNCTION TO SHUT OFF THE RTO, BLOWER, AND METERING PUMP IF THERE IS NO FLOW THROUGH THE GWET SYSTEM.
7. PIPE SIZE AND MATERIAL SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND AS APPROVED BY THE ENGINEER.
8. CONTRACTOR TO INSTALL OR PROVIDE ALL EQUIPMENT NECESSARY FOR SOLIDS HANDLING AND DISCHARGE.

Replaced 9/23/98 P. Bliek/R. Hoole

ABBREVIATIONS

FC	– FLOW CONTROL
FI	– FLOW INDICATION
FQR	– TOTALIZE AND RECORD FLOW
LAH	– LEVEL ALARM HIGH
LAHH	– LEVEL ALARM HIGH HIGH
LAL	– LOW LEVEL ALARM
LALL	– LOW–LOW LEVEL ALARM
LH	– LEVEL HIGH
LI	– LEVEL INDICATION
LL	– LEVEL LOW
PAL	– LOW PRESSURE ALARM
PSV	– PRESSURE SAFETY VALVE

LEGEND

LT	LEVEL TRANSMITTER
LSL	LOW LEVEL SWITCH
LSLL	LOW–LOW LEVEL SWITCH
PI	PRESSURE INDICATOR
PS	PRESSURE SWITCH
TI	TEMPERATURE INDICATOR
FT	FLOW TRANSMITTER
SP	SAMPLING POINT
YC 1	PROGRAMMABLE LOGIC CONTROLLER
XC	LOCAL CONTROL PANEL
	PUMP
	MANUALLY OPERATED BALL VALVE
	CHECK VALVE
PSV 100	PRESSURE AND VACUUM RELIEF VALVE

NO.	DATE	DESCRIPTION

REVISIONS

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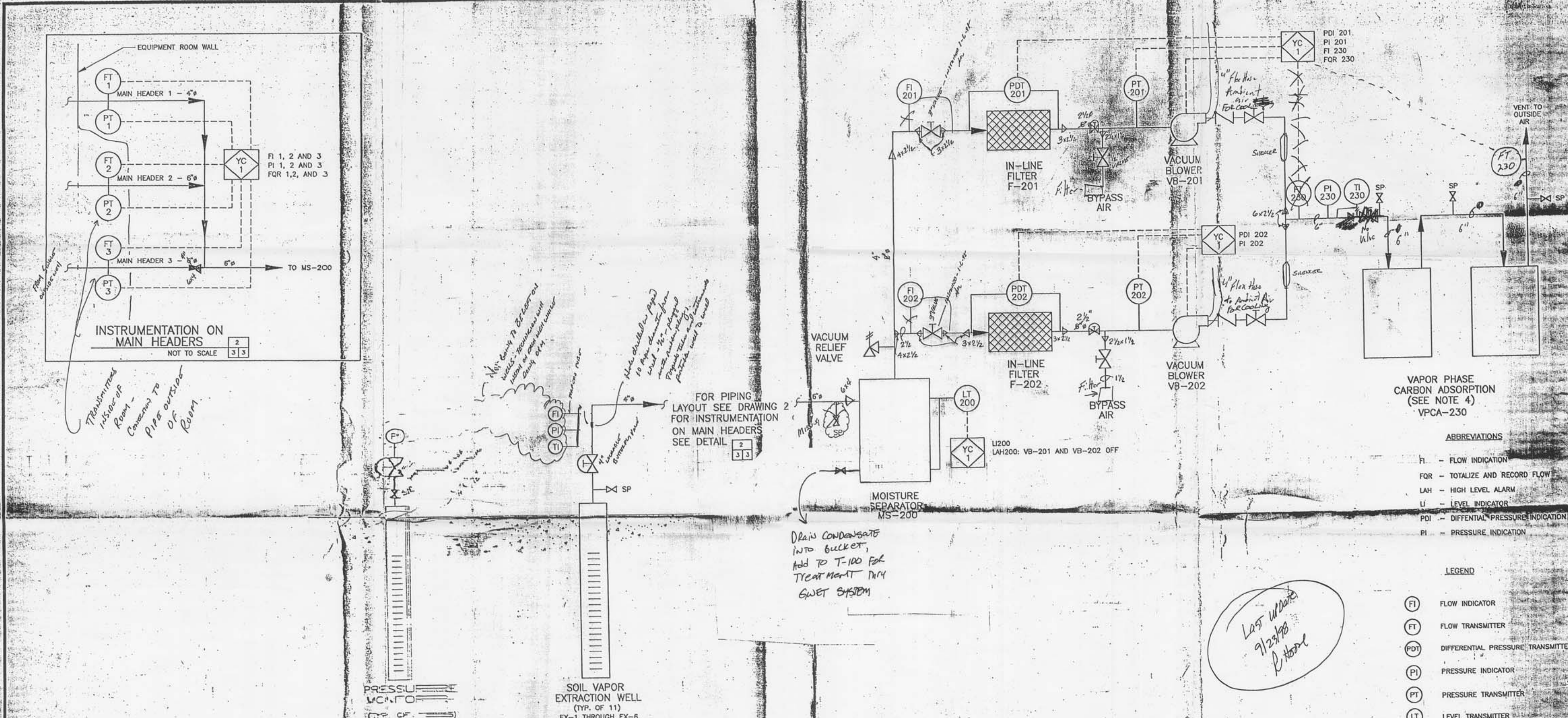
CONTRACT NO: D003658

Prepared for:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
50 WOLF ROAD
ALBANY, NEW YORK

GWET SYSTEM
PROCESS FLOW DIAGRAM
AS BUILT

Scale: AS NOTED | Date: MAR. 97 | DWG. NO. 4

35438\CAD\100\ DC-34528.dwg 1=1 3/31/97-6 ELB



LEGEND

- (FI) FLOW INDICATOR
- (FT) FLOW TRANSMITTER
- (PDT) DIFFERENTIAL PRESSURE TRANSMITTER
- (PI) PRESSURE INDICATOR
- (PT) PRESSURE TRANSMITTER
- (LT) LEVEL TRANSMITTER
- (TI) TEMPERATURE INDICATOR
- BLOWER
- (YC 1) PROGRAMMABLE LOGIC CONTROLLER
- BUTTERFLY VALVE
- LOCKABLE BUTTERFLY VALVE
- CHECK VALVE
- SP SAMPLING PORT
- ELECTRICAL SIGNAL

NOTES:

1. THE SVET SYSTEM SHALL BE DESIGNED BY THE CONTRACTOR TO MEET THE SOIL REMEDIATION GOALS AND AIR EMMISSIONS STANDARDS LISTED IN THE SPECIFICATIONS. THE SYSTEM SHALL BE CAPABLE OF RUNNING CONTINUOUSLY ON AUTOMATIC 24 HOURS PER DAY, 7 DAYS PER WEEK. THE CONTRACTOR SHALL DESIGN, FURNISH AND INSTALL THE SYSTEMS, INCLUDING FIELD CHECKOUT AND STARTUP. THE CONTRACTOR SHALL TEST AND OPERATE THE SYSTEM FOR A PERIOD OF TIME NECESSARY TO DEMONSTRATE TO THE DEPARTMENT AND THE ENGINEER THAT THE SYSTEM IS CAPABLE OF OPERATING CONTINUOUSLY AND MEETS THE SPECIFICATION REQUIREMENTS. AFTER ACCEPTANCE BY THE DEPARTMENT, THE CONTRACTOR SHALL CONTINUE TO OPERATE, MAINTAIN AND MONITOR THE SVET SYSTEM UNTIL CONFIRMATORY SOIL SAMPLING AND ANALYSIS INDICATES THAT SOIL REMEDIATION GOALS HAVE BEEN MET. ONCE THE SOIL REMEDIATION GOALS HAVE BEEN MET, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY DECOMMISSIONING AND AND TAKING OFFSITE THE SVET SYSTEM AND ASSOCIATED APPURTENANCES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
2. CONTRACTOR TO PROVIDE AND INSTALL THE REQUIRED NUMBER OF VALVES, FLOW, LEVEL, TEMPERATURE, AND PRESSURE SENSORS (TRANSMITTERS) TO PERFORM THE FUNCTIONS SHOWN ON THESE DRAWINGS AND DESCRIBED IN THE SPECIFICATIONS. MORE THAN ONE OF EACH OF THESE DEVICES MAY BE REQUIRED FOR SOME EQUIPMENT.
3. PROVIDE AND INSTALL ALL EQUIPMENT REQUIRED TO INTERFACE PROGRAMMABLE LOGIC CONTROLLER (PLC) WITH PERSONAL COMPUTER (PC). PC MAY BE AT A REMOTE LOCATION AS DETERMINED BY THE DEPARTMENT, AND PLC SHALL BE COMPATIBLE WITH THE PC TO ALLOW THE PC TO CONTROL AND MONITOR ALL FUNCTIONS OF THE TREATMENT SYSTEM.
4. USE FLEXIBLE PIPING AND VALVES, AS REQUIRED, TO ALLOW FOR SERIES OPERATION OF THE CARBON ADSORPTION SYSTEM. PIPING SYSTEM MUST ALSO ALLOW EASY REMOVAL AND REPLACEMENT OF THE ADSORBERS, AND ALLOW THE LEAD-LAG ADSORBERS TO BE ALTERNATED.
5. PIPE SIZES SHOWN ON THIS SHEET ARE MINIMUM DIMENSIONS. PIPE SIZES AND MATERIAL SHALL BE DETERMINED BY THE CONTRACTOR IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND AS APPROVED BY THE ENGINEER TO MEET THE PROCESS REQUIREMENTS.

As built 12-2-97

WARNING
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NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
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50 WOLF ROAD
ALBANY, NEW YORK

SVET SYSTEM PROCESS FLOW DIAGRAM

AS-BUILT

Scale: AS NOTED | Date: MAR. 97 | DWG. NO. 3

N

DOCK

POND

WHALE CREEK

BRANNON

SWAMPY

STREAM

STEEP AREA

MW OF-1

MW OF-2

MW OF-3

MW OF-4

MW OF-5

MW OF-6

DP-1

DP-2

DP-3

DP-4

DP-5

APPROXIMATE EXTENT OF CLEARING

DISCHARGE LOCATION

PLUGGED TEE CONNECTION SEE DETAIL 1 2 2

GWET SYSTEM LOCATION (FOR CONTINUATION SEE DWG. 4)

RTO SYSTEM LOCATION

SVET SYSTEM LOCATION (NOTE 5) (FOR SVET PROCESS CONTINUATION SEE DWG. 3. FOR SYSTEM LOCATION, DIMENSIONS SEE STRUCTURE PROPOSED FOR SVET SYSTEM LOCATION, SEE DETAIL 4 2 5

EXISTING TRAILER (SEE NOTE 5)

LOADING BAYS

DEPRESSION - SEASONAL WET AREA

CAT-OX UNIT

Remediation Room SWET/SVET SYSTEM

APPROXIMATE LOCATION OF EXISTING MANHOLE/CISTERN

APPROXIMATE LOCATION OF EXISTING 7,500-GALLON SEPTIC TANK

MAIN HEADER 1

MAIN HEADER 2

MAIN HEADER 3

ORIGINAL PLANT BUILDING (CEILING HGT. APPROX. 9'-1" IN ORIGINAL PLANT BUILDING)

APPROX. LOCATION OF EXISTING ROOF DRAINS (SEE NOTE 8)

EXISTING SUPPLY WELLS TO BE DECOMMISSIONED. REFERENCE SECTION 00509.

PLANT BUILDING EXPANSION (1976) (CEILING HGT. APPROX. 20' IN PLANT BUILDING EXPANSION)

DISCHARGE OF REDIRECTED ROOF DRAINS

APPROXIMATE LOCATION OF PROPOSED ACCESS GATE AND FENCE

ACCESS ROAD

EXISTING ACCESS GATE / GUARD TOWER

APPROXIMATE LOCATION OF PRE-EXISTING STAGED DRILL CUTTINGS

PARKING

BLADDER POND

HYD.

STEPS

CONC.

APPROX. UST LOCATION

DEPTHS:

	(FROM BORING LOG)	
PZ-1 - 35'	GEW-1 - 51'	DP-1 - 6'
PZ-2 - 42'	GEW-2 - 50'	DP-2 - 6'
PZ-3 - 38.5	GEW-3 - 49'	DP-3 - 6'
PZ-4 - 33.5	GEW-4 - 54'	DP-4 - 6'
PZ-5 - 37.5	GEW-5 - 56	DP-5 - 6'
PZ-6 - 37.5	GEW-6 - 39'	
PZ-7 - 36.5	GEW-7 - 52'	
PZ-8 - 45'	GEW-8 - 54'	
PZ-9 - 41.5'	GEW-9 - 60	
PZ-10 - 32.5'	GEW-10 - 39	

PLUGGED TEE CONNECTION FOR ADDITIONAL GROUNDWATER EXTRACTION WELLS, IF REQUIRED

PLUGGED TEE CONNECTION 1 2 2
NOT TO SCALE

Updated 9/23/98 RHoose

NOTE:

1. THE PROPOSED LOCATIONS FOR THE GROUNDWATER EXTRACTION WELLS AND FORCEMAINS ARE APPROXIMATE AND MAY BE ADJUSTED BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
2. THE LOCATION OF ALL SITE FEATURES AND UTILITIES ARE APPROXIMATE AND SHALL BE USED FOR REFERENCE ONLY. PROPOSED CONSTRUCTION TO BE COORDINATED WITH UTILITY COMPANIES, VERIFIED IN THE FIELD BY THE CONTRACTOR, AND BE APPROVED BY THE ENGINEER.
3. ALL SVEW, GEW, AND PRESSURE MONITOR LOCATIONS TO BE DETERMINED IN THE FIELD AS DIRECTED BY THE ENGINEER.
4. LAYOUT OF TRAILERS, TREATMENT SYSTEM LOCATIONS, SIZE OF FENCED AREA AND ACCESS GATES TO BE DETERMINED BY CONTRACTOR AND SUBJECT TO APPROVAL BY THE DEPARTMENT.
5. CONTRACTOR MAY PROPOSE SVET SYSTEM HOUSED IN TRAILER IN ACCORDANCE WITH SPECIFICATIONS.
6. ALL EXISTING DEBRIS WITHIN THE WORK AREA, ON SITE AND WITHIN THE BUILDINGS, AS WELL AS THE EXISTING TRAILER SHALL BE RELOCATED AS REQUIRED FOR CONSTRUCTION AND AS DIRECTED BY THE DEPARTMENT/ENGINEER.
7. INTERIOR BUILDING WALLS NOT SHOWN FOR CLARITY.
8. ALL ROOF DRAINS AND SOURCES OF RAINWATER WITHIN THE INDICATED AREA SHALL BE DIRECTED OUT AND AWAY FROM THE SOUTH SIDE OF THE BUILDING.

50 0 50
SCALE IN FEET

BASE MAP SOURCE:
MAPPING COMPILED BY STEREOPHOTOGRAMMETRIC METHODS FROM 1:4800 SCALE AERIAL PHOTOGRAPHY FLOWN ON 05/11/92 FOR DAMES & MOORE. NO SURVEY HAS BEEN DONE BY URS.

LEGEND

- AREA TO BE MOWED TO LESS THAN 1-INCH AND SEALED WITH 16-20 MIL PLASTIC
- TREATMENT SYSTEM LOCATION IN EXISTING BUILDING
- TREATMENT SYSTEM LOCATION IN TRAILER
- EXISTING MONITORING WELL
- EXISTING DEEP MONITORING WELL
- PROPOSED GROUNDWATER EXTRACTION WELL
- EXISTING PLANT WATER SUPPLY WELL
- EXISTING SOIL VAPOR EXTRACTION WELL
- PROPOSED PRESSURE MONITOR
- PROPOSED VAPOR EXTRACTION WELL
- SVET SYSTEM HEADER, 6"ø SCHEDULE 80 PVC
- SVET SYSTEM LATERAL, 4"ø SCHEDULE 80 PVC
- GWET SYSTEM FORCE MAIN, 1 1/4"ø SCHEDULE 80 PVC
- GWET SYSTEM DISCHARGE LINE, 4"ø SCHEDULE 80 PVC
- EXISTING UNDERGROUND TELEPHONE LINE
- EXISTING OVERHEAD ELECTRIC LINES
- EXISTING GAS LINE
- EXISTING 2"ø WATER LINE

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NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION

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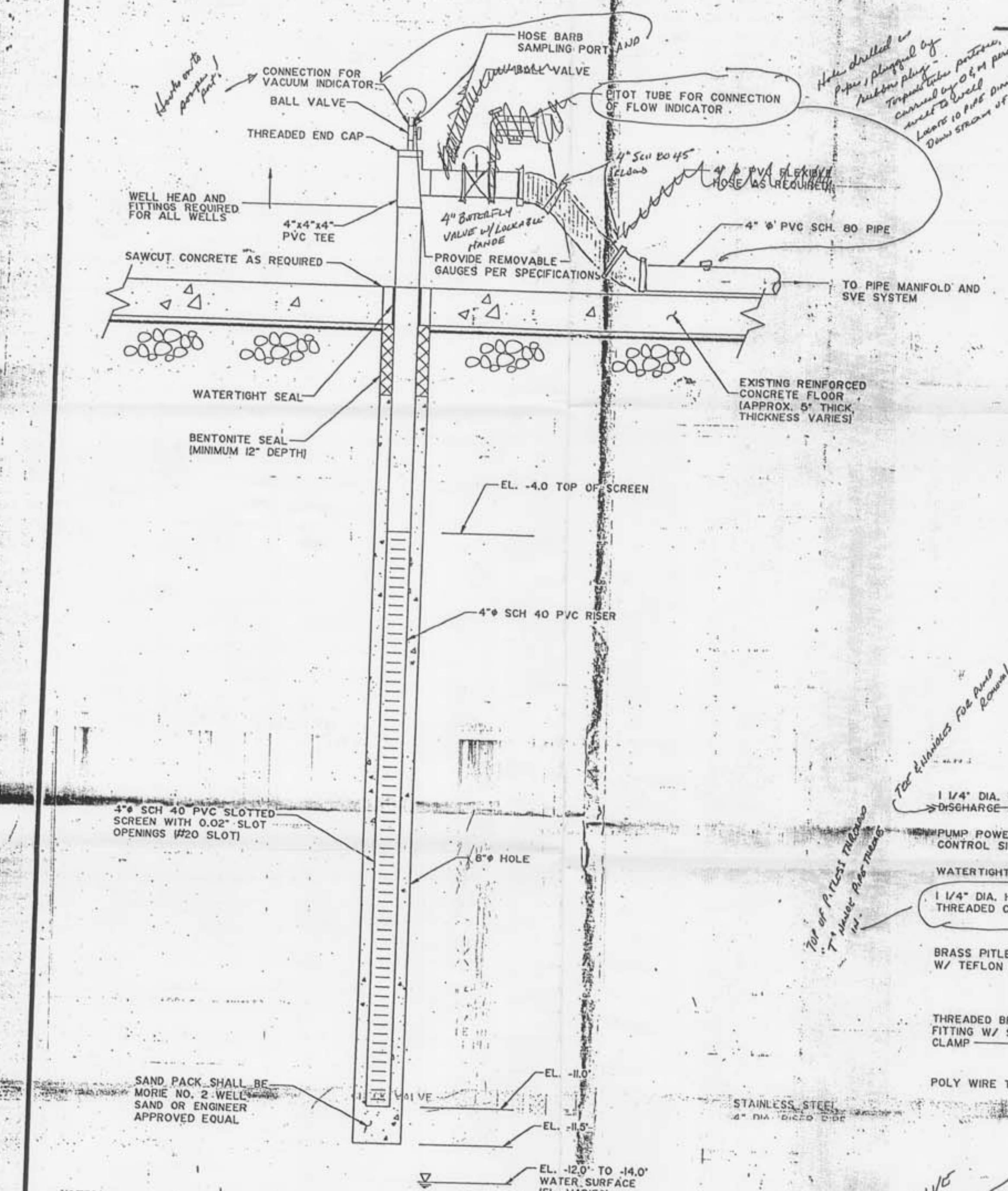
SITE NO. 9-61-008
CONTRACT NO: D003658

Prepared for:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
50 WOLF ROAD
ALBANY, NEW YORK

SITE PLAN
AS-BUILT

Scale: AS NOTED | Date: MAR. 97 | DWG. NO. 2

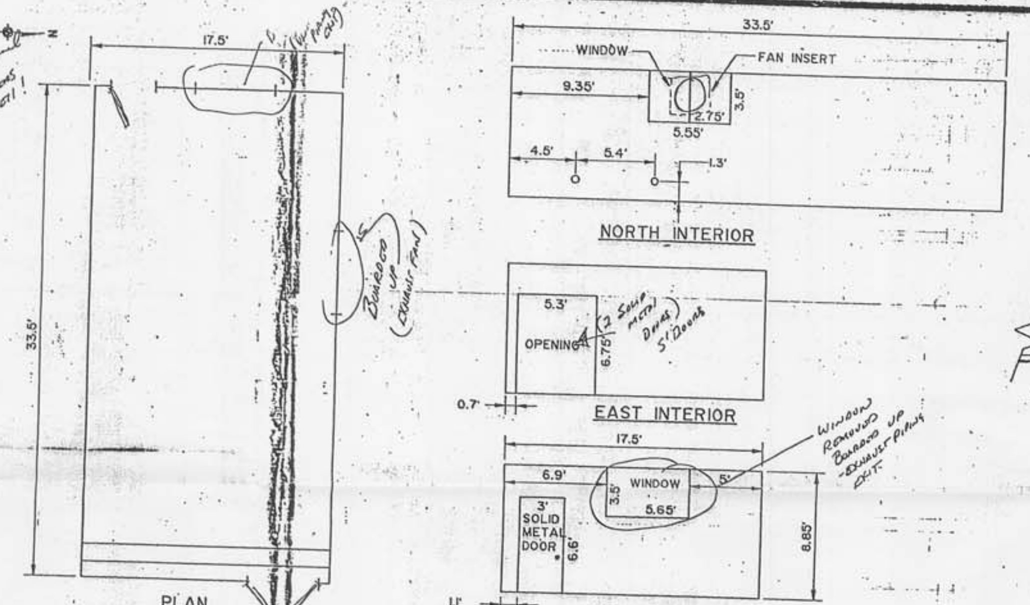
\35438\CAD\100\ DC-34628.dwg 1=50 4/2/97-7 ELB



NOTES:
PVC SCREENING AND RISERS ARE EXISTING FOR ALL EXTRACTION WELLS EXCEPT EX-4, EX-5, AND EX-6. ONLY THE WELL HEAD PIPING AND APPURTENANCES ARE REQUIRED FOR THE EIGHT EXISTING WELLS. EXTRACTION WELLS EX-4, EX-5 AND EX-6 REQUIRE COMPLETE DRILLING AND INSTALLATION.

SOIL VAPOR EXTRACTION WELL TYPICAL DETAIL

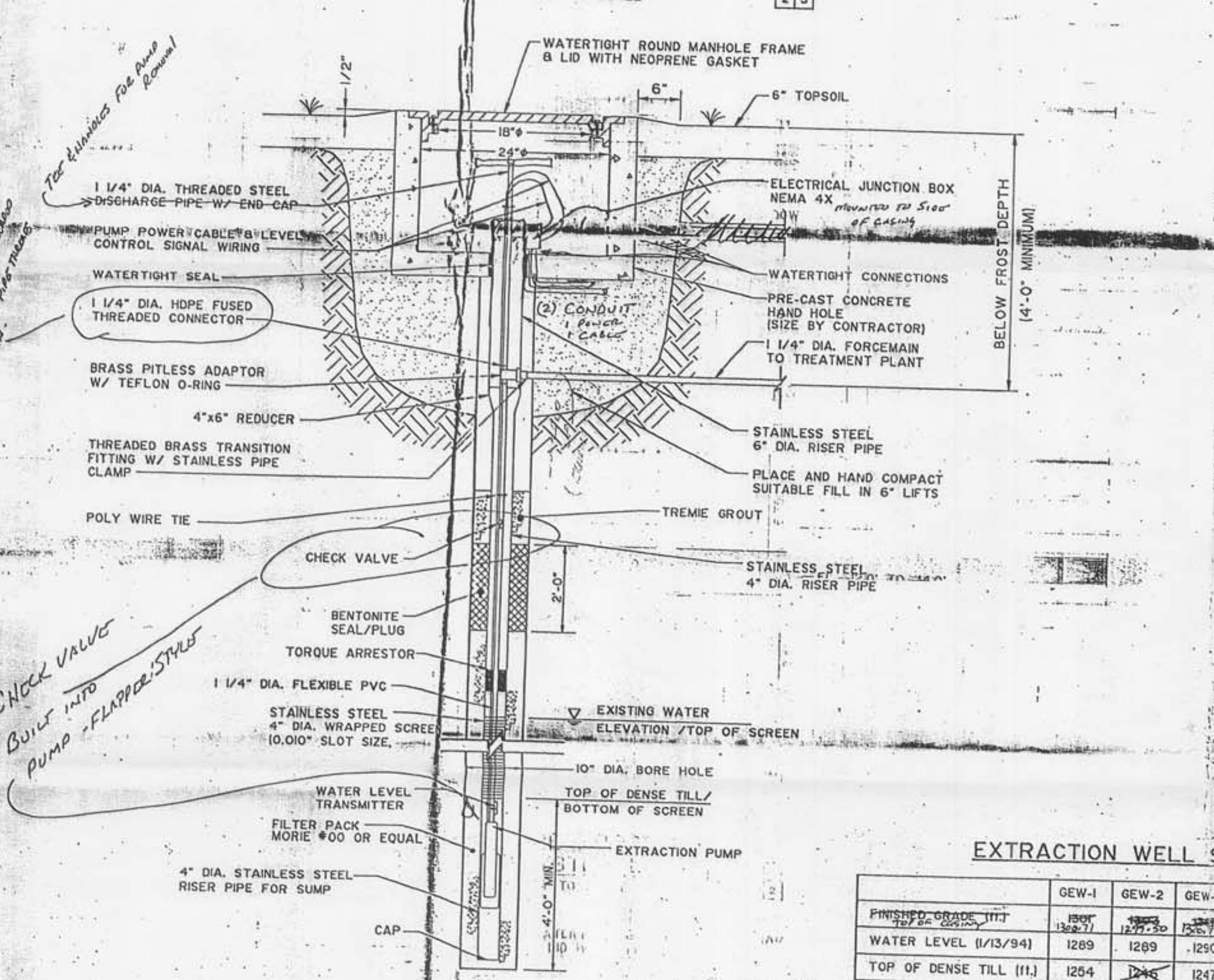
NOT TO SCALE



NOTE: ALL DIMENSIONS ARE APPROXIMATE
ALL WALLS ARE MASONRY BLOCK

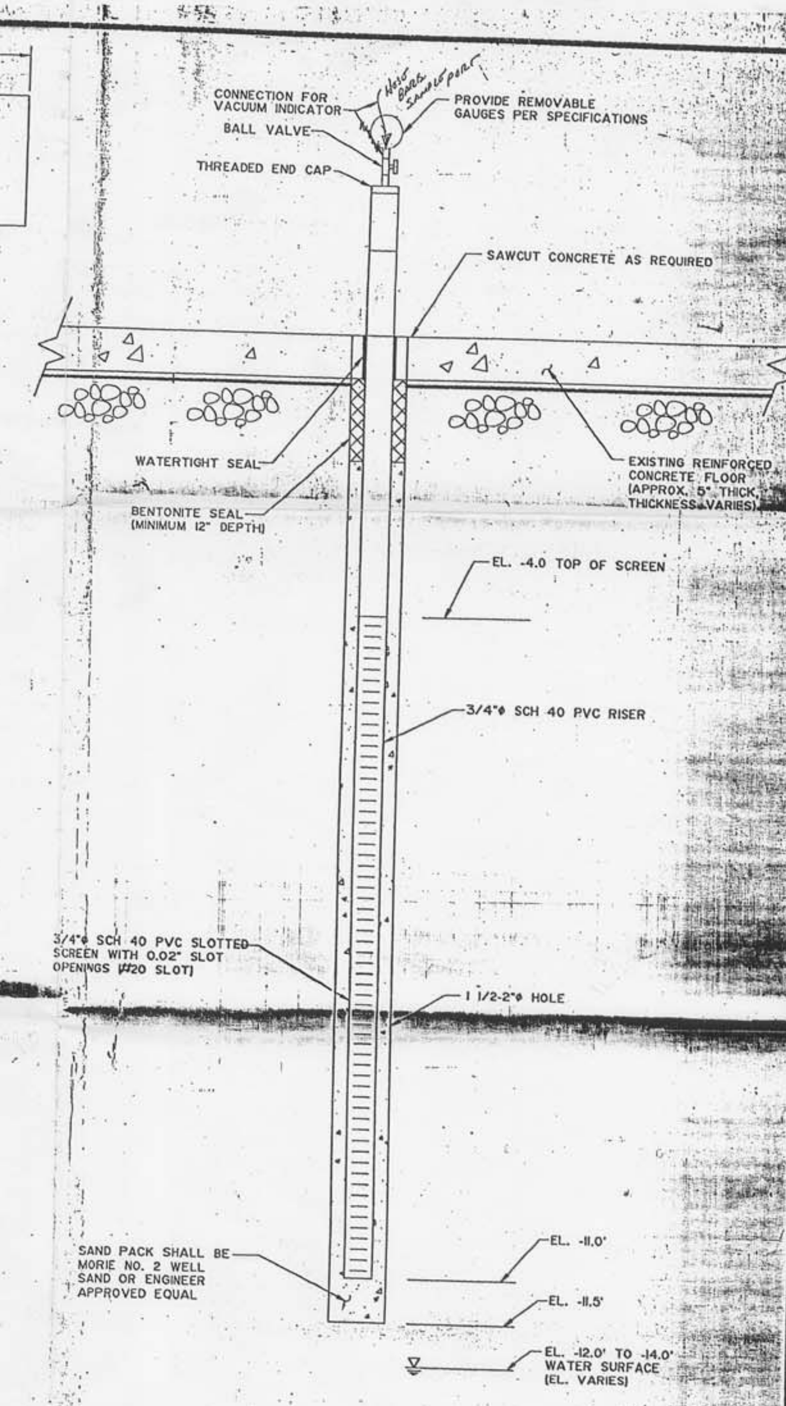
STRUCTURE PROPOSED FOR SVET SYSTEM LOCATION

NOT TO SCALE



EXTRACTION WELLS GEW-1 TO GEW-6 TYPICAL DETAIL

NOT TO SCALE



PRESSURE MONITOR TYPICAL DETAIL (INSIDE BUILDING)

NOT TO SCALE

EXTRACTION WELL SCHEDULE

	GEW-1	GEW-2	GEW-3	GEW-4	GEW-5	GEW-6	GEW-7	GEW-8	GEW-9	10
~~FINISHED GRADE (ft.)~~ TOP OF CASING	~~1301~~ 1300.71	~~1303~~ 1299.30	~~1302~~ 1300.75	~~1303~~ 1301.85	~~1305~~ 1303.91	~~1305~~ 1304.86	1300.32	1301.06	1302.40	1305.26
WATER LEVEL (1/13/94)	1289	1289	1290	1285	1282	1283				
TOP OF DENSE TILL (ft.)	1254	~~1246~~ 1242.5	1247	1252 1250.85	1256 1254.9	1269	1248	1247	1252	1266

NOTE:
ALL ELEVATIONS ARE APPROXIMATE. WELL DIMENSIONS SHALL BE DETERMINED BASED ON ACTUAL FIELD CONDITIONS AND AS APPROVED BY ENGINEER.

SVET wells (Depth)	
Ex-1	9.5
Ex-2	11.0
Ex-3	11.0
Ex-4	14.0
Ex-5	16.0
Ex-6	17.0
I-1	11.0
I-2	11.0
I-3	11.0
I-4	11.3
I-5	11.0

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION

REVISIONS

DESIGNED BY: D.A.M.
DRAWN BY: R.A.L.
CHECKED BY: C.W.P.
PROJ. MGR. D.R.I.

URS Consultants, Inc.
CONSULTING ENGINEERS
BUFFALO NEW YORK

JOB No. 35438.03

STATE OF NEW YORK — LICENSED PROFESSIONAL ENGINEER

ROBESON INDUSTRIES SITE
TOWN OF CASTILE
WYOMING COUNTY, NEW YORK
SITE NO. 9-61-008
CONTRACT NO: D003658

Prepared for:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
50 WOLF ROAD
ALBANY, NEW YORK

SOIL VAPOR AND GROUNDWATER EXTRACTION WELL DETAILS "AS-BUILT"

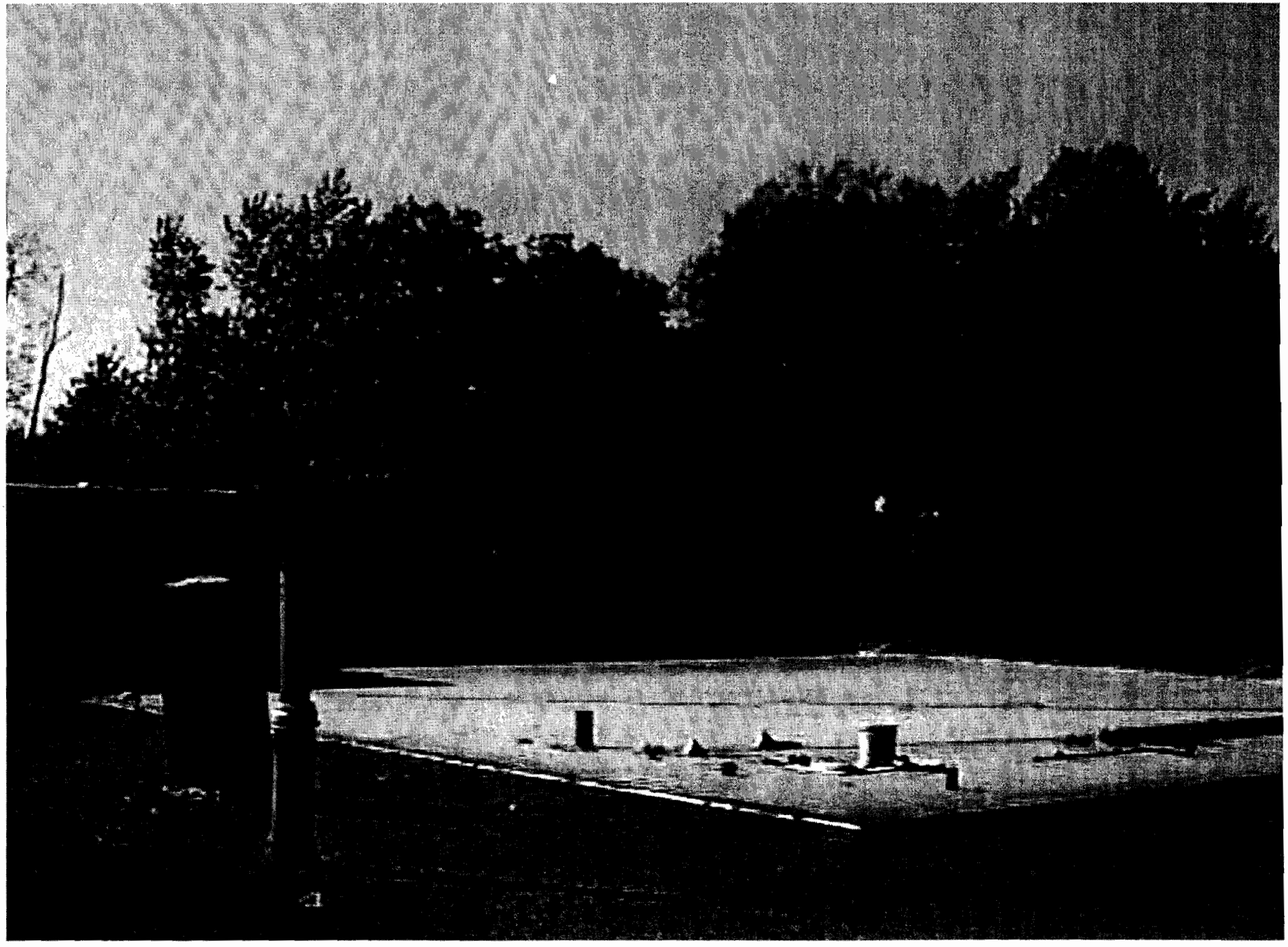
Scale: AS NOTED | Date: MAR. 97 | DWG. NO. 5

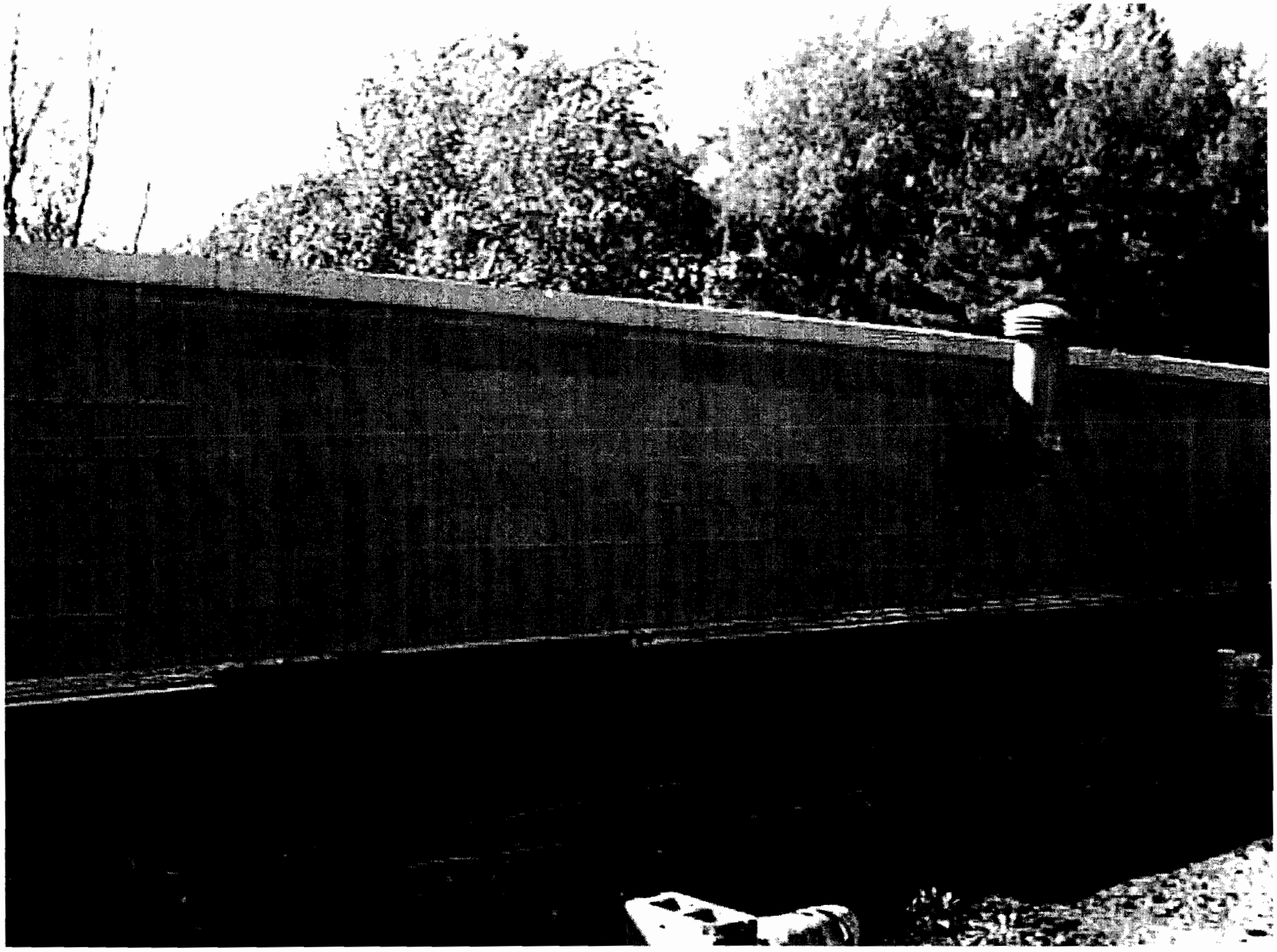
APPENDIX B

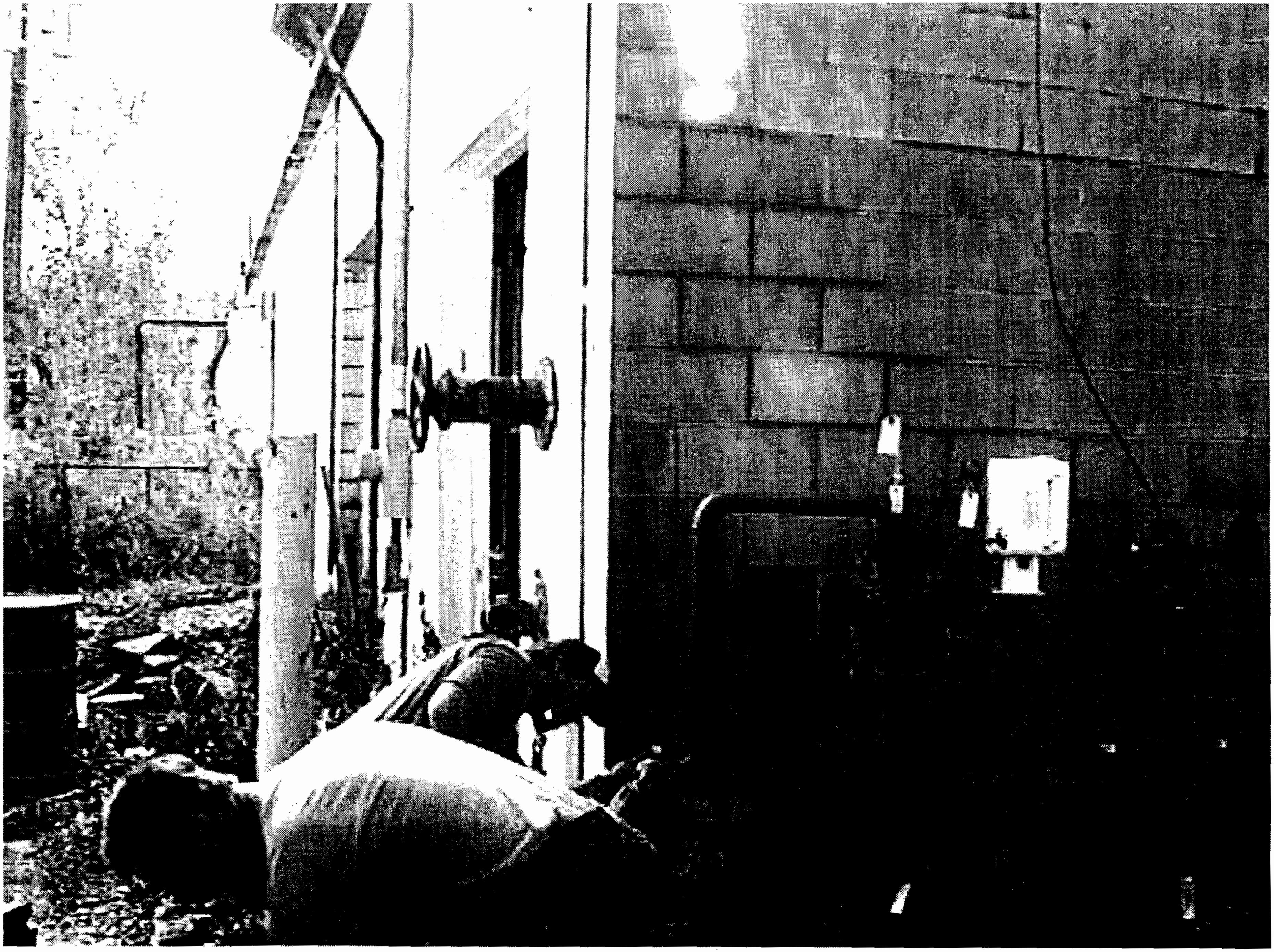
CONSTRUCTION PHOTOGRAPHS

CONSTRUCTION PHOTOGRAPHS OF MAJOR SITE ACTIVITIES

1. Decontamination Pad and Wastewater Storage Tank
2. Roof Repairs for the Treatment Building
3. Roof Repairs for the Treatment Building
4. Installation of Natural Gas Line
5. Natural Gas Meter at Northeast Corner of the Old Building
6. SVET System Extraction Manifold Piping Inside the New Building
7. Typical SVET System Extraction Well Head
8. Typical SVET System Vacuum Monitoring Piezometer
9. SVET System Extraction Well EX-3, Located Outside the Treatment Building
10. SVET System Blower (uncovered) and Moisture Separator
11. SVET System Filters
12. Rear View of the New Building, Location of Groundwater Extraction Wells
13. Installation of Groundwater Extraction Well Manhole
14. Groundwater Extraction Well Manhole (Top View Showing "T" Handle")
15. Main Trench Showing Water Lines and Control Conduits for the Extraction Wells
16. Main Trench Showing Water Lines and Control Conduits for the Extraction Wells
17. Influent and Effluent Lines for the GWET System Prior to Insulation
18. Influent Lines, Manifold, and Static Mixer for the Groundwater Extraction Wells
19. Control Panel Including the PLC, Operator Interface, Flow Meters, and Running Lights
20. GWET System Equalization Tank
21. GWET System Sequestering Agent Drum and Metering Pump
22. GWET System Bag Filtration Unit
23. Bag Filtration Unit and Air Stripper
24. Air Stripper Blower and Transfer Pumps
25. GWET System Air Stripper
26. Rear View of Treatment Building and Thermal Oxidizer
27. Rear View of Treatment Building and Thermal Oxidizer







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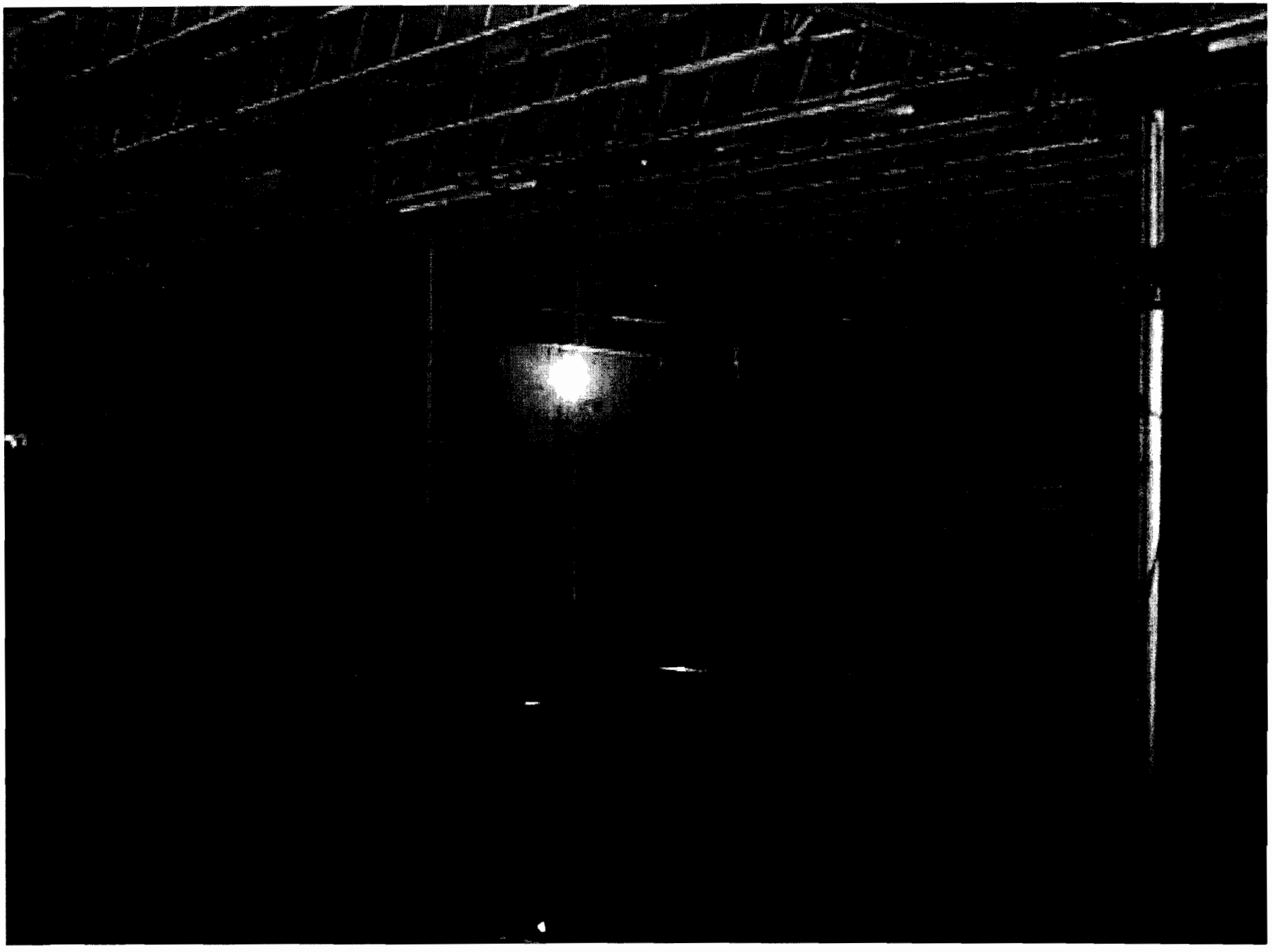

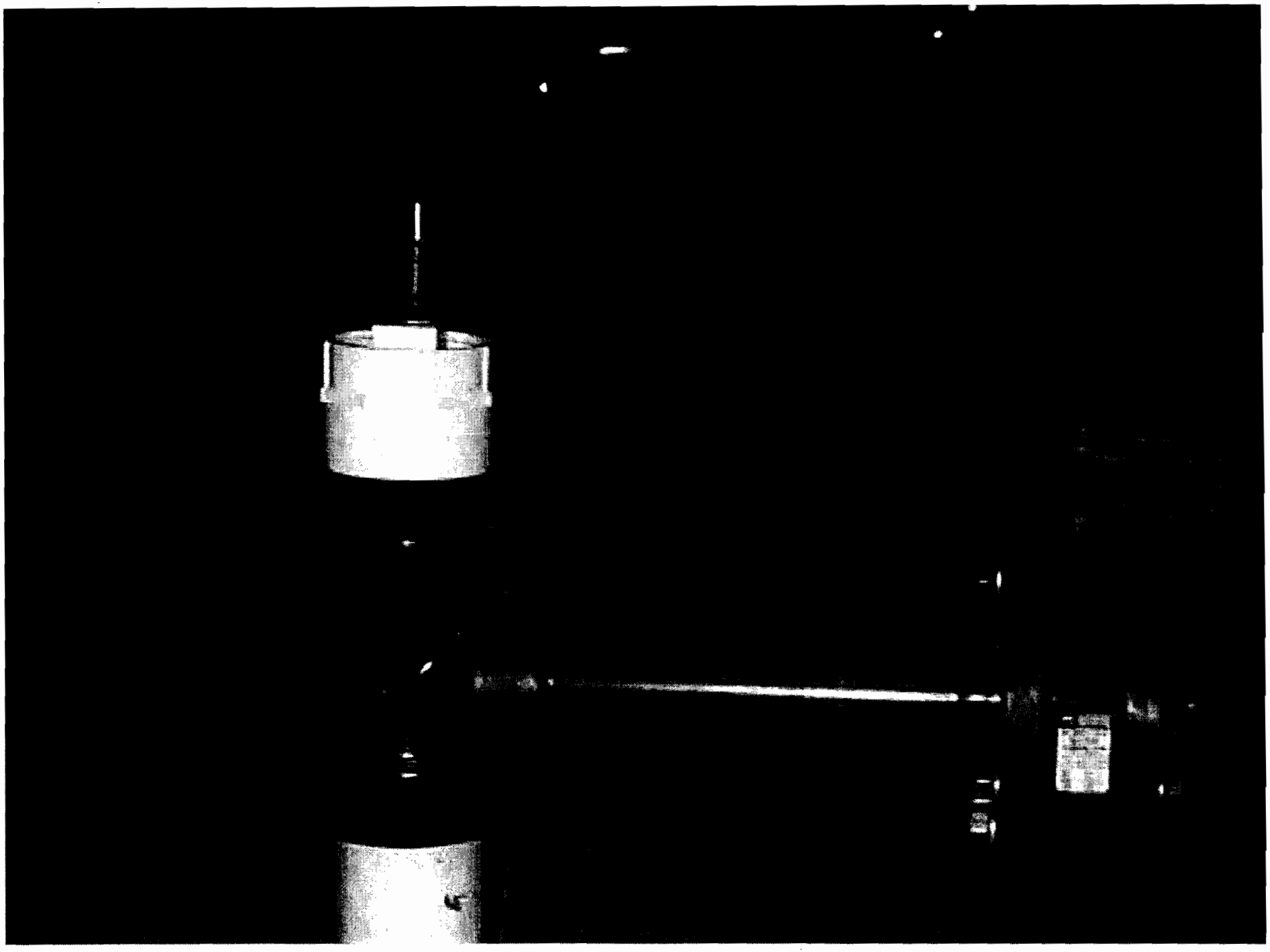

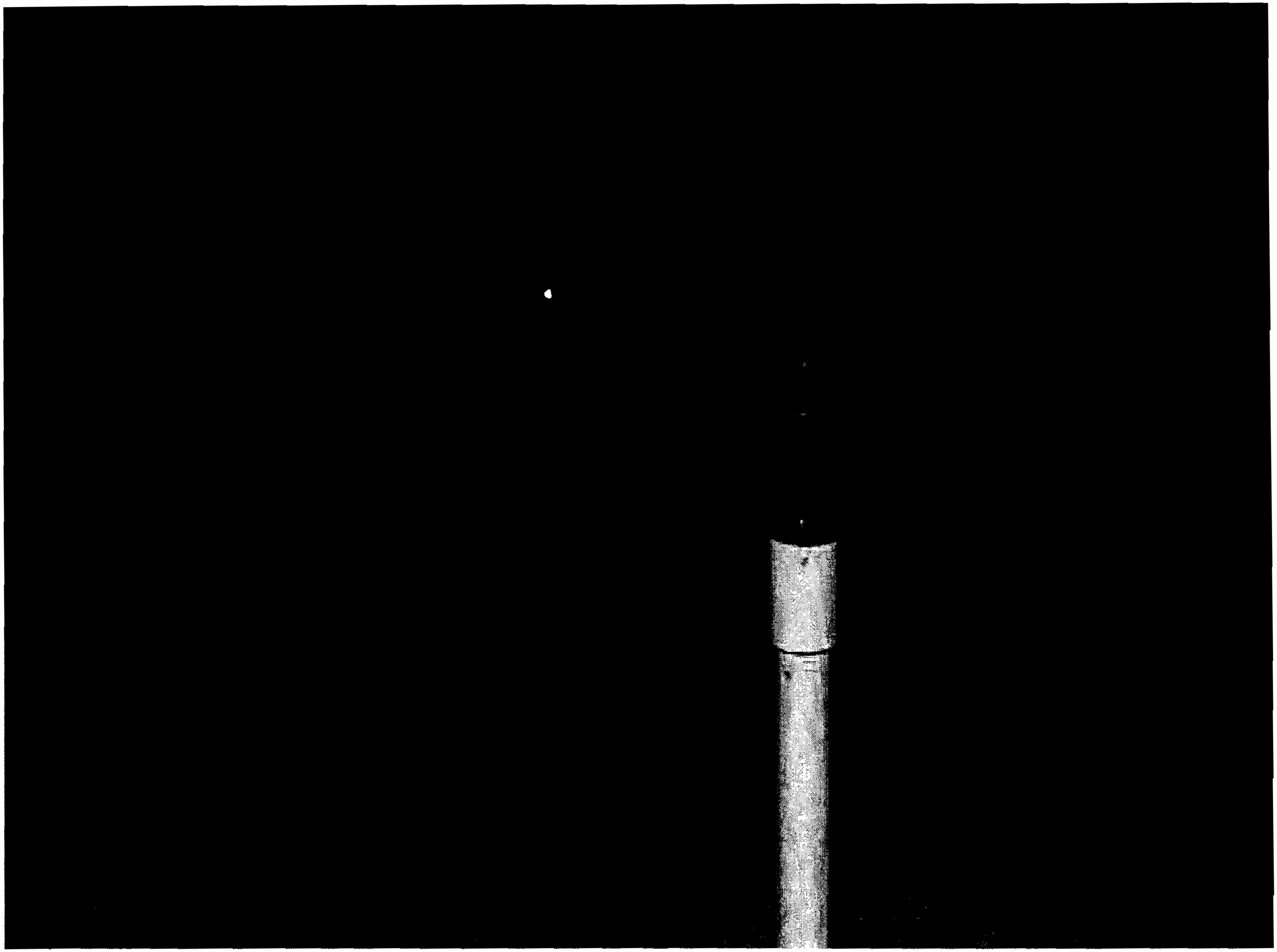

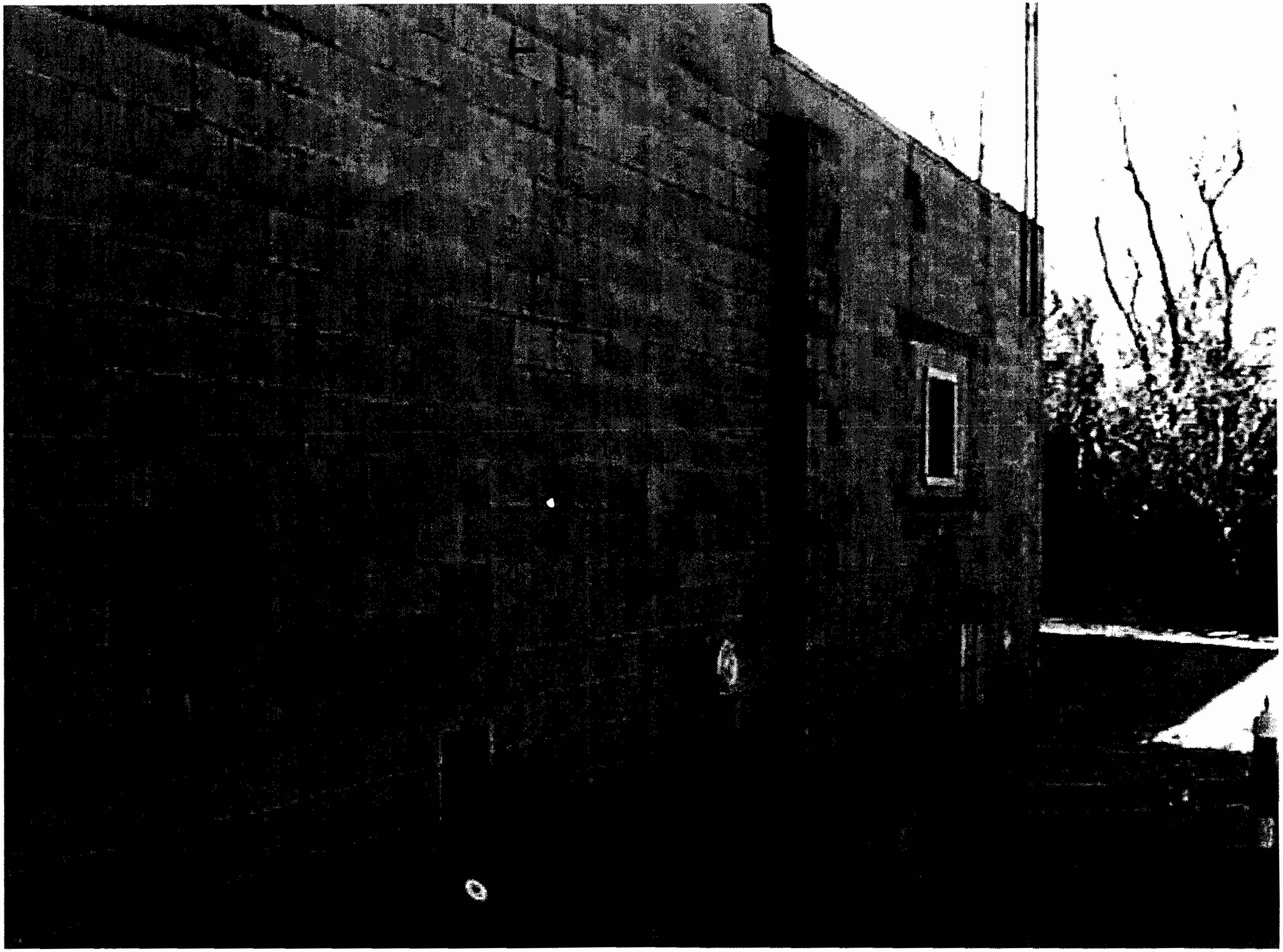

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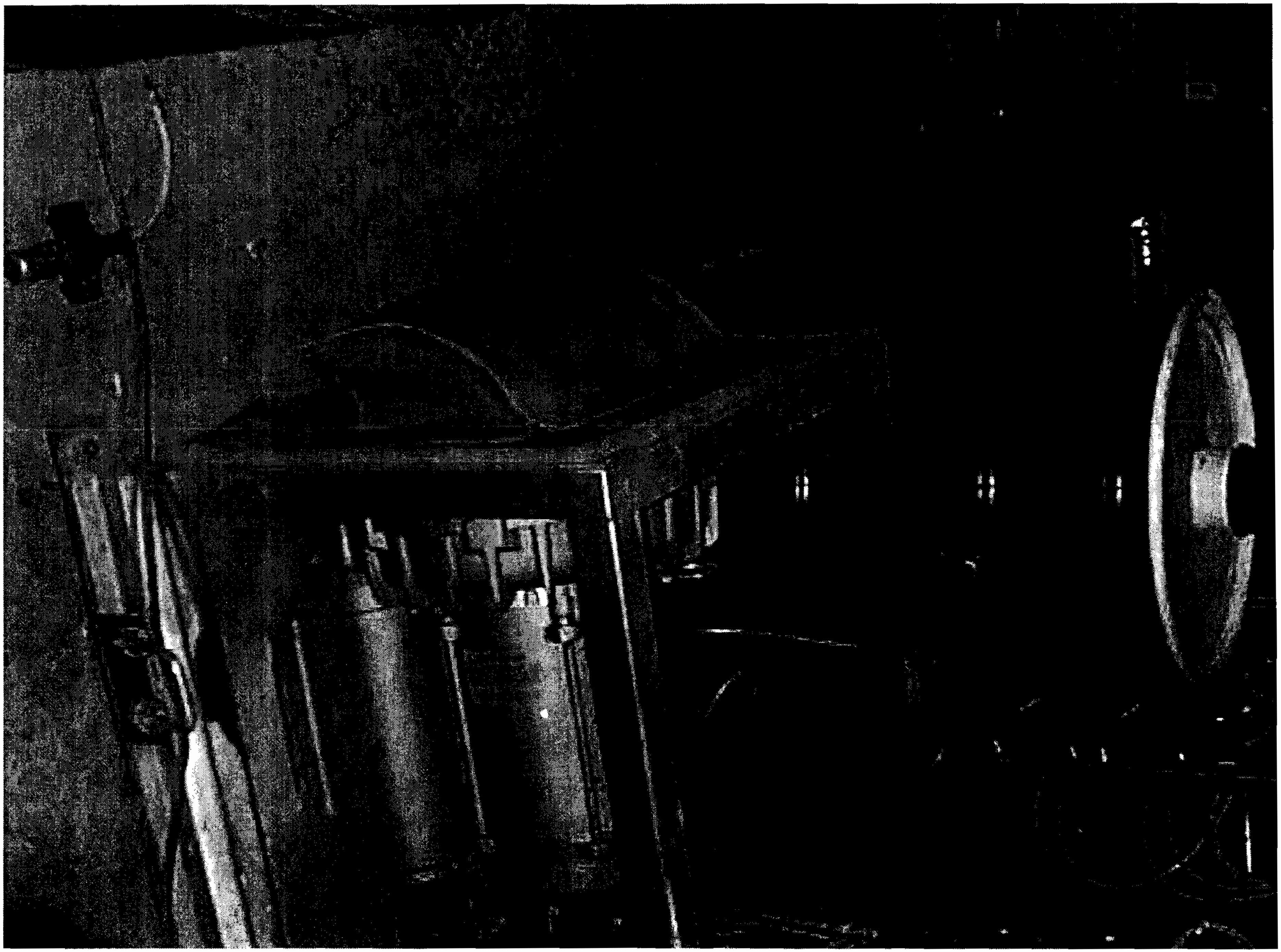

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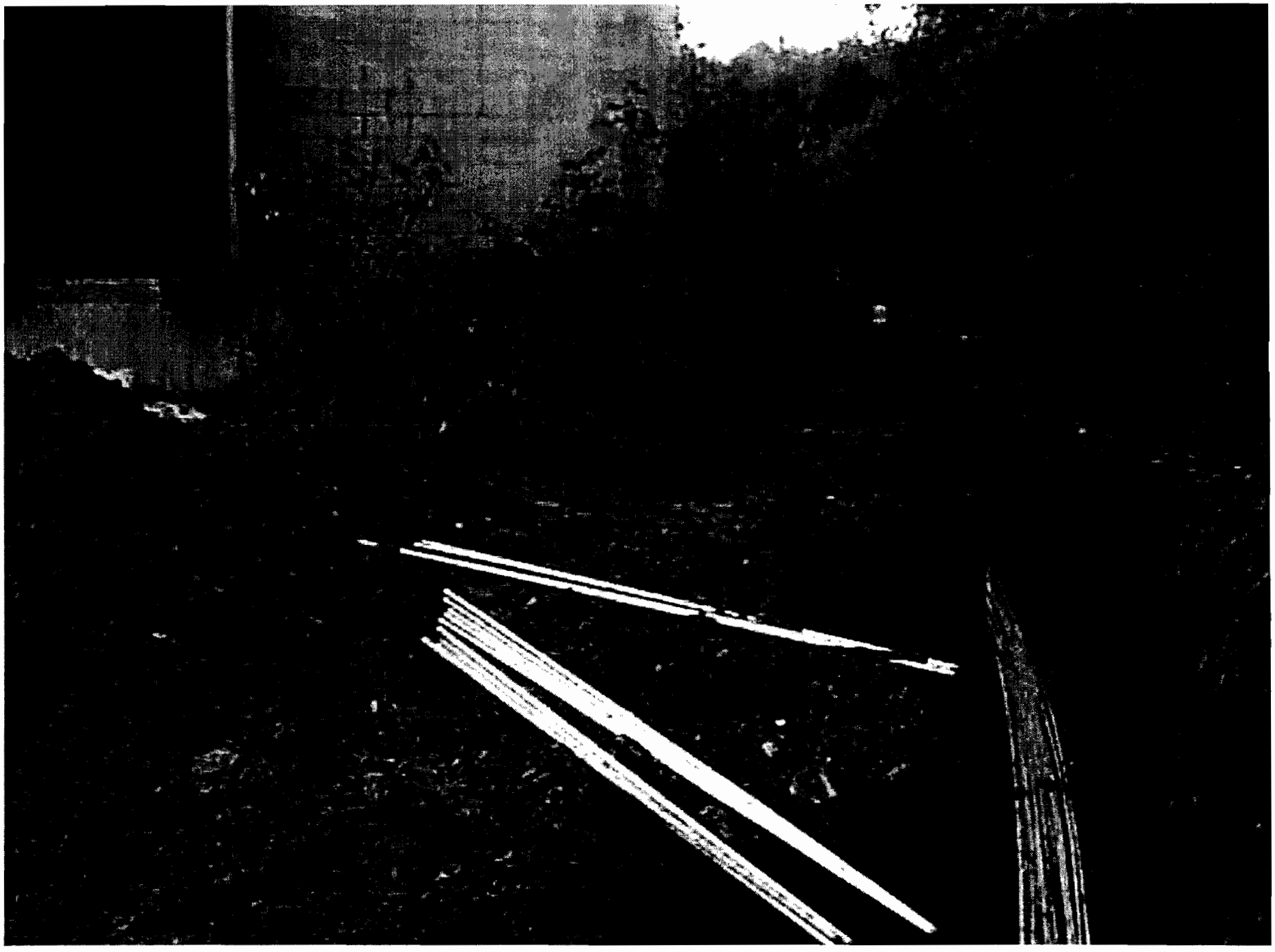

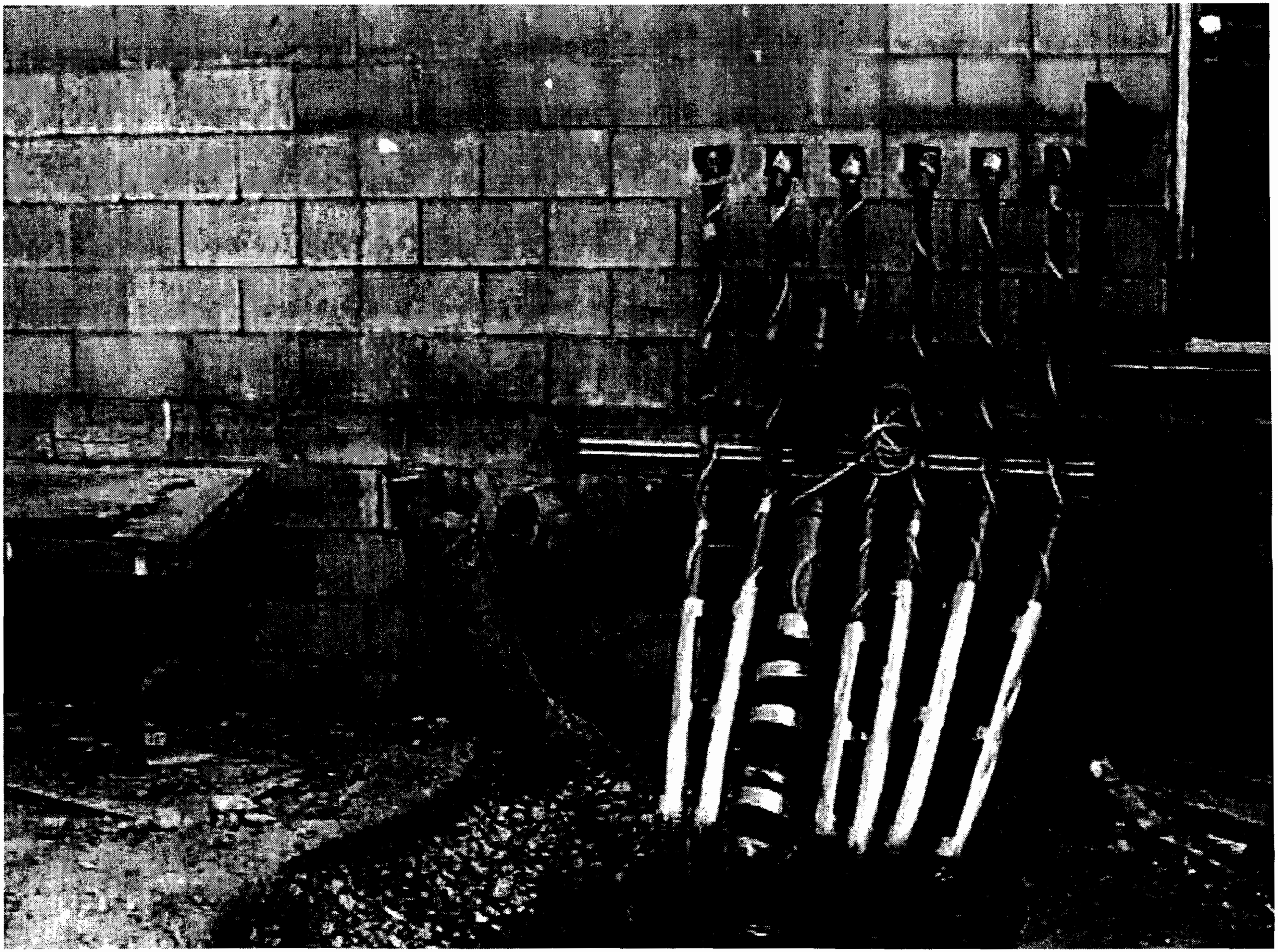

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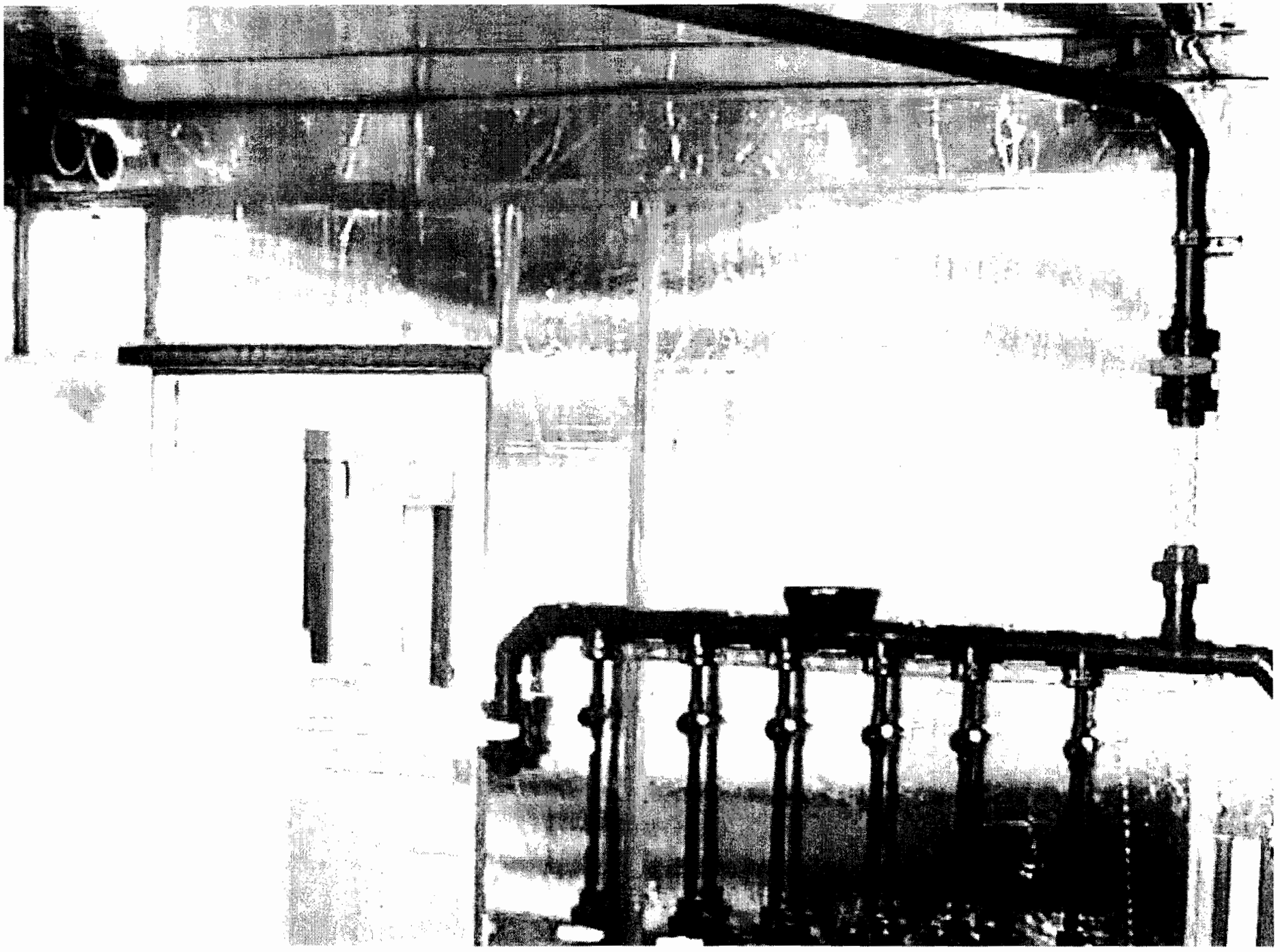

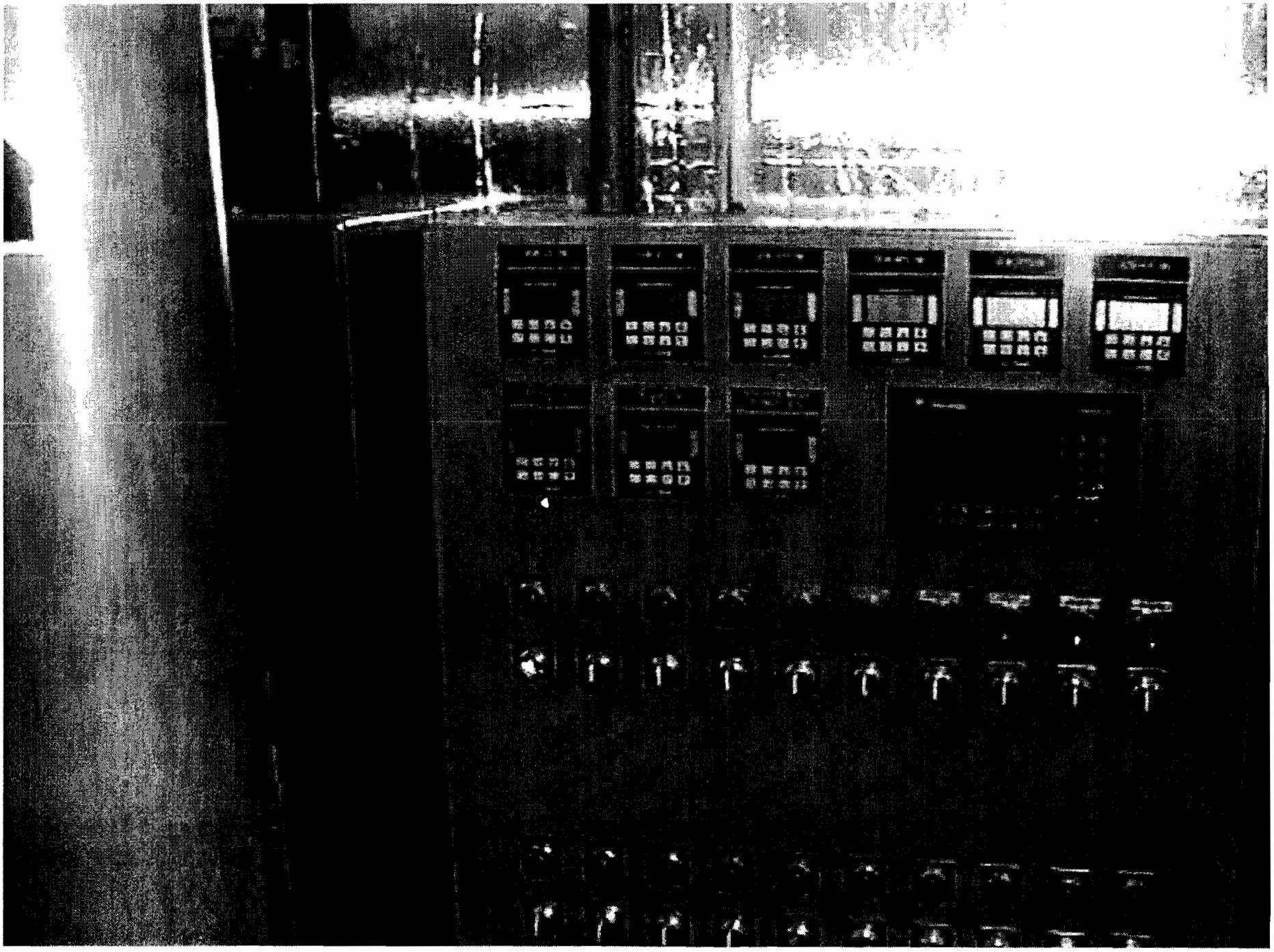

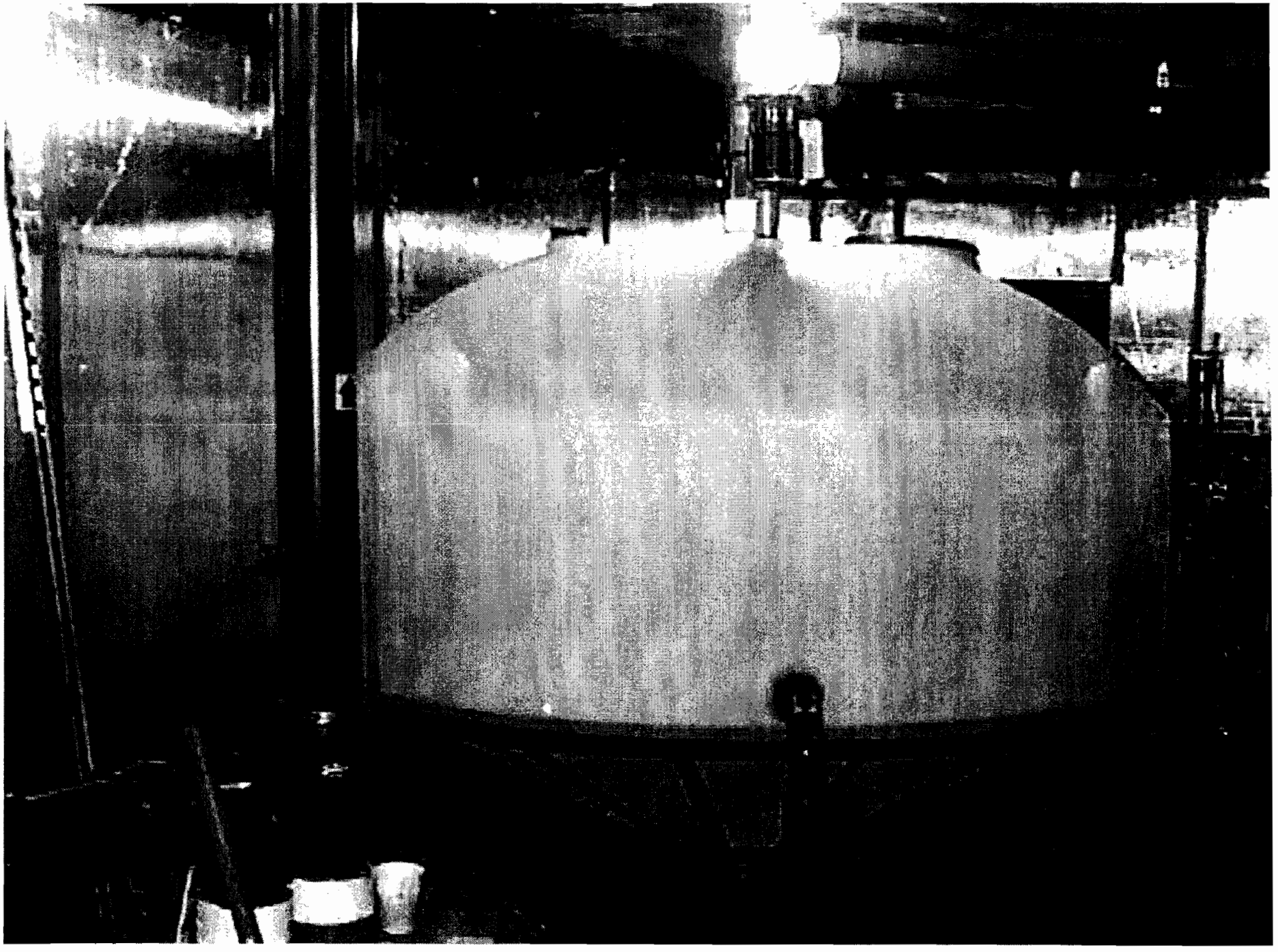

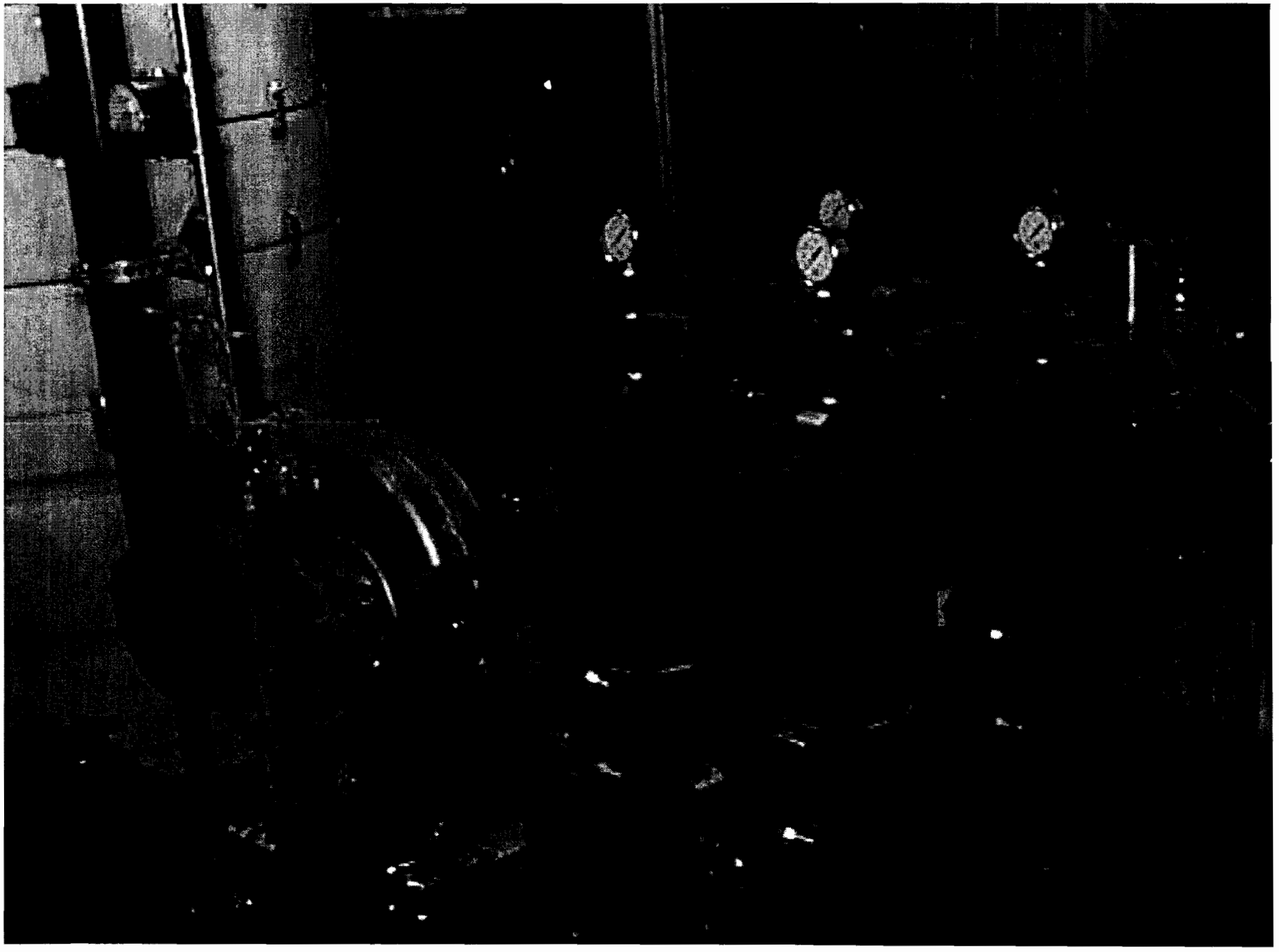

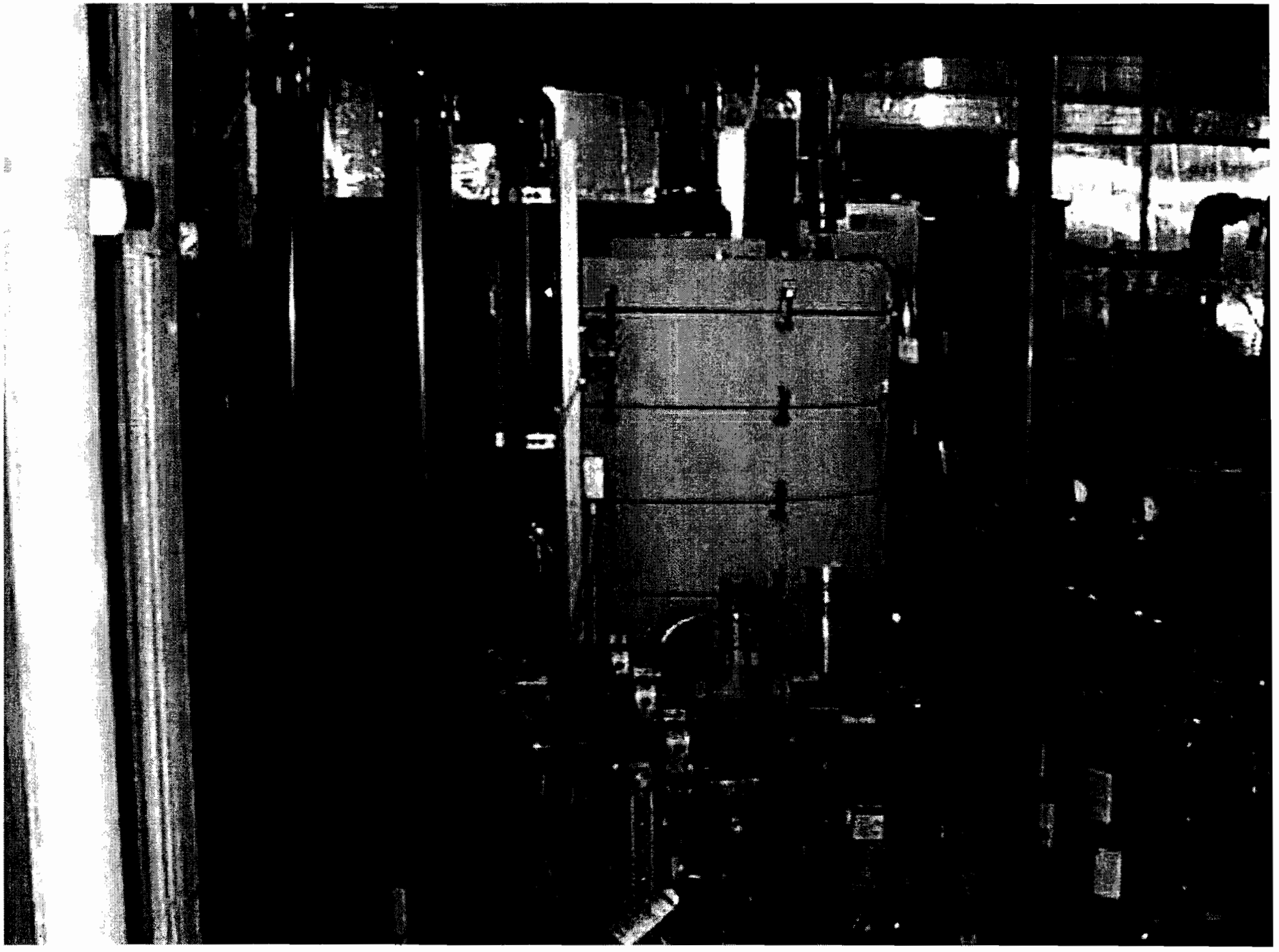

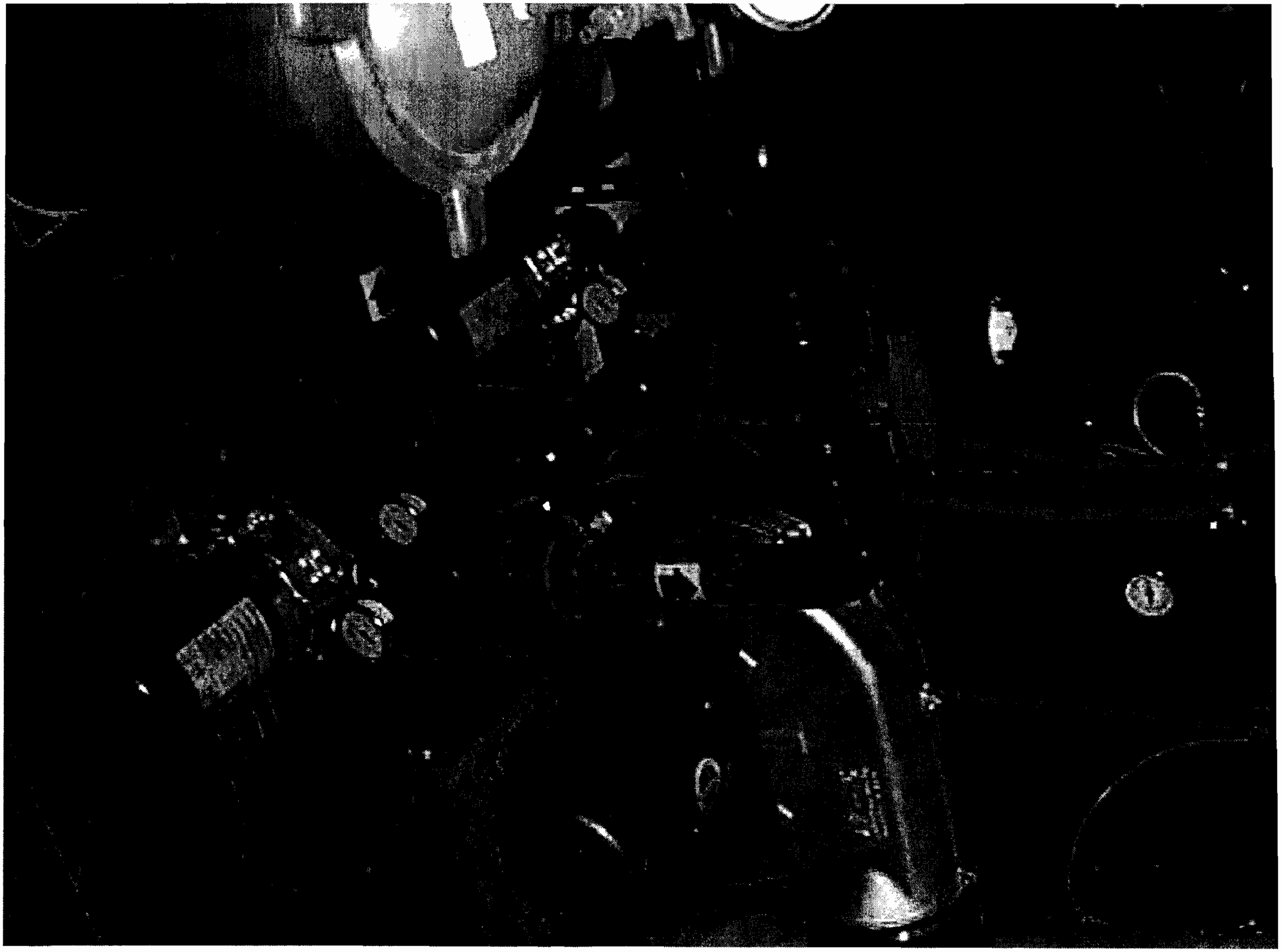

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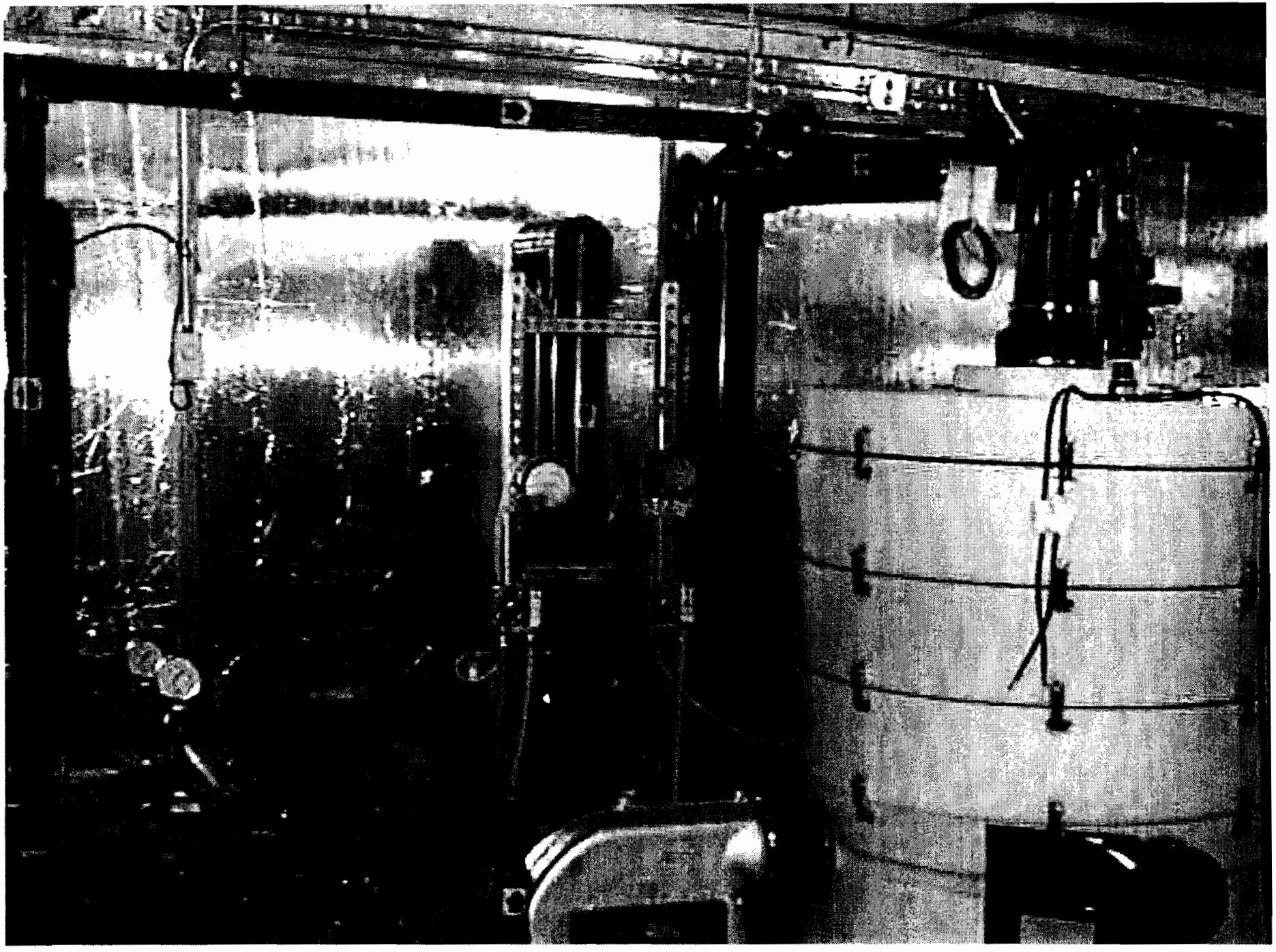

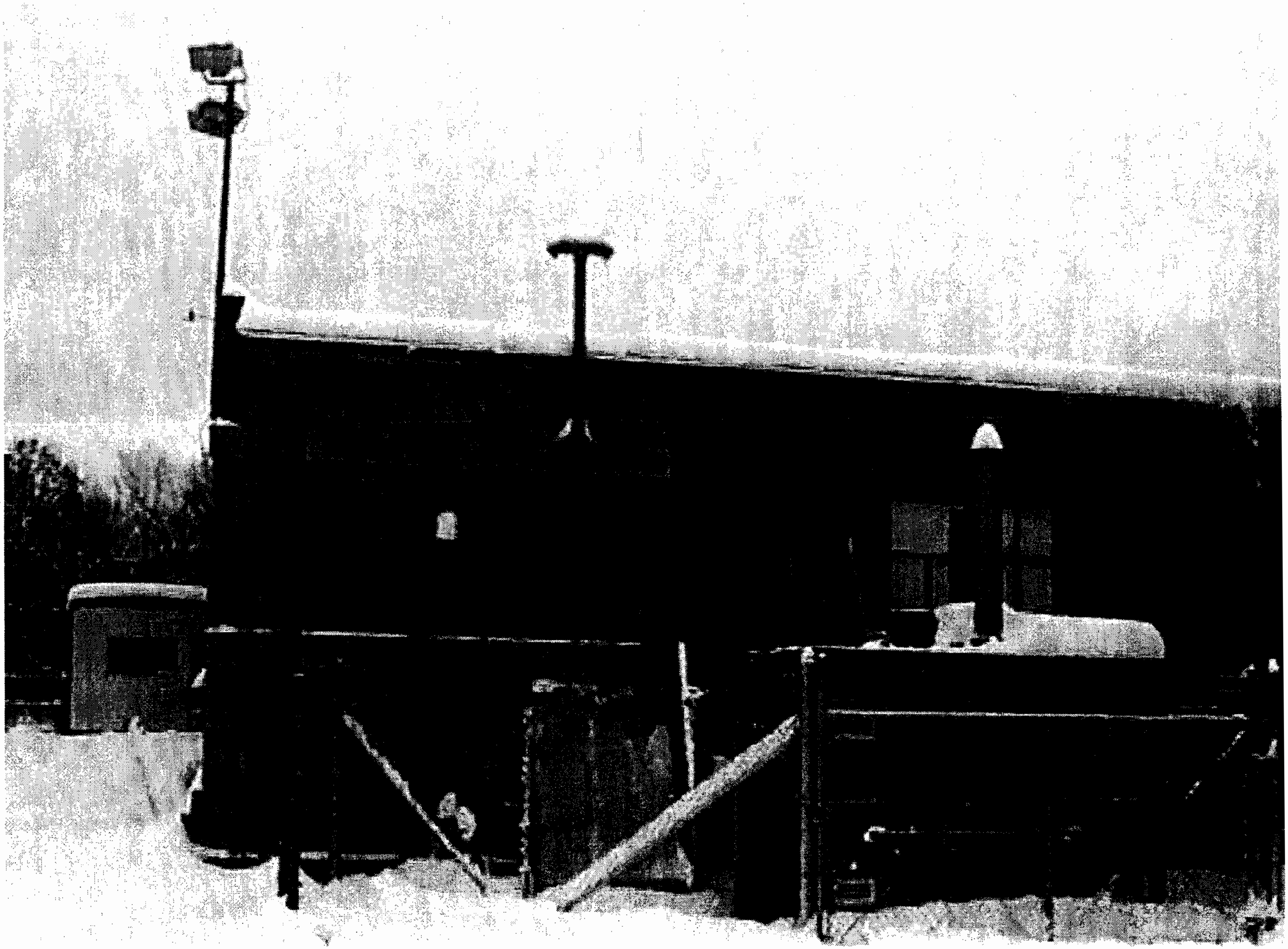

APPENDIX C

CHANGE ORDERS

Robeson Industries Site Remedial Action
Contract No. D003658
Site No. 9-61-008
Change Order No. 1

Change Order Amount: $44,115.69 Date of Issue: November 12, 1997

Contractor's Name: Tyree Organization, Ltd.

Engineer's Name: URS Greiner Consultants, Inc. (URSG)

Change Order Items: This Change Order comprises twelve (12) items as discussed below.

I. CHANGE ORDER ITEMS

A. This change in the original contract is for Item #LS-2 - Site Preparation

DESCRIPTION OF CHANGE:

Five existing outdoor yard lights at the facility were repaired, including installation of new bulbs, lenses, and photocells. Five additional light fixtures were also installed inside the buildings for the treatment system.

DRAWING REFERENCE: Not Applicable

SPECIFICATION REFERENCE: Not Applicable

CONTRACTOR PAY ITEM NO.: LS-2 - "Site Preparation"

REASON FOR CHANGE:

This change order is necessary for:

Due to the history of vandalism at the site and other problems with security, some of the existing outdoor lights (5) at the former Robeson facility were repaired by the Contractor to provide night-time visibility and to discourage potential vandals. Repairs included cleaning of the housing (e.g., beehives) as well as the installation of new bulbs, lenses, and photocells. More indoor lighting fixtures (5) were also installed, within the facility, in the hallway that connects the two separate soil vapor extraction (SVE) treatment areas.

COST:

The Department and the Contractor negotiated a lump sum cost of $6,831.31 for the work involved with the repair / installation of the additional lighting.

Total **INCREASE** in Contract Price = $6,831.31

B. This change in the original contract is for Item #LS-2 - Site Preparation

DESCRIPTION OF CHANGE:

Replacement of a proposed electric heating unit for the treatment building with a gas-fired direct vent furnace. Includes installation of the furnace, gas piping, and ventilation ductwork.

DRAWING REFERENCE: Not Applicable

SPECIFICATION REFERENCE: Section 00507.3 and 00508.3 - Equipment Housing and Structural Supports

CONTRACT PAY ITEM NO.: LS-2 - "Site Preparation"

REASON FOR CHANGE:

This change order is necessary for:

Due to the isolated location of the site and the potential for electric outages during the winter months, there was concern that the equipment in the treatment building would freeze if the power source was cut off for any significant length of time. The proposed furnace does not require any electricity for operation and should provide a more reliable source of heat. Additionally, the long-term cost of operation for the unit will be significantly less than for an electric furnace.

COST:

The Department and the Contractor negotiated a lump sum cost for the work involved as follows:

1.	Gas piping, fittings, and valves	$350.00	
2.	Ductwork	$154.00	
	Subtotal Material	$504.00	$504.00
3.	Tyree's Fee (10%)		$ 50.40
4.	6 hours installation @ $52/hr		$312.00
5.	Tyree's Fee (15%)		$ 46.80
6.	Credit for Electric Furnace		- $350.00
	Total **INCREASE** in Contract Price =		$563.20

C. This change in the original contract is for Item #LS-2 - Site Preparation

DESCRIPTION OF CHANGE:

Repairs to the roof and bracing of a wall were made to the room housing the treatment system components.

DRAWING REFERENCE: Not Applicable

SPECIFICATION REFERENCE: Section 00507.3 and 00508.3-Equipment Housing and Structural Supports

CONTRACT PAY ITEM NO.: LS-2 - "Site Preparation"

REASON FOR CHANGE:

This change order is necessary for:

The Contractor chose to house the soil vapor extraction treatment (SVET) and groundwater extraction treatment (GWET) treatment systems within an existing room of the facility at the site. However, after work started at the site, it became apparent that the roof of the facility was weak and leaking through some of the walls. Although the Contractor had budgeted for some minor repairs to the roof of the facility, URSG and the Department determined that it would be beneficial to make the repairs to the roof long term.

Through a structural inspection by the Engineer the western wall of the facility was determined to show some deterioration at floor level where it had moved outward and where the mortar between the blocks shows some signs of cracking. Most of this damage is believed to have been caused by water leaking into the facility and freezing. Elimination of the water leakage is expected to prevent further damage but bracing is being added to the outside of this wall by the Contractor as an additional factor of safety.

COST:

The Department and the Contractor negotiated a lump sum cost for the repairs to the roof and the wall bracing, the cost of which was split between the Department and the Contractor (after deduction of the costs that the Contractor had originally budgeted).

Total INCREASE in Contract Price = $4,766.00

D. This change in the original contract is for Item #LS-2 - Site Preparation

DESCRIPTION OF CHANGE:

Existing loading bay doors, garage doors, windows, and other openings at the facility will be closed and secured by the Contractor. Existing doors will be used where possible; others will be secured using sheets of ¾-inch plywood.

DRAWING REFERENCE: Not Applicable

SPECIFICATION REFERENCE: Not Applicable

CONTRACT PAY ITEM NO.: LS-2 - "Site Preparation"

REASON FOR CHANGE:

This change order is necessary for:

Most of the SVET system extraction wells and piping are located outside of the locked treatment room. Due to vandalism at the site and other problems with security, all of the doors to the facility will be closed, locked and secured to limit unauthorized access to the buildings.

COST:

The Department and the Contractor negotiated a lump sum cost for the work involved as follows:

1.	Close and secure doors & windows (Subcontractor)	$1,641.00
2.	Tyree's Fee (5%)	$82.05
Total		$1,723.00

Total **INCREASE** in Contract Price = $1,723.00

E. This change in the original contract is for Item #LS-4 - GWET System Installation

DESCRIPTION OF CHANGE:

The Contractor was required to install approximately 200-feet of 1¼-inch diameter gas piping between the location of the gas company's meter and the location of the Catox unit.

DRAWING REFERENCE: Not Applicable

SPECIFICATION REFERENCE: Not Applicable

CONTRACT PAY ITEM NO.: LS-4 - "GWET System Installation, Startup and Performance Testing"

REASON FOR CHANGE:

This change order is necessary for:

The local natural gas company was unwilling to excavate through potentially contaminated soil at the site for the installation of the gas service to the Catox unit. Therefore, the gas meter was installed on the eastern side of the building outside of the contaminated area. The Contractor was required to install gas piping from the meter location to the Catox unit on the western side of the building.

COST:

The Department and the Contractor negotiated a lump sum cost for the work involved as follows:

1.	Install piping, hangers, flexible connections, and pressure test line (Subcontractor)	$2,241.00
2.	Tyree's Fee (5%)	$112.00
	Total	$2,353.00

Total **INCREASE** in Contract Price = $2,353.00

F. This change in the original contract is for Item #LS-7 - Utility Allowance

DESCRIPTION OF CHANGE:

The charges by the natural gas and electric utility companies were higher than estimated in the bid allowance.

DRAWING REFERENCE: Not Applicable

SPECIFICATION REFERENCE: Section 00502 - Site Preparation

CONTRACT PAY ITEM NO.: LS-7 - "Utility Allowance"

REASON FOR CHANGE:

This change order is necessary for:

The charges for the provision of service to the site by the utility companies was higher than had been estimated. The original estimates provided by the utility companies had assumed that the site would require a residential type of service instead of an industrial service. Therefore, the costs are higher than expected.

COST:

1.	National Fuel (Natural Gas)	$7,378.53
2.	NYSEG (Electric Utility)	$4,281.00
3.	Bid Allowance	- $6,000.00
	Total	$5,659.53

Total **INCREASE** in Contract Price = $5,659.53

G. This change in the original contract is for Item #LS-2 - "Site Preparation"

DESCRIPTION OF CHANGE:

The Contractor collected and disposed of 7,500 gallons of septic tank liquid and sludge.

DRAWING REFERENCE: Not Applicable

SPECIFICATION REFERENCE: Not Applicable

CONTRACT PAY ITEM NO.: LS-2 - "Site Preparation"

REASON FOR CHANGE:

This change order is necessary for:

During the design phase of the project, the septic tank could not be located. However, during the pre-bid conference at the site, the tank was found. The tank contents were subsequently pumped out to determine whether the building roof drains or other water sources were still connected to the tank, and whether the tank may be a potential source of contamination.

COST:

The Department and the Contractor negotiated a lump sum cost for the work involved as follows:

1.	Remove septic tank contents (Subcontractor)	$665.00
2.	Tyree's Fee (5%)	$ 33.25
	Total	$698.25

Total **INCREASE** in Contract Price = $698.25

H. This change in the original contract is for Item #LS-4 - GWET System Installation

DESCRIPTION OF CHANGE:

A bag filter system, consisting of two bag filters, installed in parallel, will be added to the system. The bag filter system will also include pressure sensors and automatic valves to bypass the filters when necessary. All piping, valves, fittings, pressure gauges, and other appurtenances are included for a complete skid-mounted system.

DRAWING REFERENCE: Not Applicable

SPECIFICATION REFERENCE: Not Applicable

CONTRACTOR PAY ITEM NO.: LS-4 - "GWET System Installation, Startup and Performance Testing"

REASON FOR CHANGE:

This change order is necessary for:

Due to the quantity of silt and solids that have been present in the water collected during the development of the extraction wells, it was determined that the installation of bag filters is warranted. The purpose of the bag filtration system is to prevent the buildup of solids in the treatment system.

COST:

The Department and the Contractor negotiated a lump sum cost for the installation of the bag filtration system as follows:

1.	Bag Filters (Subcontractor)	$1,435.00
2.	Skid, Piping, Gauges, etc. (Subcontractor)	$2,315.00
3.	Automatic Bypass Equipment (Subcontractor)	$2,946.00
4.	Electrician (Subcontractor)	$300.00
	Subtotal	$6,996.00
3.	Tyree's Fee (5%)	$349.80
4.	Tyree Labor (6 man-hours @ $48/hr, 4 man-hours @ $52.00/hr)	$496.00
5.	Tyree's Fee (15%)	$74.40
6.	Tyree Materials (piping, misc.)	$175.00
7.	Tyree's Fee (10%)	$ 17.50
	Total	$8,108.70

Total **INCREASE** in Contract Price = $8,108.70

I. This change in the original contract is for Item #UC-5 - Additional Groundwater Extraction Wells

DESCRIPTION OF CHANGE:

An additional groundwater extraction well (tenth overall well installed), complete with the well installation and development, pump, level transmitter, and all other costs associated with connecting the well into the GWET system are included.

DRAWING REFERENCE: Not Applicable

SPECIFICATION REFERENCE: Section 00505

CONTRACTOR PAY ITEM NO.: UC-5 - "Additional Groundwater Extraction Wells"

REASON FOR CHANGE:

This change order is necessary for:

Based on the low groundwater collection rates observed during the installation and development of the six installed wells, URSG and the Department determined that four additional wells should be installed in an attempt to improve the groundwater collection of the system. The original bid for this item provided only for the installation of three additional wells. This change order item covers the fourth additional well.

COST:

The Department and the Contractor negotiated a lump sum cost for the work involved as follows:

1.	Well Installation (Subcontractor)	$3,716.00
2.	Well Equipment (Subcontractor)	$2,950.00
3.	Electrical (Subcontractor)	$1,000.00
	Subtotal	$7,666.00
4.	Tyree's Fee (5%)	$383.30
	Subtotal Subcontractor	$8,049.30
5.	Manhole	$575.00
6.	Pipe, hose, misc. fittings	$300.00
	Subtotal	$875.00
7.	Tyree's Fee (10%)	$87.50
	Subtotal Materials	$962.50
8.	Hydrologist (12 hours @ $54/hr)	$648.00
9.	Tyree Labor (32 hours @ $55/hr)	$1,760.00
10.	Per Diem (2 days @ $75/day)	$150.00
	Subtotal	$2,558.00
11.	Tyree's Fee (15%)	$383.70
	Subtotal Labor	$2,941.70
	Total **INCREASE** in Contract Price =	$11,953.50

J. This change in the original contract is for Item #LS-2 - Site Preparation

DESCRIPTION OF CHANGE:

Vandalism to an existing fence at the site was repaired.

DRAWING REFERENCE: Not Applicable

SPECIFICATION REFERENCE: Not Applicable

CONTRACTOR PAY ITEM NO.: LS-2 - "Site Preparation"

REASON FOR CHANGE:

This change order is necessary for:

Vandals had used a car to ram an existing fence in order to gain access to the site. Although the fence was not part of the original contract, due to the history of vandalism at the site and other problems with security, URSG and the Department determined that it would be prudent to repair this fence for added security at the site.

COST:

The Department and the Contractor negotiated a lump sum cost for the work involved as follows:

1.	Fence Repairs (Subcontractor)	$1,389.72
2.	Tyree's Fee (5%)	$69.48
	Total **INCREASE** in Contract Price =	$1,459.20

K. This change in the original contract is for Section VI, Attachment A - Substantial Completion Schedule (page VI-14).

DESCRIPTION OF CHANGE:

The number of days for Substantial and Final Completion for Parts 1 and 3 are extended by two weeks (14 days).

DRAWING REFERENCE: Not Applicable

SPECIFICATION REFERENCE: Section VI, Attachment A

CONTRACTOR PAY ITEM NO.: Not Applicable

REASON FOR CHANGE:

This change order is necessary for:

The Contractor requested a two week extension to the Contract time to account for delays by the utility company in installing electrical service to the site.

COST:

Not Applicable

L. This change in the original contract is for Section VI, Attachment A - Substantial Completion Schedule (page VI-14).

DESCRIPTION OF CHANGE:

The number of days for Substantial and Final Completion for Parts 1 and 3 are extended by 4 weeks (28 days).

DRAWING REFERENCE: Not Applicable

SPECIFICATION REFERENCE: Section VI, Attachment A

CONTRACTOR PAY ITEM NO.: Not Applicable

REASON FOR CHANGE:

This change order is necessary for:

The Contractor requested a 4 week extension to the Contract time due to delays incurred by the installation of the additional groundwater extraction wells and the associated changes to the control system.

COST:

Not Applicable

II. CHANGE ORDER No. 1 SUMMARY

A.	Item #LS-2 - Site Preparation *(Repair/Installation of Lighting)*	$6,831.31
B.	Item #LS-2 - Site Preparation *(Direct Vent Furnace)*	$ 563.20
C.	Item #LS-2 - Site Preparation *(Building Roof and Wall Repairs)*	$4,766.00
D.	Item #LS-2 - Site Preparation *(Securing Building Doors & Windows)*	$1,723.00
E.	Item #LS-4 - GWET System Installation *(Extension of Natural Gas Line)*	$2,353.00
F.	Item #LS-7 - Utility Allowance *(Increased Utility Installation Charges)*	$5,659.53
G.	Item #LS-2 - Site Preparation *(Removal of Septic Tank Contents)*	$698.25
H.	Item #LS-4 - GWET System Installation *(Bag Filtration System)*	$8,108.70
I.	Item #UC-5 - Additional Groundwater Extraction Wells *(Installation of Fourth Well)*	$11,953.50

J.	Item #LS-2 - Site Preparation *(Fence Repairs)*	$1,459.20
K.	Section VI, Attachment A *(2 Week Time Extension)*	Not Applicable
L.	Section VI, Attachment A *(4 Week Time Extension)*	Not Applicable
	TOTAL	$44,115.69

III. CHANGE IN CONTRACT PRICE

Original Contract Price:	$501,094.00
Contract Price after previous submitted Change Order (none):	$501,094.00
Net INCREASE due to this Change Order:	$ 44,115.69
New Contract Price including this Change Order:	$545,209.69

IV. CHANGE IN CONTRACT TIME

	CALENDAR DAYS	COMPLETION DATE
Original Contract Time:	540	January 19, 1999
Contract Time after Previous Change Order :	N/A	N/A
Net INCREASE due to this Change Order 1:	42	---
New Contract Time including this Change Order 1:	582	March 2, 1999

V. CHANGE IN CONTRACT

It is understood and agreed that, unless expressly so stated above, the work herein authorized will not extend the time for the completion of the contract.

It is understood and agreed that this change order represents full and complete compensation for all work described herein.

This work is to be performed in accordance with the terms of the contract and original plans and specifications, except as herein modified. It is understood and agreed that this order shall be deemed executory only to the extent of moneys available and no liability shall be incurred by the State beyond the moneys available for the purpose.

STATE OF)
) S:
COUNTY OF)

On the _____ day of ____________, 19___, before me personally came ________________________, to me known, who being duly sworn, did depose and say that (s)he resides in ______________________, New York; that (s)he is ______________________ of ________________________, the corporation described in and which executed the above instrument; that (s)he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by authority of the Board of Directors of said corporation and that (s)he signed his/her name thereto by the same authority.

____
Notary Public

STATE OF) New York
) S:
COUNTY OF) Erie
STATE OF)
) S:
COUNTY OF)

On the 14 day of November, 1997, before me personally came Dharmarajan Iyer, to me known and, being duly sworn, stated that (s)he is a member of employee of URS Greiner Consultants, the firm described in and which executed the foregoing instrument, and (s)he acknowledged to me that (s)he subscribed his/her name thereto on behalf of said firm.

Donald S. Root
Notary Public

99

STATE OF) New York
) S:
COUNTY OF) Albany

On the 19 day of November, 1997, before me personally came Gregory C Martin, to me known and, being duly sworn, stated that (s)he is a member of employee of Type Organization, Inc., the firm described in and which executed the foregoing instrument, and (s)he acknowledged to me that (s)he subscribed his/her name thereto on behalf of said firm.

TIFFANY R. ERBY
Notary Public, State of New York
No. 01ER5023670
Qualified in Saratoga County
Commission Expires Feb. 14, 1998

Tiffany R. Erby
Notary Public

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CONTRACT NUMBER D003658

IN WITNESS WHEREOF, representatives of the Department and the Contractor have executed this Contract on the day and year written beneath their respective signatures. The signatory for the Department provides the following Agency Certification: "In addition to the acceptance of this contract, I also certify that original copies of this signature page will be attached to all other exact copies of this contract."

Recommended:

By: _____

Title: _____

Date: 11/25/97

FOR DEPARTMENT

By: _____

Title: _____

Date: _____

FOR NYSDEC ENGINEER

By: _____

Title: Project Manager

Date: 11/14/97

FOR CONTRACTOR

By: _____

Title: Project Manager

Date: 11/19/97

Approved as to Form:

By: _____
Attorney General

Date: _____

Approved: _____ JAN - 6 1998

By: _____
State Comptroller

Date: _____

STATE OF)
) SS:
COUNTY OF)

On the _____ day of _____, 19___, before me personally came _____, to me known, who being duly sworn, did depose and say that (s)he resides in _____, New York; that (s)he is _____ of _____, the corporation described in and which executed the above instrument; that (s)he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by authority of the Board of Directors of said corporation and that (s)he signed his/her name thereto by the same authority.

_____
Notary Public

Robeson Industries Site Remedial Action
Contract No. D003658
Site No. 9-61-008
Change Order No. 2

Change Order Amount: $22,809.00 Date of Issue: April 16, 1998

Contractor's Name: Tyree Organization, Ltd.

Engineer's Name: URS Greiner Consultants, Inc. (URSG)

Change Order Items: This Change Order comprises eight (8) items as discussed below.

I. CHANGE ORDER ITEMS

A. This change in the original contract is for Item #LS-2 - Site Preparation

DESCRIPTION OF CHANGE:

The platform located outside the western door of the treatment building was modified to make it self supporting. Additionally, the stairway at this platform was removed and replaced with a ladder. A stairway and platform in the corner between the old and the new building was also removed.

DRAWING REFERENCE: Not Applicable

SPECIFICATION REFERENCE: Not Applicable

CONTRACTOR PAY ITEM NO.: LS-2 - "Site Preparation"

REASON FOR CHANGE:

This change order is necessary for:

The Contractor chose to house the soil vapor extraction treatment (SVET) and groundwater extraction treatment (GWET) treatment systems within an existing room of the facility at the site. However, after work started, it became apparent that the western wall of the building was showing some signs of deterioration. For protection of the structural integrity of the building, it was determined that the platform and all structures located on this wall should be modified to make them self-supporting.

While this work was being completed, it was also determined that for reasons of security, the staircase in the corner of the building should be removed to help limit access by site trespassers.

COST:

The Department and the Contractor negotiated a lump sum cost for the work involved as follows:

1.	Repair Platform and Ladder (Subcontractor)	$315.00
2.	Remove Rear Steps and Platform (Subcontractor)	$100.00
	Subtotal	$415.00
3.	Tyree's Fee (5%)	$20.75
	Total	$435.75

Total **INCREASE** in Contract Price = $435.75

B. This change in the original contract is for Item #LS-2 - Site Preparation

DESCRIPTION OF CHANGE:

Additional flashing and repairs were required in repairing the roof of the treatment facility.

DRAWING REFERENCE: Not Applicable

SPECIFICATION REFERENCE: Section 00507.3 and 00508.3-Equipment Housing and Structural Supports

CONTRACT PAY ITEM NO.: LS-2 - "Site Preparation"

REASON FOR CHANGE:

This change order is necessary for:

Subsequent to repairing the roof as described in Change Order No. 1, there were still a few leaks into the treatment room. It was determined that some additional work and flashing would be required in order to prevent the roof from leaking.

COST:

The Department and the Contractor negotiated a lump sum cost for the repairs to the roof, the cost of which was split between the Department and the Contractor as described in Change Order No. 1.

1.	Roof Repairs (Subcontractor), ½ of $550 cost:	$225.00
2.	Tyree's Fee (5%)	$11.25
	Total	$236.25

Total **INCREASE** in Contract Price = $236.25

C. This change in the original contract is for Item #LS-2 - Site Preparation

DESCRIPTION OF CHANGE:

A section of rain gutter from the building was relocated to the area by the western wall of the treatment building.

DRAWING REFERENCE: Not Applicable

SPECIFICATION REFERENCE: Not Applicable

CONTRACT PAY ITEM NO.: LS-2 - "Site Preparation"

REASON FOR CHANGE:

This change order is necessary for:

A significant amount of rain was running off the roof from the existing buildings directly at the western entrance to the treatment room. The thermal oxidation unit and GEW-3 are also located in this area. A section of rain gutter from another portion of the existing buildings was relocated to this area to redirect the rainfall away from the area and to prevent any damage to these items.

COST:

The Department and the Contractor negotiated a lump sum cost for the work involved as follows:

1.	Relocate Rain Gutter (Subcontractor)	$242.00
2.	Tyree's Fee (5%)	$12.10
	Total	$254.10

Total **INCREASE** in Contract Price = $254.10.

D. This change in the original contract is for Item #LS-2 - Site Preparation

DESCRIPTION OF CHANGE:

A protective cover was built around the influent piping as it comes into the treatment building.

DRAWING REFERENCE: Not Applicable

SPECIFICATION REFERENCE: Not Applicable

CONTRACT PAY ITEM NO.: LS-2 - "Site Preparation"

REASON FOR CHANGE:

This change order is necessary for:

A significant amount of piping was exposed at the location where the extraction lines come out of the ground and enter the treatment building. Although these lines would be heat traced and insulated, they were still exposed as a potential target for vandalism. Due to the history of vandalism at this site, it was considered prudent to construct a protective structure around this piping.

COST:

The Department and the Contractor negotiated a lump sum cost for the work involved as follows:

1.	Construct Protective Structure (Subcontractor)	$245.00
2.	Tyree's Fee (5%)	$12.25
	Total	$257.25

Total **INCREASE** in Contract Price = $257.25.

E. This change in the original contract is for Item #LS-4 - GWET System Installation

DESCRIPTION OF CHANGE:

The Contractor was required to install 10 monitoring piezometers and 5 drive points.

DRAWING REFERENCE: Not Applicable

SPECIFICATION REFERENCE: Not Applicable

CONTRACT PAY ITEM NO.: LS-4 - "GWET System Installation, Startup and Performance Testing"

REASON FOR CHANGE:

This change order is necessary for:

Due to the low production rates from the original six groundwater extraction wells, it was determined that 4 additional extraction wells would be installed. However, with the closer spacing of the wells, there were not enough monitoring locations to determine whether the extraction wells are meeting the requirement to lower the water table and prevent groundwater from seeping out the western boundary of the site.

Ten additional piezometers were installed to monitor the groundwater levels and drawdown from the extraction wells. Five stainless steel drive points were also installed in the seep area to the west of the site to determine whether the extraction system is adequately dewatering the seep at the site.

COST:

The Department and the Contractor negotiated a lump sum cost for the work involved as follows:

	Subcontractor Costs for Installation:	
1.	Mobilization / Demob	$400.00
2.	Coring (10 locations @ $200 ea)	$2,000.00
3.	Drill Interior Piezs. (7 wells, 35' ea, @ $15/ft)	$3,675.00
4.	Construct Int. Piezs. (7 wells, 35' ea, @ $14/ft)	$3,430.00
5.	Drill Ext. Piezs. (3 wells, 33' ea, @ $13/ft)	$1,287.00
6.	Construct Ext. Piez. (3 wells, 33' ea, @ $14/ft)	$1,386.00
7.	Drive Points (5 @ $650 ea)	$3,250.00
	Subtotal	$15,428.00
8.	Survey of Piezometers	$425.00
	Subtotal	$15,853.00
9.	Tyree's Fee (5%)	$792.65
	Total	$16,645.65

Total **INCREASE** in Contract Price = $16,645.65

F. This change in the original contract is for Item #LS-4 - GWET System Installation

DESCRIPTION OF CHANGE:

The Contractor cleaned eight of the ten extraction wells, removing accumulated silt from the bottom and then slowly pumping the wells. The Contractor also removed the extraction pumps, disassembled the pumps for cleaning, and then reinstalled the pumps.

DRAWING REFERENCE: Not Applicable

SPECIFICATION REFERENCE: Not Applicable

CONTRACT PAY ITEM NO.: LS-4 - "GWET System Installation, Startup and Performance Testing"

REASON FOR CHANGE:

This change order is necessary for:

When the Contractor attempted to startup the GWET system extraction wells, only three of the pumps would operate. After some investigation and a visit to the site, it was determined that silt had gotten into the wells, and was jamming the extraction pumps. In order for the pumps to operate, the accumulated silt had to be removed from the wells and the extraction pumps cleaned.

COST:

The Department and the Contractor negotiated a lump sum cost for the work involved as follows:

	Subcontractor Costs:	
1.	Mobilization / Demob	$625.00
2.	Well Cleaning (24 hrs @ $125/hr)	$3,000.00
3.	Pump Cleaning (10 hrs @ $45/hr)	$450.00
4.	Water Truck (3 days @ $75/day)	$225.00
5.	Storage Drums (2 @ $50 ea.)	$100.00
	Subtotal	$4,400.00
6.	Tyree's Fee (5%)	$220.00
Total		$4,620.00

Total **INCREASE** in Contract Price = $4,620.00

G. This change in the original contract is for Item #LS-4 - GWET System Installation

DESCRIPTION OF CHANGE:

The Contractor installed handles on each of the ten groundwater extraction pumps.

DRAWING REFERENCE: Drawing No. 5

SPECIFICATION REFERENCE: Not Applicable

CONTRACT PAY ITEM NO.: LS-4 - "GWET System Installation, Startup and Performance Testing"

REASON FOR CHANGE:

This change order is necessary for:

Due to the depth of the pump connection in the well, the Contractor installed "T" handles to extend nearer to the surface to facilitate installation and removal of the pumps from the wells.

COST:

The Department and the Contractor negotiated a lump sum cost for the work involved as follows:

1.	Tyree Labor (6 hrs @ $45/hr)	$270.00
2.	Tyree's Fee (15%)	$40.50
3.	Material Costs	$45.00
4.	Tyree's Fee (10%)	$4.50
Total		$360.00

Total **INCREASE** in Contract Price = $360.00

H. This change in the original contract is for Section VI, Attachment A - Substantial Completion Schedule (page VI-14).

DESCRIPTION OF CHANGE:

The number of days for Substantial and Final Completion for Parts 1 and 3 are extended by four weeks (28 days). *(Refer to the attached amended Substantial Completion Schedule)*

DRAWING REFERENCE: Not Applicable

SPECIFICATION REFERENCE: Section VI, Attachment A

CONTRACTOR PAY ITEM NO.: Not Applicable

REASON FOR CHANGE:

This change order is necessary for:

The Contractor requested a four week extension to the Contract time to allow adequate time for installation of the monitoring piezometers / drive points, development of the additional extraction wells, and scheduling conflicts due to the Christmas and New Year's Holidays.

COST:

Not Applicable

II. CHANGE ORDER No. 1 SUMMARY

A.	Item #LS-2 - Site Preparation *(Rear Steps and Platform)*	$435.75
B.	Item #LS-2 - Site Preparation *(Additional Roof Repairs)*	$236.25
C.	Item #LS-2 - Site Preparation *(Relocation of Rain Gutter)*	$254.10
D.	Item #LS-2 - Site Preparation *(Protective Pipe Structure)*	$257.25
E.	Item #LS-4 - GWET System Installation *(Drive Points and Piezometers)*	$16,645.65
F.	Item #LS-4 - GWET System Installation *(Well and Pump Silt Removal)*	$4,620.00
G.	Item #LS-4 - GWET System Installation *(Tee Handles for Extraction Pumps)*	$360.00
H.	Section VI, Attachment A *(4 Week Time Extension)*	Not Applicable
	TOTAL	$22,809.00

III. CHANGE IN CONTRACT PRICE

Original Contract Price:	$501,094.00
Contract Price after previous submitted Change Order (#1):	$545,209.69
Net INCREASE due to this Change Order (#2):	$ 22,809.00
New Contract Price including this Change Order (#2):	$568,018.69

IV. CHANGE IN CONTRACT TIME (also refer to amended Substantial Completion Schedule attached *)

CHANGE IN CONTRACT TIME	PART 1 SUBSTANTIAL CALENDAR DAYS (DATE)	PART 1 FINAL CALENDAR DAYS (DATE)
Original	120 (November 25, 1997)	180 (January 24, 1998)
After Change Order 1	162 (January 6, 1998)	222 (March 7, 1998)
Net INCREASE due to Change Order #2:	28 days	28 days
New Contract Time due to Change Order #2:	190 (February 3, 1998)	250 (April 4, 1998)

CHANGE IN CONTRACT TIME	PART 3 SUBSTANTIAL CALENDAR DAYS (DATE)	PART 3 FINAL CALENDAR DAYS (DATE)
Original	480 (November 20, 1998)	540 (January 19, 1999)
After Change Order 1	522 (January 1, 1999)	582 (March 2, 1999)
Net INCREASE due to Change Order #2:	28 days	28 days
New Contract Time due to Change Order #2:	550 (January 29, 1999)	610 (March 30, 1999)

** NOTE: Part 2 Substantial and Final Completion dates to be determined by Department/Engineer in accordance with amended Substantial Completion Schedule (attached).*

V. CHANGE IN CONTRACT

It is understood and agreed that, unless expressly so stated above, the work herein authorized will not extend the time for the completion of the contract.

It is understood and agreed that this change order represents full and complete compensation for all work described herein.

This work is to be performed in accordance with the terms of the contract and original plans and specifications, except as herein modified. It is understood and agreed that this order shall be deemed executory only to the extent of moneys available and no liability shall be incurred by the State beyond the moneys available for the purpose.

STATE OF)
) S:
COUNTY OF)

On the _____ day of _____, 19____, before me personally came _____, to me known, who being duly sworn, did depose and say that (s)he resides in _____, New York; that (s)he is _____ of _____, the corporation described in and which executed the above instrument; that (s)he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by authority of the Board of Directors of said corporation and that (s)he signed his/her name thereto by the same authority.

_____
Notary Public

STATE OF)
) S:
COUNTY OF)
STATE OF)
) S:
COUNTY OF)

On the _____ day of _____, 19____, before me personally came _____, to me known and, being duly sworn, stated that (s)he is a member of employee of _____, the firm described in and which executed the foregoing instrument, and (s)he acknowledged to me that (s)he subscribed his/her name thereto on behalf of said firm.

_____
Notary Public

STATE OF NY
) S:
COUNTY OF Erie

On the 22 day of April, 1998, before me personally came Dharmarajan Iyer, to me known and, being duly sworn, stated that (s)he is a member of employee of URS Greiner, the firm described in and which executed the foregoing instrument, and (s)he acknowledged to me that (s)he subscribed his/her name thereto on behalf of said firm.

Donald S. Root
Notary Public

99

CONTRACT NUMBER D003658

IN WITNESS WHEREOF, representatives of the Department and the Contractor have executed this Contract on the day and year written beneath their respective signatures. The signatory for the Department provides the following Agency Certification: "In addition to the acceptance of this contract, I also certify that original copies of this signature page will be attached to all other exact copies of this contract."

Recommended:

By: _____

Title: _____

Date: _____

FOR DEPARTMENT

By: _____

Title: _____

Date: _____

FOR NYSDEC ENGINEER

By: Ramaraj Ramanujam

Title: Project Manager

Date: 4/22/98

FOR CONTRACTOR

By: Randolph H Hoose

Title: Project Manager

Date: 4/21/98

Approved as to Form:

By: _____

Attorney General

Date: _____

Approved:

By: _____

State Comptroller

Date: _____

STATE OF)
) SS:
COUNTY OF)

On the 21st day of April, 1998, before me personally came Randolph H Hoose, to me known, who being duly sworn, did depose and say that (s)he resides in Burnt Hills, New York; that (s)he is Project Manager of Jewett Construction the corporation described in and which executed the above instrument; that (s)he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by authority of the Board of Directors of said corporation and that (s)he signed his/her name thereto by the same authority.

LORI A. McKONE
Notary Public, State of New York
No. 01MC5053968
Qualified In Schenectady County
Commission Expires Jan. 2, 2000

Lori Ann McKone
Notary Public

Change Order #2: Robeson Industries Site - Contract #D003658

SECTION VI

ATTACHMENT A (Amended Page VI-14)

AMENDED SUBSTANTIAL COMPLETION SCHEDULE

Remedial work at the Robeson Industries Site will be substantially complete according to the following table:

PART	WORK DESCRIPTION	SUBSTANTIAL COMPLETION (No. of days from July 28, 1997 - Notice to Proceed Date)	FINAL COMPLETION (No. of days from July 28, 1997 - Notice to Proceed Date)
1	Construction of fully operational/compatible SVET and GWET Systems with monitoring and operative records showing system performance objectives are being met continuously over four (4) calendar weeks of continuous operation.	-**Original:** 120 days (11/25/97) -**Change Order #1:** 162 days (01/06/98) -**Change Order #2:**190 days (02/03/98)	-**Original:** 180 days (01/24/98) -**Change Order #1:**222 days (03/07/98) -**Change Order #2:**250 days (04/04/98)
2	- SVET System shut down/decommission - Removal of SVET System off-site (pipes, equipment, etc.)	Within thirty (30) days after notification from Engineer that SVET confirmatory soil samples indicate performance objectives for cleanup goals have been achieved.	Within 60 days after Part 2 Substantial Completion
3	- Contractor turns over, to the NYSDEC a revised, approvable, GWET System O&M Manual, and a fully operational GWET System which is achieving required performance objectives	-**Original:** 480 days (11/20/98) -**Change Order #1:**522 days (01/01/99) -**Change Order #2:** within 30 days after notification by the Engineer to conclude GWET O&M activities. Contract estimated quantity 550 days (01/29/99)	-**Original:** 540 days (01/19/99) -**Change Order #1:**582 days (03/02/99) -**Change Order #2:** within 60 days after date of Part 3 Substantial Completion. Contract estimated quantity 610 days (03/30/99)

The liquidated damages for item 1 will be $650.00 for each day beyond the Substantial Completion time the requirements of Sections 00507 and 00508 of the Contract Documents have not been met by the Contractor.

The liquidated damages for item 2 will be $650.00 for each day beyond the Substantial Completion time the requirements of Sections 00507, 00508, and 00509 of the Contract Documents have not been met by the Contractor.

The liquidated damages for item 3 will be $325.00 for each day beyond the Substantial Completion time the requirements of Section 00508 of the Contract Documents have not been met by the Contractor.

Robeson Industries Site Remedial Action
Contract No. D003658
Site No. 9-61-008
Change Order No. 3

Change Order Amount:$2,709.88 Date of Issue: September 22, 1998

Contractor's Name: Tyree Organization, Ltd.

Engineer's Name: URS Greiner Consultants, Inc. (URSG)

Change Order Items: This Change Order comprises four (4) items as discussed below.

I. CHANGE ORDER ITEMS

A. This change in the original contract is for Item #LS-2 - Site Preparation

DESCRIPTION OF CHANGE:

A total of seven large rolloffs of burnable debris were removed from the buildings and disposed offsite. The work included gathering the debris from throughout the buildings, loading it into large rolloffs, and then disposing of the material offsite.

DRAWING REFERENCE: Not Applicable

SPECIFICATION REFERENCE: Not Applicable

CONTRACT PAY ITEM NO.: LS-2 - "Site Preparation"

REASON FOR CHANGE:

This change order is necessary for:

A significant amount of cardboard, pallets, plastic, and other burnable materials from previous operations at the site was scattered throughout the old manufacturing facilities. Due to the history of vandalism at this site, it was considered prudent to remove this material to prevent vandals, or any other source, from starting a fire and potentially damaging the remediation equipment at the site.

COST:

Three separate lump sum change orders were negotiated between the Department and the Contractor for the work involved with removal of the debris. The multiple change orders were for additional rolloffs and manpower as required to remove all of the debris from the buildings. The hours and costs shown below are a total of the specific items from the three change orders.

1.	Tyree Mobilization (2 men, 10 hrs ea. @ $43/hr)	$860.00
2.	Tyree Equipment Operator (46 hrs @ $55/hr)	$2,530.00
3.	Tyree Laborer (40 hrs @ $45/hr)	$1,800.00
	Subtotal	$5,190.00
4.	Tyree's Overhead & Profit (15%)	$778.50
	Subtotal Tyree Labor Costs	$5,968.50
5.	Tyree Backhoe (6 days @ $165/day)	$990.00
6.	Tyree Utility Trailer (6 days @ $23/day)	$138.00
7.	Tyree Diesel Truck (6 days @ $145/day)	$870.00
8.	Per Diem (2 men, 3 days @ $150/day)	$450.00
	Subtotal	$2,448.00
9.	Tyree's Overhead & Profit (10%)	$244.80
	Subtotal Tyree Direct Costs	$2,692.80
10.	Subcontractor Deliver Rolloffs (7 @ $110 ea)	$770.00
11.	Sub. Transport Rolloffs (7 @ $250 ea)	$1,750.00
12.	Sub. Rolloff Disposal (7 @ $275 ea)	$1,925.00
	Subtotal	$4,445.00
13.	Tyree's Overhead & Profit (5%)	$222.25
	Subtotal Subcontractors	$4,667.25
	Total	$13,328.55

Total **INCREASE** in Contract Price = $13,328.55.

B. This change in the original contract is for Item #LS-4 - GWET System Installation

DESCRIPTION OF CHANGE:

A total of 22 keyed-alike locks were installed on the various monitoring wells and piezometers at the site.

DRAWING REFERENCE: Not Applicable

SPECIFICATION REFERENCE: Not Applicable

CONTRACT PAY ITEM NO.: LS-4 - "GWET System Installation, Startup and Performance Testing"

REASON FOR CHANGE:

This change order is necessary for:

Many of the monitoring wells and piezometers at the site were installed during several phases of previous investigations. Different keys were required to do any monitoring and additionally, many of the locks were rusty and inoperative. Therefore all of the existing locks were replaced with new, keyed-alike locks.

COST:

The Department and the Contractor negotiated a lump sum cost for the work involved as follows:

1.	Material Costs (22 Locks @ $8 ea)	$176.00
2.	Tyree's Overhead & Profit (10%)	$17.60
	Total	$193.60

Total **INCREASE** in Contract Price = $193.60

C. This change in the original contract is for Item #LS-3 - SVET System Installation

DESCRIPTION OF CHANGE:

The total drilling and well materials for three of the SVE wells (EX-4, EX-5, and EX-6) was increased by a total of 12.5 feet.

DRAWING REFERENCE: Drawing No. 5 - Soil Vapor and Groundwater Extraction Well Details

SPECIFICATION REFERENCE: Section 00505 - Well Drilling and Placement

CONTRACT PAY ITEM NO.: LS-3 - "SVET System Installation, Startup and Performance Testing"

REASON FOR CHANGE:

This change order is necessary for:

The specifications required that the SVET wells be constructed by drilling until water was encountered and then installing the well to a depth two feet less than the water table. At three of the locations, the total installed depth of the well was deeper than the depths of the wells shown on Contract Drawing No. 5. The total additional depth for the three wells was 12.5 feet.

COST:

The Department and the Contractor negotiated a cost for well installation based on the drilling subcontractor's original cost of $59.56 per LF for well drilling and installation. The total cost was determined as follows:

1.	Additional Drilling (12.5 LF @ $59.56/LF)	$744.50
2.	Tyree's Overhead & Profit on Subs (5%)	$37.23
	Total	$781.73

Total **INCREASE** in Contract Price = $781.73

D. This change in the original contract is for *new* Item #LS-9 - Liquidated Damages

DESCRIPTION OF CHANGE:

Liquidated damages were assessed against the Contractor for delays in meeting the Part 1 completion schedule.

DRAWING REFERENCE: Not Applicable

SPECIFICATION REFERENCE: Section VI, Attachment A - Substantial Completion Schedule

NEW CONTRACT PAY ITEM NO.: LS-9 - "Liquidated Damages"

REASON FOR CHANGE:

This change order is necessary for:

The deadline for Part 1 Substantial Completion was February 3, 1998. However, the Contractor did not achieve Completion until April 20, 1998, a total of 76 days past the deadline. Additionally, the deadline for Part 1 Final Completion was June 19, 1998, but the Contractor did not achieve this until July 15, 1998, a total of 26 days beyond the deadline.

COST:

The Department and the Contractor negotiated a lump sum cost of $11,594 for the liquidated damages. This represents URSG's costs on the project from the time beyond the deadline until the work was completed.

Total **DECREASE** in Contract Price = ($11,594.00)

II. CHANGE ORDER No. 3 SUMMARY

A.	Item #LS-2 - Site Preparation *(Building Debris Removal)*	$13,328.55
B.	Item #LS-4 - GWET Installation *(Keyed Alike Locks)*	$193.60
C.	Item #LS-3 - SVET Installation *(Additional Well Depth)*	$781.73
D.	Item #LS-9 - Liquidated Damages *(Part 1 Subst. & Final Completions)*	-$11,594.00
	TOTAL	$2,709.88

III. CHANGE IN CONTRACT PRICE

Original Contract Price:	$501,094.00
Contract Price after previous submitted Change Order (#2):	$568,018.69
Net INCREASE due to this Change Order (#3):	$ 2,709.88
New Contract Price including this Change Order (#3):	$570,728.57

IV. CHANGE IN CONTRACT TIME

CHANGE IN CONTRACT TIME	PART 1 SUBSTANTIAL CALENDAR DAYS (DATE)	PART 1 FINAL CALENDAR DAYS (DATE)
Original	120 (November 25, 1997)	180 (January 24, 1998)
After Change Order #1	162 (January 6, 1998)	222 (March 7, 1998)
After Change Order #2	190 (February 3, 1998)	250 (April 4, 1998)
Net INCREASE due to Change Order #3	0	0
New Contract Time including Change Order #3	190 (February 3, 1998)	250 (April 4, 1998)

CHANGE IN CONTRACT TIME	PART 3 SUBSTANTIAL CALENDAR DAYS (DATE)	PART 3 FINAL CALENDAR DAYS (DATE)
Original	480 (November 20, 1998)	540 (January 19, 1999)
After Change Order #1	522 (January 1, 1999)	582 (March 2, 1999)
After Change Order #2	550 (January 29, 1999)	610 (March 30, 1999)
Net INCREASE due to Change Order #3	0	0
New Contract Time including Change Order #3	550 (January 29, 1999)	610 (March 30, 1999)

V. CHANGE IN CONTRACT

It is understood and agreed that, unless expressly so stated above, the work herein authorized will not extend the time for the completion of the contract.

It is understood and agreed that this change order represents full and complete compensation for all work described herein.

This work is to be performed in accordance with the terms of the contract and original plans and specifications, except as herein modified. It is understood and agreed that this order shall be deemed executory only to the extent of moneys available and no liability shall be incurred by the State beyond the moneys available for the purpose.

STATE OF)
) S:
COUNTY OF)

On the _____ day of _____, 19____, before me personally came _____, to me known, who being duly sworn, did depose and say that (s)he resides in _____, New York; that (s)he is _____ of _____, the corporation described in and which executed the above instrument; that (s)he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by authority of the Board of Directors of said corporation and that (s)he signed his/her name thereto by the same authority.

_____
Notary Public

STATE OF)
) S:
COUNTY OF)
STATE OF)
) S:
COUNTY OF)

On the _____ day of _____, 19____, before me personally came _____, to me known and, being duly sworn, stated that (s)he is a member of employee of_____, the firm described in and which executed the foregoing instrument, and (s)he acknowledged to me that (s)he subscribed his/her name thereto on behalf of said firm.

_____
Notary Public

STATE OF NY
) S:
COUNTY OF Erie

On the 12 day of Oct, 19 98, before me personally came Craig W Pawlewski to me known and, being duly sworn, stated that (s)he is a member of employee of URS Greiner, the firm described in and which executed the foregoing instrument, and (s)he acknowledged to me that (s)he subscribed his/her name thereto on behalf of said firm.

DEBORAH S. POST
Notary Public, State of New York
Qualified in Erie County
My Commission Expires 12-99

Deborah S. Post
Notary Public

J:\33518\wp\corloc-1.drw

CONTRACT NUMBER D003658

IN WITNESS WHEREOF, representatives of the Department and the Contractor have executed this Contract on the day and year written beneath their respective signatures. The signatory for the Department provides the following Agency Certification: "In addition to the acceptance of this contract, I also certify that original copies of this signature page will be attached to all other exact copies of this contract."

Recommended:

By: Michael J. Mack

Title: DIR, DER

Date: 10/26/98

FOR DEPARTMENT

By: Carol F. Somers

Title: Supv of Engineers

Date: 11/6/98

FOR NYSDEC ENGINEER

By: Craig W. Pawlewski

Title: Project Manager

Date: 10/22/98

FOR CONTRACTOR

By: Randolph H. Hood

Title: Project Manager

Date: 10/5/98

Approved as to Form:

By: _____

Attorney General

Date: _____

Approved:

By: _____

State Comptroller

Date: _____

STATE OF) New York
) SS:
COUNTY OF) Albany

On the 5th day of October, 1998, before me personally came Randolph H. Hood to me known, who being duly sworn, did depose and say that (s)he resides in Ballston Spa, New York; that (s)he is Project Manager of Three Organization Ltd, the corporation described in and which executed the above instrument; that (s)he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by authority of the Board of Directors of said corporation and that (s)he signed his/her name thereto by the same authority.

LORI A. McKONE
Notary Public, State of New York
No. 01MC5053908
Qualified in Schenectady County
Commission Expires Jan. 2, 2000

Lori Ann McKone
Notary Public

J:\3551\wp\con\co-1 draft

Robeson Industries Site Remedial Action
Contract No. D003658
Site No. 9-61-008
Change Order No. 4

Change Order Amount: **($9,219.00)** Date of Issue: February 1, 1999

Contractor's Name: Tyree Organization, Ltd.

Engineer's Name: URS Greiner Consultants, Inc. (URSG)

Change Order Items: This Change Order comprises eight (8) items as discussed below.

I. CHANGE ORDER ITEMS

A. This change in the original contract is for *new* Item #LS-10 - SVET System Purchase

DESCRIPTION OF CHANGE:

The Department will purchase the existing soil vapor extraction treatment (SVET) system and all of its components, including, but not limited to, the extraction wells, piping, and instrumentation.

As part of the substantial completion inspection to be conducted by the Engineer it will be verified that the SVE system is fully operational and shall continue to meet contract performance objectives. Any punchlist items identified by the Engineer as part of that inspection shall be satisfactory addressed by the Contractor prior to Part 3 final completion and transfer of ownership. The Contractor shall provide the Engineer with a revised O&M manual for the treatment system and a second copy of the operating software prior to transfer of ownership. Any existing warranties associated with the SVE system shall be transferred as part of this change order No. 4 between the Department and the Contractor.

DRAWING REFERENCE: Contract Drawing No. 3 - SVET System Process Flow Diagram

SPECIFICATION REFERENCE: Section 00507 - Soil Vapor Extraction and Treatment System

NEW CONTRACTOR PAY ITEM NO.: LS-10 - "SVET System Purchase"

REASON FOR CHANGE:

This change order is necessary for:

Based on monitoring data of soil gas for the SVET system, it was determined that the system continues to effectively remove contamination from the soil. It also has been determined by the Engineer that the duration of the SVET system operation will continue at least six (6) months beyond the existing terms of the Contract. Therefore, the Engineer has determined that purchase of the existing system will be more economical and efficient than to continue to rent the system from the Contractor.

COST:

The Department, Engineer, and the Contractor negotiated a lump sum cost for the purchase of the system.

Total **INCREASE** in Contract Price = $20,000.00.

B. This change in the original contract is for Item #UC-1 - Contaminated Soil, Sediments, and Solids

DESCRIPTION OF CHANGE:

This change is to modify the estimated quantity of soil, sediment, and solids disposal to the actual quantity.

DRAWING REFERENCE: Not Applicable

SPECIFICATION REFERENCE: Section 00506 - Contaminated Materials

CONTRACT PAY ITEM NO.: UC-1 - "Contaminated Soil, Sediments, Solids"

REASON FOR CHANGE:

This change order is necessary for:

No soil, sediment, or solids were taken offsite for disposal. Therefore, the actual quantity for this item is zero.

COST:

Based on the Contract Amounts:

Total **DECREASE** in Contract Price = $252.20 / ton x 15 ton = ($3,783).

C. This change in the original contract is for Item #UC-2 - Disposal of Pre-Existing Staged Drill Cuttings

DESCRIPTION OF CHANGE:

This change is to modify the estimated quantity of drums to be disposed offsite to the actual quantity.

DRAWING REFERENCE: Not Applicable

SPECIFICATION REFERENCE: Section 00506 - Contaminated Materials

CONTRACT PAY ITEM NO.: UC-2 - "Disposal of Pre-Existing Staged Drill Cuttings"

REASON FOR CHANGE:

This change order is necessary for:

None of the drums of soil cuttings were taken offsite. Therefore, the actual quantity for this item is zero.

COST:

Based on the Contract Amounts:

Total **DECREASE** in Contract Price = $258.50 / drum x 8 drums = ($2,068).

D. This change in the original contract is for Item #UC-3A - SVET System O&M (Up to 5 Months)

DESCRIPTION OF CHANGE:

This change is to deduct the costs of air samples that were not collected by the Contractor.

DRAWING REFERENCE: Not Applicable

SPECIFICATION REFERENCE: Section 00507.10 - Progress Monitoring

CONTRACT PAY ITEM NO.: UC-3A - "SVET System O&M (Up to 5 Months)"

REASON FOR CHANGE:

This change order is necessary for:

The Contractor did not collect 13 air samples that should have been collected during the July/August operating period.

COST:

The Department and the Contractor negotiated a unit cost of $110 for the air samples.

Total **DECREASE** in Contract Price = $110 / sample x 13 samples = ($1,430).

E. This change in the original contract is for Item #UC-3B - SVET System O&M (Additional Months)

DESCRIPTION OF CHANGE:

This change is to deduct the costs of air samples that were not collected by the Contractor.

DRAWING REFERENCE: Not Applicable

SPECIFICATION REFERENCE: Section 00507.10 - Progress Monitoring

CONTRACT PAY ITEM NO.: UC-3B - "SVET System O&M (Additional Months)

REASON FOR CHANGE:

This change order is necessary for:

The Contractor did not collect 11 air samples that should have been collected during the August/September operating period.

COST:

The Department and the Contractor negotiated a unit cost of $110 for the air samples.

Total **DECREASE** in Contract Price = $110 / sample x 11 samples = ($1,210).

F. This change in the original contract is for Item #UC-3C - Confirmatory Soil Sampling and Analysis

DESCRIPTION OF CHANGE:

This change is to modify the estimated quantity of confirmatory soil samples to reflect the actual quantity of zero.

DRAWING REFERENCE: Not Applicable

SPECIFICATION REFERENCE: Section 00507.12 - Confirmatory Soil Sampling and Analysis.

CONTRACT PAY ITEM NO.: UC-3C - "Confirmatory Soil Sampling and Analysis"

REASON FOR CHANGE:

This change order is necessary for:

Since system operating data indicates that the SVET system is still effectively removing contaminants from the ground, and since the Department will be assuming responsibility for operating the system, it will not be necessary for the Contractor to collect any confirmatory soil samples.

COST:

Based on the Contract Amounts:

Total **DECREASE** in Contract Price = $669.55 / sample x 20 samples = ($13,391).

G. This change in the original contract is for Item #UC-4A - GWET System O&M (Up to 5 Months)

DESCRIPTION OF CHANGE:

This change is to deduct the costs of water samples that were not collected by the Contractor.

DRAWING REFERENCE: Not Applicable

SPECIFICATION REFERENCE: Section 00508.11 - Progress Monitoring

CONTRACT PAY ITEM NO.: UC-4A - "GWET System O&M (Up to 5 Months)

REASON FOR CHANGE:

This change order is necessary for:

The Contractor did not analyzed 6 groundwater samples that should have been collected during the May/June operating period.

COST:

The Department and the Contractor negotiated a unit cost of $125 for the water samples.

Total **DECREASE** in Contract Price = $125 / sample x 6 samples = ($750).

H. This change in the original contract is for Item #LS-5 - SVET System Decommissioning

DESCRIPTION OF CHANGE:

This change is to modify the quantity for SVET system decommissioning to reflect the actual quantity of zero.

DRAWING REFERENCE: Not Applicable

SPECIFICATION REFERENCE: Section 00509.2 - SVET System Decommissioning

CONTRACT PAY ITEM NO.: LS-5 - "SVET System Decommissioning"

REASON FOR CHANGE:

This change order is necessary for:

Since system operating data indicates that the SVET system is still effectively removing contaminants from the ground, and since the Department will be assuming responsibility for future operation of the system, it will not be necessary for the Contractor to collect any confirmatory soil samples and decommission the system(s).

COST:

Based on the Contract Amounts:

Total **DECREASE** in Contract Price = $6,587.

II. CHANGE ORDER No. 4 SUMMARY

A.	*New* Item #LS-10 - SVET System Purchase	$20,000.00
B.	Item #UC-1 - Contaminated Soil, Sediments, and Solids *(Change in Quantity)*	-$3,783.00
C.	Item #UC-2 - Disposal of Pre-Existing Staged Drill Cuttings *(Change in Quantity)*	-$2,068.00
D.	Item #UC-3A - SVET System O&M (Up to 5 Months) *(Reduction for Air Samples)*	-$1,430.00
E.	Item #UC-3B - SVET System O&M (Additional Months) *(Reduction for Air Samples)*	-$1,210.00
F.	Item #UC-3C - Confirmatory Soil Sampling and Analysis *(Change in Quantity)*	-$13,391.00
G.	Item #UC-4A - GWET System O&M (Up to 5 Months) *(Reduction for Water Samples)*	-$750.00
H.	Item #LS-5 - SVET System Decommissioning *(Change in Quantity)*	-$6,587.00
TOTAL		-$9,219.00

III. CHANGE IN CONTRACT PRICE

Original Contract Price:	$501,094.00
Contract Price after previous submitted Change Order (#3):	$570,728.57
Net DECREASE due to this Change Order (#4):	-$ 9,219.00
New Contract Price including this Change Order (#4):	$561,509.57

IV. CHANGE IN CONTRACT TIME

CHANGE IN CONTRACT TIME	PART 1 SUBSTANTIAL CALENDAR DAYS (DATE)	PART 1 FINAL CALENDAR DAYS (DATE)
Original	120 (November 25, 1997)	180 (January 24, 1998)
After Change Order #1	162 (January 6, 1998)	222 (March 7, 1998)
After Change Order #2	190 (February 3, 1998)	250 (April 4, 1998)
After Change Order #3	190 (February 3, 1998)	250 (April 4, 1998)
Net INCREASE due to Change Order #4	0	0
New Contract Time including this Change Order:	190 (February 3, 1998)	250 (April 4, 1998)

CHANGE IN CONTRACT TIME	PART 3 SUBSTANTIAL CALENDAR DAYS (DATE)	PART 3 FINAL CALENDAR DAYS (DATE)
Original	480 (November 20, 1998)	540 (January 19, 1999)
After Change Order #1	522 (January 1, 1999)	582 (March 2, 1999)
After Change Order #2	550 (January 29, 1999)	610 (March 30, 1999)
After Change Order #3	550 (January 29, 1999)	610 (March 30, 1999)
Net INCREASE due to Change Order #4	0	0
New Contract Time including this Change Order:	550 (January 29, 1999)	610 (March 30, 1999)

V. CHANGE IN CONTRACT

It is understood and agreed that, unless expressly so stated above, the work herein authorized will not extend the time for the completion of the contract.

It is understood and agreed that this change order represents full and complete compensation for all work described herein.

This work is to be performed in accordance with the terms of the contract and original plans and specifications, except as herein modified. It is understood and agreed that this order shall be deemed executory only to the extent of moneys available and no liability shall be incurred by the State beyond the moneys available for the purpose.

STATE OF)
) S:
COUNTY OF)

On the ____ day of _____, 19____, before me personally came _____, to me known, who being duly sworn, did depose and say that (s)he resides in _____, New York; that (s)he is _____ of _____, the corporation described in and which executed the above instrument; that (s)he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by authority of the Board of Directors of said corporation and that (s)he signed his/her name thereto by the same authority.

_____
Notary Public

STATE OF) New York
) S:
COUNTY OF)
STATE OF) Putnam
) S:
COUNTY OF)

On the 17 day of February, 1999, before me personally came Randy Hoose, to me known and, being duly sworn, stated that (s)he is a member of employee of Tyree Organization, the firm described in and which executed the foregoing instrument, and (s)he acknowledged to me that (s)he subscribed his/her name thereto on behalf of said firm.

JOANNE KUNKEL
Notary Public State of New York
No. 01KU5085571
Qualified in Putnam County
Commission Expires: Sept. 29, 1999

Joanne Kunkel
Notary Public

STATE OF NY
) S:
COUNTY OF Erie

On the 23 day of February, 1999, before me personally came Craig W. Pawlewski, to me known and, being duly sworn, stated that (s)he is a member of employee of URS Greiner Woodward Clyde, the firm described in and which executed the foregoing instrument, and (s)he acknowledged to me that (s)he subscribed his/her name thereto on behalf of said firm.

Thomas D. Root
Notary Public

01

CONTRACT NUMBER D003658

IN WITNESS WHEREOF, representatives of the Department and the Contractor have executed this Contract on the day and year written beneath their respective signatures. The signatory for the Department provides the following Agency Certification: "In addition to the acceptance of this contract, I also certify that original copies of this signature page will be attached to all other exact copies of this contract."

Recommended:

By: [signature]

Title: Dir DER

Date: 3/8/99

FOR DEPARTMENT

By: [signature]

Title: Secy of Agy Conts

Date: 3/12/99

FOR NYSDEC ENGINEER

By: Craig W. Pawlewski

Title: Project Manager

Date: 2/23/99

FOR CONTRACTOR

By: Randolph H Hood

Title: Project Manager

Date: 2/9/99

Approved as to Form:

By:

Attorney General

Date:

Approved:

By:

State Comptroller

Date:

STATE OF)
) SS:
COUNTY OF)

On the ___________ day of ____________, 19___, before me personally came ________________________, to me known, who being duly sworn, did depose and say that (s)he resides in _________________, New York; that (s)he is ____________________ of ______________________, the corporation described in and which executed the above instrument; that (s)he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by authority of the Board of Directors of said corporation and that (s)he signed his/her name thereto by the same authority.

Notary Public

APPENDIX D

TANK CLOSURE REPORT

The Tyree Organization

ROBESON INDUSTRIES
TANK CLOSURE REPORT

NYSDEC CONTRACT NO.: D003658
SITE ID NO.: 9-61-008

Robeson Industries Corporation is located at 5540 Sutton Road in the Town of Castile, Wyoming County, New York. The tank was located outside the east wall of the plant building, oriented north-to-south. The 15,000-gallon capacity UST was 96 inches in diameter; 40 feet long; and of single-wall steel construction. The UST provided fuel oil for heating purposes at the facility. A Site Sketch Map is attached as Figure 1 .

Tank Removal Activities

Approximately 2,760 gallons of fuel oil and tank bottoms were removed on August 21, 1997 by Griffin Industrial Services, Inc. and transported for disposal to Environmental Products and Services of Syracuse, New York. After removal of the fuel oil, the 15,000-gallon fuel oil UST was excavated and subsequently removed from a single excavation on August 21, 1997. The excavation dimensions were approximately 55 feet long by 20 feet wide, and 10 feet deep. New York State Department of Environmental Conservation (NYSDEC) representative Maurice Moore was present for the tank excavation activities.

After removal from the excavation, the fuel oil UST was cleaned. The cleaning process commenced by using a Coppus Blower to remove the potentially explosive atmosphere from the tank interior. After confirming that the atmosphere inside the tank was ten percent (10%) below the Lower Explosive Limit (LEL), the tank was cut open, the tank bottoms removed, and the tank cleaned with hydrophobic oil absorbent pads. Residual tank sludge and used absorbent pads were contained in 55-gallon drums. Two (2) drums were generated as a result of the cleaning process. These drums remain at the site pending disposal. After completion of the cleaning process, the tank was transported to Previty's Auto Scrap Yard of Freedom, New York, for disposal. Tank disposal documentation is attached.

Subsurface Conditions

The fuel oil UST was surrounded by sandy silt. The native material was a silt to sandy silt, some medium gravel. Groundwater was not encountered during the excavation activities.

The UST was in very good condition, with no visible holes or pitting. However, excavation of the surrounding soils revealed visual and olfactory evidence of the presence of petroleum concentrated at the top and sides of the tank in the vicinity of the 1.0-inch copper fuel supply lines and associated fittings. Excavation activities exposed a concrete anchor pad beneath the tank. Observation and photoionization detector (PID) screening of the soils underlying the anchor pad revealed no evidence of the presence of petroleum compounds. Confirmatory samples were collected and the pad was left in-situ.

Soils were screened for total volatile organic compounds (VOCs) using a PID equipped with an 11.7 electronvolt bulb. Soils encountered exhibiting a fuel oil odor and/or possessing total VOC concentrations in excess of 20 parts per million (PPM) were removed and stockpiled. Expansion of the excavation was terminated when PID screening, combined with olfactory and visual observation, indicated clean excavation sidewalls and bottom. A stockpile of approximately 100

cubic yards was staged and covered using plastic sheeting adjacent to the fuel oil tank excavation at the eastern wall of the facility, where it remains pending disposal.

Soil Sampling and Analysis

A total of five (5) samples were collected from locations within the excavation for the fuel oil UST on August 21, 1997. One (1) composite sample was collected from each sidewall of the excavation, and one (1) composite sample from four (4) locations beneath the concrete slab was collected at the bottom of the excavation. The samples were collected in laboratory pre-cleaned containers, placed on ice, and submitted to Toxicon Corporation of Bedford, Massachusetts under Chain of Custody protocols and procedures by overnight courier.

All five (5) samples were analyzed for benzene, toluene, ethylbenzene, and xylene, (BTEX) and methyl tertiary butyl ether (MTBE) by EPA Analytical Method 8021, as well as for semi-volatile (base neutral) organic compounds by EPA analytical Method 8270.

Analytical results indicate that concentrations of the petroleum compounds within soils in the vicinity of the former fuel oil tank are below the detection limits of the analyses, and, as such, are within the Toxicity Leaching Procedure (TCLP) Alternative Guidance Values set forth by NYSDEC (STARS Memo #1 - August, 1992) with respect to BTEX, MTBE, and semi-volatile (base neutral) compounds. Analytical laboratory reports are attached.

The Tyree Organization

Summary

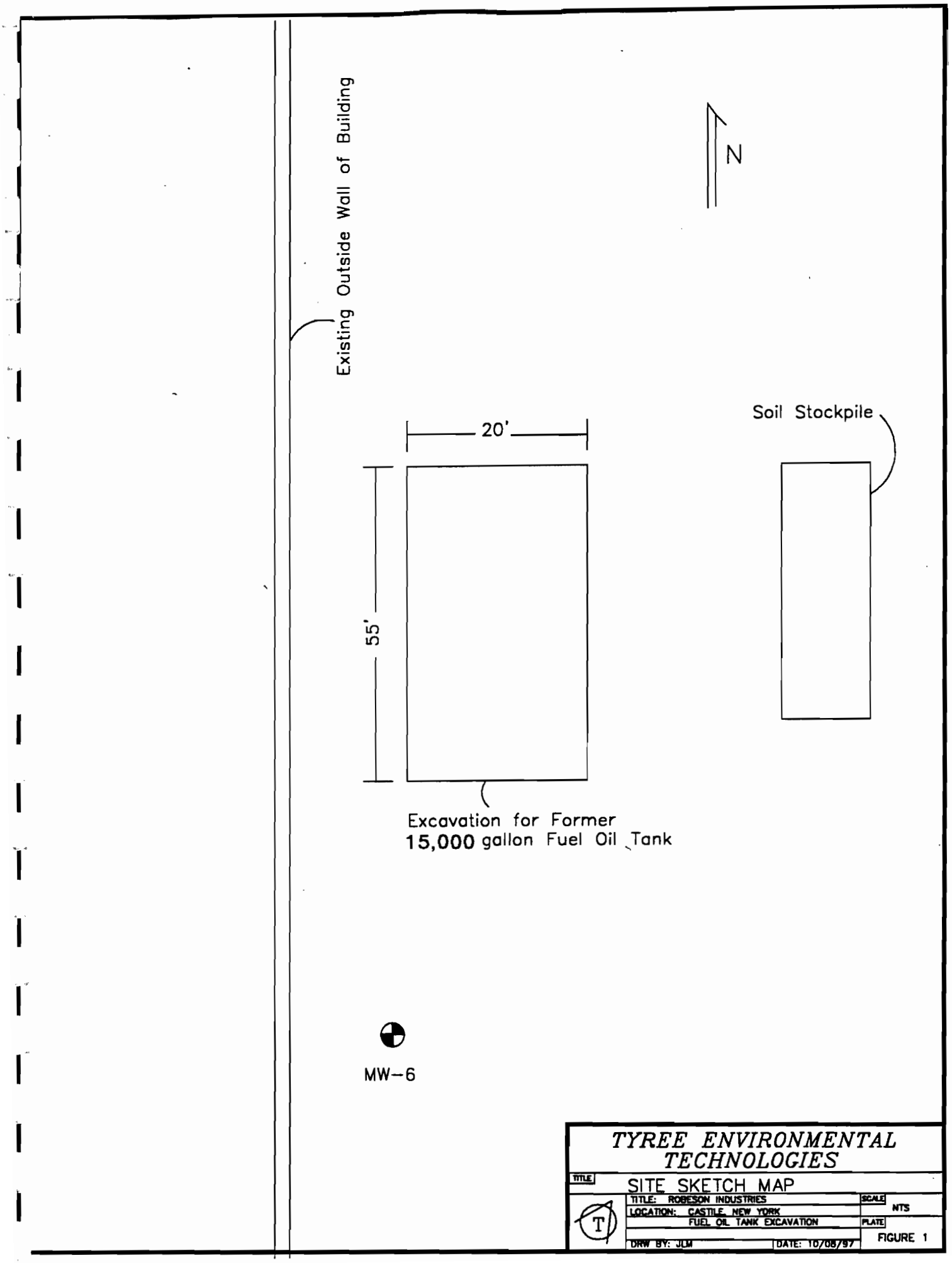
• On August 21, 1997, Tyree personnel removed one (1) 15,000-gallon single-wall steel fuel oil UST from Robeson Industries Corporation in the Town of Castile, Wyoming County, New York.

•The former UST was observed to be in good condition, with no holes or pitting. However, visible and olfactory evidence of leakage was observed on the top of the tank and at the fuel supply fittings. Staining, odor, and PID readings exceeding 20 ppm were observed in the soils surrounding this part of the tank. As a result, these materials were removed and stockpiled.

• Analytical results of five (5) soil samples collected from within the excavation indicate that soils in the vicinity of former USTs are within the Toxicity Leaching Procedure (TCLP) Alternative Guidance Values set forth by NYSDEC (STARS Memo #1 - August, 1992).

Limitations

This report has been prepared for URS Greiner, Inc.. Reasonable due diligence was exercised by the staff of the Tyree Organization, Ltd. in conducting the research and investigation necessary for the development of this report. The conclusions provided by Tyree in this report are based solely on the information reported in this document. Results of future subsurface investigations may result in a modification of the conclusions stated above. The conclusions presented herein are based upon the current regulatory climate and may require revision if future changes occur. This investigation and preparation of this report have been conducted in accordance with generally accepted practices. No other warranty, expressed or implied, is made.



TYREE ENVIRONMENTAL TECHNOLOGIES

TITLE: SITE SKETCH MAP

TITLE: ROBESON INDUSTRIES
LOCATION: CASTILE, NEW YORK
FUEL OIL TANK EXCAVATION

SCALE: NTS

PLATE: FIGURE 1

DRW BY: JLM
DATE: 10/08/97

The Tyree Organization

Disposal Documentation

The Tyree Organization, Ltd.
33 Mill Plain Road, Danbury, CT 06811 - Fax: 203-797-0464 - Phone: 203-792-8822

TANK DISPOSAL CERTIFICATION

THIS IS TO CERTIFY THAT THE TYREE ORGANIZATION, LTD. HAS CLEANED AND RENDERED FREE OF PETROLEUM RESIDUE THE FOLLOWING TANK(S):

1. 15000 GALLON TANK
2. _____ GALLON TANK
3. _____ GALLON TANK
4. _____ GALLON TANK

THE TANK(S) ARE BEING ACCEPTED AS SCRAP BY THE FOLLOWING
PERSON: C Bray
REPRESENTING: Beverly Auto SCRAP YARD
ON THIS DATE: 8-21-97

REPRESENTING THE TYREE ORGANIZATION, LTD.:

Michael Bates — crew chief — 8/21/97
name — title — date

Project name: ROBESON
Location: CATILL

Tyree Environmental Technologies

Post-it™ brand fax transmittal memo 7671 | # of pages ▸ 1

To Jennifer	From Barry
Co. Tyree	Co. Meadow Enterprise
Dept.	Phone # 716-624-2618
Fax # 548-786-7357	Fax #

FROM : GRIFFIN INDUSTRIAL SERVICES PHONE NO. : Oct. 07 1997 02:27PM P1

Griffin Industrial Services, Inc.
8952 Falls Road - New Woodstock, NY 13122
(315) 662-7400
24 Hour Emergency Phone

HAZARDOUS MATERIALS SHIPPING PAPER

NY1

Shippers No.

№ 4181

Driver Kevin Masters Date 8/21/97

EPA ID# NYD 986941607

Received From Robeson Industries Address Buffalo St. Castile NY

Signature x Michael [illegible]

CODE	SHIPPING NAME	HAZARD CLASS	ID	PACKING GROUP	QUANTITY
N013	FUEL OIL TANK BOTTOMS	3	NA 1993	III	2760
	FUEL OIL/WATER MIXTURE	3	NA 1993	III	
	GASOLINE TANK BOTTOMS	3	UN 1203	II	
	GASOLINE/WATER MIXTURE	3	UN 1203	II	
	WATER CONTAMINATED w/ GASOLINE OR OIL	NONE	NONE	NONE	
	FUEL OIL	3	NA 1993	III	
	COMPRESSED AIR	2.2	UN 1002	NONE	

Deliver to ~~[illegible]~~ EPS Address ~~[illegible]~~ State Fair Blvd Syracuse NY

Received By [illegible] Date 8/21/97

This is to certify that the above articles are properly described by name and are packed and marked and are in proper condition for transportation according to the regulations prescribed by the U.S. Department of Transportation subject to rules and regulations as set forth in tariff and contract governing this shipment.

The Tyree Organization

Laboratory Analytical Results

Page 14 TOXIKON CORP. REPORT Work Order # 97-08-485
Received: 08/26/97 Results by Sample

SAMPLE ID BOTTOM FRACTION 06A TEST CODE 8270 NAME A/BN EXTRACTABLES
Date & Time Collected 08/21/97 16:00:00 Category SOIL

	RESULT	LIMIT		RESULT	LIMIT
BASE NEUTRAL EXTRACTABLES					
bis(-2-Chloroethyl) ether	ND	380	Chrysene	ND	380
1,3-Dichlorobenzene	ND	380	Di-n-octyl phthalate	ND	380
1,4-Dichlorobenzene	ND	380	Benzo(b)fluoranthene	ND	380
1,2-Dichlorobenzene	ND	380	Benzo(k)fluoranthene	ND	380
bis(2-Chloroisopropyl) ether	ND	380	Benzo(a)pyrene	ND	380
N-Nitroso-Di-N-Propylamine	ND	380	Indeno(1,2,3-cd)pyrene	ND	380
Hexachloroethane	ND	380	Dibenz(a,h)anthracene	ND	380
Nitrobenzene	ND	380	Benzo(g,h,i)perylene	ND	380
Isophorone	ND	380	2-Methylnaphthalene	ND	380
bis(2-Chloroethoxy) methane	ND	380	Benzidine	ND	380
1,2,4-Trichlorobenzene	ND	380	Dibenzofuran	ND	380
Naphthalene	ND	380			
Hexachlorobutadiene	ND	380	ACID EXTRACTABLES		
Hexachlorocyclopentadiene	ND	380	Phenol	ND	380
2-Chloronaphthalene	ND	380	2-Chlorophenol	ND	380
Dimethyl phthalate	ND	380	Benzyl Alcohol	ND	750
Acenaphthylene	ND	380	2-Methylphenol	ND	380
Acenaphthene	ND	380	4-Methylphenol	ND	380
2,4-Dinitrotoluene	ND	380	2-Nitrophenol	ND	380
2,6-Dinitrotoluene	ND	380	2,4-Dimethylphenol	ND	380
Diethylphthalate	ND	380	Benzoic Acid	ND	1900
4-Chlorophenyl phenyl ether	ND	380	2,4-Dichlorophenol	ND	380
Fluorene	ND	380	4-Chloroaniline	ND	380
N-Nitrosodiphenylamine	ND	380	4-Chloro-3-methylphenol	ND	380
4-Bromophenyl phenyl ether	ND	380	2,4,6-Trichlorophenol	ND	380
Hexachlorobenzene	ND	380	2,4,5-Trichlorophenol	ND	380
Phenanthrene	ND	380	2-Nitroaniline	ND	940
Anthracene	ND	380	3-Nitroaniline	ND	940
Di-n-butylphthalate	ND	380	2,4-Dinitrophenol	ND	940
Fluoranthene	ND	380	4-Nitrophenol	ND	940
Pyrene	ND	380	4-Nitroaniline	ND	940
Butyl benzyl phthalate	ND	380	4,6-Dinitro-2-methylphenol	ND	940
3,3'-Dichlorobenzidine	ND	750	Pentachlorophenol	ND	940
Benzo (a) anthracene	ND	380	3-Methylphenol	ND	940
bis (2-ethylhexyl)phthalate	ND	380	2,6- Dichlorophenol	ND	940

Notes and Definitions for this Report:

UNITS: ug/Kg
EXTRACTED: 09/02/97
DATE RUN: 09/03/97
ANALYST: PAC
INSTRUMENT: C
DIL. FACTOR: 1
ND = not detected at detection limit

Page 1 TOXIKON CORP. REPORT Work Order # 97-08-485
Received: 08/26/97 09/16/97 14:12:32

REPORT TYREE
TO 4 NORTH LANE
LATHAN, NY 12110
(518) 786-3200 FAX: 9723
ATTEN GREG MATTISON

PREPARED TOXIKON CORPORATION
BY 15 WIGGINS AVE
BEDFORD, MA 01730
CERTIFIED BY
ATTEN PAUL LEZBERG
PHONE (617)275-3330 CONTACT CHUCKC

CLIENT TYREE NY SAMPLES 6
COMPANY TYREE
FACILITY 4 NORTH LANE
LATHAN, NY 12110

MA CERT # M-MA064: TRACE METALS, SULFATE,CYANIDE,RES. FREE CHLORINE, Ca, TOTAL ALK., TDS, pH, THMs, VOC, PEST.,NUTRIENTS, DEMAND, O&G, PHENOLICS, PCBs . CT DHS #PH-0563, NY #10778 FL HRS E87143, NJ DEP 59538, MS DNR286, SC 88002, NH 204091-C,

WORK ID ROBESON IND
TAKEN 8/21/97
TRANS
TYPE SOIL
P.O. #
INVOICE under separate cover

Verified By:

SAMPLE IDENTIFICATION

01	STOCKPILE
02	NORTH SIDEWALL
03	SOUTH SIDEWALL
04	EAST SIDEWALL
05	WEST SIDEWALL
06	BOTTOM

TEST CODES and NAMES used on this workorder

8020	PURGEABLE AROMATICS
8021M	VOL. ORG. COMP.
8270	A/BN EXTRACTABLES
F PT	FLASH POINT
MEX HG	METALS, EXT. FOR MERCURY
MEX TS	METALS, TOTAL EXT., SOIL
PH S	pH
RCRA	RCRA METALS (8)
RE CN	REACTIVE CYANIDE
RE S	REACTIVE SULFIDE
SOLID	% SOLID

Page 2 TOXIKON CORP. REPORT Work Order # 97-08-485
Received: 08/26/97 Results by Sample

SAMPLE ID STOCKPILE SAMPLE # 01 FRACTIONS: A
Date & Time Collected 08/21/97 16:15:00 Category SOIL

F_PT	PH_S	RE_CN	RE_S	SOLID
>220	7.2	ND	ND	85.2
F	PH UNITS	mg/Kg DL=100	mg/Kg DL=100	%

Page 3 TOXIKON CORP. REPORT Work Order # 97-08-485
Received: 08/26/97 Results by Sample

SAMPLE ID STOCKPILE FRACTION 01A TEST CODE 8020 NAME PURGEABLE AROMATICS
Date & Time Collected 08/21/97 16:15:00 Category SOIL

EPA 8020

	RESULT	LIMIT
BENZENE	ND	100
TOLUENE	ND	200
ETHYLBENZENE	ND	200
XYLENES (TOTAL)	1260	200

Notes and Definitions for this Report:

DATE RUN: 09/04/97
ANALYST: NLC
INSTRUMENT: V4
DIL. FACTOR: 100
UNITS: ug/Kg
ND = not detected at detection limit

Page 4 TOXIKON CORP. REPORT Work Order # 97-08-485
Received: 08/26/97 Results by Sample

SAMPLE ID STOCKPILE FRACTION 01A TEST CODE RCRA NAME RCRA METALS (8)
Date & Time Collected 08/21/97 16:15:00 Category SOIL

RCRA (8) METALS

	RESULT	DETECTION LIMIT
Silver	0.534	0.39
Barium	25.4	5.5
Cadmium	0.495	0.28
Chromium	37.6	0.55
Lead	8.70	2.8
Arsenic	7.61	5.5
Selenium	ND	14
Mercury	ND	0.089

Notes and Definitions for this Report:

EXTRACTED	08/27/97
DATE RUN	08/28/97
ANALYST	VR
INSTRUMENT	ICP
DIL. FACTOR	1
UNITS	mg/Kg
EXTR_METHOD	TOTAL

ND = not detected at detection limit

Page 5 TOXIKON CORP. REPORT Work Order # 97-08-485
Received: 08/26/97 Results by Sample

SAMPLE ID NORTH SIDEWALL FRACTION 02A TEST CODE 8021M NAME VOL. ORG. COMP.
Date & Time Collected 08/21/97 15:00:00 Category SOIL

	RESULT	LIMIT		RESULT	LIMIT
Dichlorodifluoromethane	ND	5.0	Ethyl benzene	ND	5.0
Chloromethane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Vinyl Chloride	ND	5.0	m-Xylene	ND	5.0
Bromomethane	ND	5.0	p-Xylene	ND	5.0
Chloroethane	ND	5.0	o-Xylene	ND	5.0
Trichlorofluoromethane	ND	5.0	Styrene	ND	5.0
1,1-Dichloroethene	ND	5.0	Isopropyl benzene	ND	5.0
Methylene Chloride	ND	5.0	Bromoform	ND	5.0
trans-1,2-Dichloroethene	ND	5.0	1,1,2,2-Tetrachloroethane	ND	5.0
1,1-Dichloroethane	ND	5.0	1,2,3-Trichloropropane	ND	5.0
2,2-Dichloropropane	ND	5.0	n-Propyl benzene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0	Bromobenzene	ND	5.0
Chloroform	ND	5.0	1,3,5-Trimethyl benzene	ND	5.0
Bromochloromethane	ND	5.0	2-Chlorotoluene	ND	5.0
1,1,1-Trichloroethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,1-Dichloropropene	ND	5.0	tert-Butyl benzene	ND	5.0
Carbon Tetrachloride	ND	5.0	1,2,4-Trimethylbenzene	ND	5.0
Benzene	ND	5.0	sec-Butylbenzene	ND	5.0
1,2-Dichloroethane	ND	5.0	p-Isopropyltoluene	ND	5.0
Trichloroethene	ND	5.0	1,3-Dichlorobenzene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,4-Dichlorobenzene	ND	5.0
Bromodichloromethane	ND	5.0	n-Butylbenzene	ND	5.0
Dibromomethane	ND	5.0	1,2-Dichlorobenzene	ND	5.0
Toluene	ND	5.0	1,2-Dibromo-3-Chloropropane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	Hexachlorobutadiene	ND	5.0
1,3-Dichloropropane	ND	5.0	Naphthalene	ND	5.0
Dibromochloromethane	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
1,2-Dibromoethane	ND	5.0	Methyl-t-Butyl Ether	ND	5.0
Chlorobenzene	ND	5.0			

Notes and Definitions for this Report:

DATE RUN 08/28/97
ANALYST CMD
INSTRUMENT G GCMS
DILUTION 1
UNITS ug/Kg

Page 6 TOXIKON CORP. REPORT Work Order # 97-08-485
Received: 08/26/97 Results by Sample

SAMPLE ID NORTH SIDEWALL FRACTION 02A TEST CODE 8270 NAME A/BN EXTRACTABLES
Date & Time Collected 08/21/97 15:00:00 Category SOIL

	RESULT	LIMIT		RESULT	LIMIT
BASE NEUTRAL EXTRACTABLES					
bis(-2-Chloroethyl) ether	ND	360	Chrysene	ND	360
1,3-Dichlorobenzene	ND	360	Di-n-octyl phthalate	ND	360
1,4-Dichlorobenzene	ND	360	Benzo(b)fluoranthene	ND	360
1,2-Dichlorobenzene	ND	360	Benzo(k)fluoranthene	ND	360
bis(2-Chloroisopropyl) ether	ND	360	Benzo(a)pyrene	ND	360
N-Nitroso-Di-N-Propylamine	ND	360	Indeno(1,2,3-cd)pyrene	ND	360
Hexachloroethane	ND	360	Dibenz(a,h)anthracene	ND	360
Nitrobenzene	ND	360	Benzo(g,h,i)perylene	ND	360
Isophorone	ND	360	2-Methylnaphthalene	ND	360
bis(2-Chloroethoxy) methane	ND	360	Benzidine	ND	360
1,2,4-Trichlorobenzene	ND	360	Dibenzofuran	ND	360
Naphthalene	ND	360			
Hexachlorobutadiene	ND	360	ACID EXTRACTABLES		
Hexachlorocyclopentadiene	ND	360	Phenol	ND	360
2-Chloronaphthalene	ND	360	2-Chlorophenol	ND	360
Dimethyl phthalate	ND	360	Benzyl Alcohol	ND	720
Acenaphthylene	ND	360	2-Methylphenol	ND	360
Acenaphthene	ND	360	4-Methylphenol	ND	360
2,4-Dinitrotoluene	ND	360	2-Nitrophenol	ND	360
2,6-Dinitrotoluene	ND	360	2,4-Dimethylphenol	ND	360
Diethylphthalate	ND	360	Benzoic Acid	ND	1800
4-Chlorophenyl phenyl ether	ND	360	2,4-Dichlorophenol	ND	360
Fluorene	ND	360	4-Chloroaniline	ND	360
N-Nitrosodiphenylamine	ND	360	4-Chloro-3-methylphenol	ND	360
4-Bromophenyl phenyl ether	ND	360	2,4,6-Trichlorophenol	ND	360
Hexachlorobenzene	ND	360	2,4,5-Trichlorophenol	ND	360
Phenanthrene	ND	360	2-Nitroaniline	ND	900
Anthracene	ND	360	3-Nitroaniline	ND	900
Di-n-butylphthalate	ND	360	2,4-Dinitrophenol	ND	900
Fluoranthene	ND	360	4-Nitrophenol	ND	900
Pyrene	ND	360	4-Nitroaniline	ND	900
Butyl benzyl phthalate	ND	360	4,6-Dinitro-2-methylphenol	ND	900
3,3'-Dichlorobenzidine	ND	720	Pentachlorophenol	ND	900
Benzo (a) anthracene	ND	360	3-Methylphenol	ND	900
bis (2-ethylhexyl)phthalate	ND	360	2,6- Dichlorophenol	ND	900

Notes and Definitions for this Report:

UNITS: ug/Kg
EXTRACTED: 09/02/97
DATE RUN: 09/03/97
ANALYST: PAC
INSTRUMENT: C
DIL. FACTOR: 1
ND = not detected at detection limit

Page 7 TOXIKON CORP. REPORT Work Order # 97-08-485
Received: 08/26/97 Results by Sample

SAMPLE ID SOUTH SIDEWALL FRACTION 03A TEST CODE 8021M NAME VOL. ORG. COMP.
Date & Time Collected 08/21/97 15:30:00 Category SOIL

	RESULT	LIMIT		RESULT	LIMIT
Dichlorodifluoromethane	ND	5.0	Ethyl benzene	ND	5.0
Chloromethane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Vinyl Chloride	ND	5.0	m-Xylene	ND	5.0
Bromomethane	ND	5.0	p-Xylene	ND	5.0
Chloroethane	ND	5.0	o-Xylene	ND	5.0
Trichlorofluoromethane	ND	5.0	Styrene	ND	5.0
1,1-Dichloroethene	ND	5.0	Isopropyl benzene	ND	5.0
Methylene Chloride	ND	5.0	Bromoform	ND	5.0
trans-1,2-Dichloroethene	ND	5.0	1,1,2,2-Tetrachloroethane	ND	5.0
1,1-Dichloroethane	ND	5.0	1,2,3-Trichloropropane	ND	5.0
2,2-Dichloropropane	ND	5.0	n-Propyl benzene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0	Bromobenzene	ND	5.0
Chloroform	ND	5.0	1,3,5-Trimethyl benzene	ND	5.0
Bromochloromethane	ND	5.0	2-Chlorotoluene	ND	5.0
1,1,1-Trichloroethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,1-Dichloropropene	ND	5.0	tert-Butyl benzene	ND	5.0
Carbon Tetrachloride	ND	5.0	1,2,4-Trimethylbenzene	ND	5.0
Benzene	ND	5.0	sec-Butylbenzene	ND	5.0
1,2-Dichloroethane	ND	5.0	p-Isopropyltoluene	ND	5.0
Trichloroethene	ND	5.0	1,3-Dichlorobenzene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,4-Dichlorobenzene	ND	5.0
Bromodichloromethane	ND	5.0	n-Butylbenzene	ND	5.0
Dibromomethane	ND	5.0	1,2-Dichlorobenzene	ND	5.0
Toluene	ND	5.0	1,2-Dibromo-3-Chloropropane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	Hexachlorobutadiene	ND	5.0
1,3-Dichloropropane	ND	5.0	Naphthalene	ND	5.0
Dibromochloromethane	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
1,2-Dibromoethane	ND	5.0	Methyl-t-Butyl Ether	ND	5.0
Chlorobenzene	ND	5.0			

Notes and Definitions for this Report:

DATE RUN 08/27/97
ANALYST XL
INSTRUMENT B
DILUTION 1
UNITS ug/Kg

Page 8 TOXIKON CORP. REPORT Work Order # 97-08-485
Received: 08/26/97 Results by Sample

SAMPLE ID SOUTH SIDEWALL FRACTION OSA TEST CODE 8270 NAME A/BN EXTRACTABLES
Date & Time Collected 08/21/97 15:30:00 Category SOIL

	RESULT	LIMIT		RESULT	LIMIT
BASE NEUTRAL EXTRACTABLES					
bis(-2-Chloroethyl) ether	ND	380	Chrysene	ND	380
1,3-Dichlorobenzene	ND	380	Di-n-octyl phthalate	ND	380
1,4-Dichlorobenzene	ND	380	Benzo(b)fluoranthene	ND	380
1,2-Dichlorobenzene	ND	380	Benzo(k)fluoranthene	ND	380
bis(2-Chloroisopropyl) ether	ND	380	Benzo(a)pyrene	ND	380
N-Nitroso-Di-N-Propylamine	ND	380	Indeno(1,2,3-cd)pyrene	ND	380
Hexachloroethane	ND	380	Dibenz(a,h)anthracene	ND	380
Nitrobenzene	ND	380	Benzo(g,h,i)perylene	ND	380
Isophorone	ND	380	2-Methylnaphthalene	ND	380
bis(2-Chloroethoxy) methane	ND	380	Benzidine	ND	380
1,2,4-Trichlorobenzene	ND	380	Dibenzofuran	ND	380
Naphthalene	ND	380			
Hexachlorobutadiene	ND	380	ACID EXTRACTABLES		
Hexachlorocyclopentadiene	ND	380	Phenol	ND	380
2-Chloronaphthalene	ND	380	2-Chlorophenol	ND	380
Dimethyl phthalate	ND	380	Benzyl Alcohol	ND	760
Acenaphthylene	ND	380	2-Methylphenol	ND	380
Acenaphthene	ND	380	4-Methylphenol	ND	380
2,4-Dinitrotoluene	ND	380	2-Nitrophenol	ND	380
2,6-Dinitrotoluene	ND	380	2,4-Dimethylphenol	ND	380
Diethylphthalate	ND	380	Benzoic Acid	ND	1900
4-Chlorophenyl phenyl ether	ND	380	2,4-Dichlorophenol	ND	380
Fluorene	ND	380	4-Chloroaniline	ND	380
N-Nitrosodiphenylamine	ND	380	4-Chloro-3-methylphenol	ND	380
4-Bromophenyl phenyl ether	ND	380	2,4,6-Trichlorophenol	ND	380
Hexachlorobenzene	ND	380	2,4,5-Trichlorophenol	ND	380
Phenanthrene	ND	380	2-Nitroaniline	ND	950
Anthracene	ND	380	3-Nitroaniline	ND	950
Di-n-butylphthalate	ND	380	2,4-Dinitrophenol	ND	950
Fluoranthene	ND	380	4-Nitrophenol	ND	950
Pyrene	ND	380	4-Nitroaniline	ND	950
Butyl benzyl phthalate	ND	380	4,6-Dinitro-2-methylphenol	ND	950
3,3'-Dichlorobenzidine	ND	760	Pentachlorophenol	ND	950
Benzo (a) anthracene	ND	380	3-Methylphenol	ND	950
bis (2-ethylhexyl)phthalate	ND	380	2,6- Dichlorophenol	ND	950

Notes and Definitions for this Report:

UNITS: ug/Kg
EXTRACTED: 09/02/97
DATE RUN: 09/03/97
ANALYST: PAC
INSTRUMENT: C
DIL. FACTOR: 1
ND = not detected at detection limit

Page 9 TOXIKON CORP. REPORT Work Order # 97-08-485
Received: 08/26/97 Results by Sample

SAMPLE ID EAST SIDEWALL FRACTION 04A TEST CODE 8021M NAME VOL. ORG. COMP.
Date & Time Collected 08/21/97 15:15:00 Category SOIL

	RESULT	LIMIT		RESULT	LIMIT
Dichlorodifluoromethane	ND	5.0	Ethyl benzene	ND	5.0
Chloromethane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Vinyl Chloride	ND	5.0	m-Xylene	ND	5.0
Bromomethane	ND	5.0	p-Xylene	ND	5.0
Chloroethane	ND	5.0	o-Xylene	ND	5.0
Trichlorofluoromethane	ND	5.0	Styrene	ND	5.0
1,1-Dichloroethene	ND	5.0	Isopropyl benzene	ND	5.0
Methylene Chloride	ND	5.0	Bromoform	ND	5.0
trans-1,2-Dichloroethene	ND	5.0	1,1,2,2-Tetrachloroethane	ND	5.0
1,1-Dichloroethane	ND	5.0	1,2,3-Trichloropropane	ND	5.0
2,2-Dichloropropane	ND	5.0	n-Propyl benzene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0	Bromobenzene	ND	5.0
Chloroform	ND	5.0	1,3,5-Trimethyl benzene	ND	5.0
Bromochloromethane	ND	5.0	2-Chlorotoluene	ND	5.0
1,1,1-Trichloroethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,1-Dichloropropene	ND	5.0	tert-Butyl benzene	ND	5.0
Carbon Tetrachloride	ND	5.0	1,2,4-Trimethylbenzene	ND	5.0
Benzene	ND	5.0	sec-Butylbenzene	ND	5.0
1,2-Dichloroethane	ND	5.0	p-Isopropyltoluene	ND	5.0
Trichloroethene	ND	5.0	1,3-Dichlorobenzene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,4-Dichlorobenzene	ND	5.0
Bromodichloromethane	ND	5.0	n-Butylbenzene	ND	5.0
Dibromomethane	ND	5.0	1,2-Dichlorobenzene	ND	5.0
Toluene	ND	5.0	1,2-Dibromo-3-Chloropropane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	Hexachlorobutadiene	ND	5.0
1,3-Dichloropropane	ND	5.0	Naphthalene	ND	5.0
Dibromochloromethane	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
1,2-Dibromoethane	ND	5.0	Methyl-t-Butyl Ether	ND	5.0
Chlorobenzene	ND	5.0			

Notes and Definitions for this Report:

DATE RUN 08/27/97
ANALYST XL
INSTRUMENT B
DILUTION 1
UNITS ug/Kg

Page 10 TOXIKON CORP. REPORT Work Order # 97-08-485
Received: 08/26/97 Results by Sample

SAMPLE ID EAST SIDEWALL FRACTION 04A TEST CODE 8270 NAME A/BN EXTRACTABLES
Date & Time Collected 08/21/97 15:15:00 Category SOIL

	RESULT	LIMIT		RESULT	LIMIT
BASE NEUTRAL EXTRACTABLES					
bis(-2-Chloroethyl) ether	ND	380	Chrysene	ND	380
1,3-Dichlorobenzene	ND	380	Di-n-octyl phthalate	ND	380
1,4-Dichlorobenzene	ND	380	Benzo(b)fluoranthene	ND	380
1,2-Dichlorobenzene	ND	380	Benzo(k)fluoranthene	ND	380
bis(2-Chloroisopropyl) ether	ND	380	Benzo(a)pyrene	ND	380
N-Nitroso-Di-N-Propylamine	ND	380	Indeno(1,2,3-cd)pyrene	ND	380
Hexachloroethane	ND	380	Dibenz(a,h)anthracene	ND	380
Nitrobenzene	ND	380	Benzo(g,h,i)perylene	ND	380
Isophorone	ND	380	2-Methylnaphthalene	ND	380
bis(2-Chloroethoxy) methane	ND	380	Benzidine	ND	380
1,2,4-Trichlorobenzene	ND	380	Dibenzofuran	ND	380
Naphthalene	ND	380			
Hexachlorobutadiene	ND	380	ACID EXTRACTABLES		
Hexachlorocyclopentadiene	ND	380	Phenol	ND	380
2-Chloronaphthalene	ND	380	2-Chlorophenol	ND	380
Dimethyl phthalate	ND	380	Benzyl Alcohol	ND	760
Acenaphthylene	ND	380	2-Methylphenol	ND	380
Acenaphthene	ND	380	4-Methylphenol	ND	380
2,4-Dinitrotoluene	ND	380	2-Nitrophenol	ND	380
2,6-Dinitrotoluene	ND	380	2,4-Dimethylphenol	ND	380
Diethylphthalate	ND	380	Benzoic Acid	ND	1900
4-Chlorophenyl phenyl ether	ND	380	2,4-Dichlorophenol	ND	380
Fluorene	ND	380	4-Chloroaniline	ND	380
N-Nitrosodiphenylamine	ND	380	4-Chloro-3-methylphenol	ND	380
4-Bromophenyl phenyl ether	ND	380	2,4,6-Trichlorophenol	ND	380
Hexachlorobenzene	ND	380	2,4,5-Trichlorophenol	ND	380
Phenanthrene	ND	380	2-Nitroaniline	ND	950
Anthracene	ND	380	3-Nitroaniline	ND	950
Di-n-butylphthalate	ND	380	2,4-Dinitrophenol	ND	950
Fluoranthene	ND	380	4-Nitrophenol	ND	950
Pyrene	ND	380	4-Nitroaniline	ND	950
Butyl benzyl phthalate	ND	380	4,6-Dinitro-2-methylphenol	ND	950
3,3'-Dichlorobenzidine	ND	760	Pentachlorophenol	ND	950
Benzo (a) anthracene	ND	380	3-Methylphenol	ND	950
bis (2-ethylhexyl)phthalate	ND	380	2,6- Dichlorophenol	ND	950

Notes and Definitions for this Report:

UNITS: ug/Kg
EXTRACTED: 09/02/97
DATE RUN: 09/03/97
ANALYST: PAC
INSTRUMENT: C
DIL. FACTOR: 1
ND = not detected at detection limit

Page 11 TOXIKON CORP. REPORT Work Order # 97-08-485
Received: 08/26/97 Results by Sample

SAMPLE ID WEST SIDEWALL FRACTION 05A TEST CODE 8021M NAME VOL. ORG. COMP.
Date & Time Collected 08/21/97 15:45:00 Category SOIL

	RESULT	LIMIT		RESULT	LIMIT
Dichlorodifluoromethane	ND	5.0	Ethyl benzene	ND	5.0
Chloromethane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Vinyl Chloride	ND	5.0	m-Xylene	ND	5.0
Bromomethane	ND	5.0	p-Xylene	ND	5.0
Chloroethane	ND	5.0	o-Xylene	ND	5.0
Trichlorofluoromethane	ND	5.0	Styrene	ND	5.0
1,1-Dichloroethene	ND	5.0	Isopropyl benzene	ND	5.0
Methylene Chloride	ND	5.0	Bromoform	ND	5.0
trans-1,2-Dichloroethene	ND	5.0	1,1,2,2-Tetrachloroethane	ND	5.0
1,1-Dichloroethane	ND	5.0	1,2,3-Trichloropropane	ND	5.0
2,2-Dichloropropane	ND	5.0	n-Propyl benzene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0	Bromobenzene	ND	5.0
Chloroform	ND	5.0	1,3,5-Trimethyl benzene	ND	5.0
Bromochloromethane	ND	5.0	2-Chlorotoluene	ND	5.0
1,1,1-Trichloroethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,1-Dichloropropene	ND	5.0	tert-Butyl benzene	ND	5.0
Carbon Tetrachloride	ND	5.0	1,2,4-Trimethylbenzene	ND	5.0
Benzene	ND	5.0	sec-Butylbenzene	ND	5.0
1,2-Dichloroethane	ND	5.0	p-Isopropyltoluene	ND	5.0
Trichloroethene	ND	5.0	1,3-Dichlorobenzene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,4-Dichlorobenzene	ND	5.0
Bromodichloromethane	ND	5.0	n-Butylbenzene	ND	5.0
Dibromomethane	ND	5.0	1,2-Dichlorobenzene	ND	5.0
Toluene	ND	5.0	1,2-Dibromo-3-Chloropropane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	Hexachlorobutadiene	ND	5.0
1,3-Dichloropropane	ND	5.0	Naphthalene	ND	5.0
Dibromochloromethane	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
1,2-Dibromoethane	ND	5.0	Methyl-t-Butyl Ether	ND	5.0
Chlorobenzene	ND	5.0			

Notes and Definitions for this Report:

DATE RUN 08/27/97
ANALYST XL
INSTRUMENT 8
DILUTION 1
UNITS ug/Kg

Page 12 TOXIKON CORP. REPORT Work Order # 97-08-485
Received: 08/26/97 Results by Sample

SAMPLE ID WEST SIDEWALL FRACTION 05A TEST CODE 8270 NAME A/BN EXTRACTABLES
Date & Time Collected 08/21/97 15:45:00 Category SOIL

	RESULT	LIMIT		RESULT	LIMIT
BASE NEUTRAL EXTRACTABLES					
bis(-2-Chloroethyl) ether	ND	380	Chrysene	ND	380
1,3-Dichlorobenzene	ND	380	Di-n-octyl phthalate	ND	380
1,4-Dichlorobenzene	ND	380	Benzo(b)fluoranthene	ND	380
1,2-Dichlorobenzene	ND	380	Benzo(k)fluoranthene	ND	380
bis(2-Chloroisopropyl) ether	ND	380	Benzo(a)pyrene	ND	380
N-Nitroso-Di-N-Propylamine	ND	380	Indeno(1,2,3-cd)pyrene	ND	380
Hexachloroethane	ND	380	Dibenz(a,h)anthracene	ND	380
Nitrobenzene	ND	380	Benzo(g,h,i)perylene	ND	380
Isophorone	ND	380	2-Methylnaphthalene	ND	380
bis(2-Chloroethoxy) methane	ND	380	Benzidine	ND	380
1,2,4-Trichlorobenzene	ND	380	Dibenzofuran	ND	380
Naphthalene	ND	380			
Hexachlorobutadiene	ND	380	**ACID EXTRACTABLES**		
Hexachlorocyclopentadiene	ND	380	Phenol	ND	380
2-Chloronaphthalene	ND	380	2-Chlorophenol	ND	380
Dimethyl phthalate	ND	380	Benzyl Alcohol	ND	750
Acenaphthylene	ND	380	2-Methylphenol	ND	380
Acenaphthene	ND	380	4-Methylphenol	ND	380
2,4-Dinitrotoluene	ND	380	2-Nitrophenol	ND	380
2,6-Dinitrotoluene	ND	380	2,4-Dimethylphenol	ND	380
Diethylphthalate	ND	380	Benzoic Acid	ND	1900
4-Chlorophenyl phenyl ether	ND	380	2,4-Dichlorophenol	ND	380
Fluorene	ND	380	4-Chloroaniline	ND	380
N-Nitrosodiphenylamine	ND	380	4-Chloro-3-methylphenol	ND	380
4-Bromophenyl phenyl ether	ND	380	2,4,6-Trichlorophenol	ND	380
Hexachlorobenzene	ND	380	2,4,5-Trichlorophenol	ND	380
Phenanthrene	ND	380	2-Nitroaniline	ND	940
Anthracene	ND	380	3-Nitroaniline	ND	940
Di-n-butylphthalate	ND	380	2,4-Dinitrophenol	ND	940
Fluoranthene	ND	380	4-Nitrophenol	ND	940
Pyrene	ND	380	4-Nitroaniline	ND	940
Butyl benzyl phthalate	ND	380	4,6-Dinitro-2-methylphenol	ND	940
3,3'-Dichlorobenzidine	ND	750	Pentachlorophenol	ND	940
Benzo (a) anthracene	ND	380	3-Methylphenol	ND	940
bis (2-ethylhexyl)phthalate	ND	380	2,6- Dichlorophenol	ND	940

Notes and Definitions for this Report:

UNITS: ug/Kg
EXTRACTED: 09/02/97
DATE RUN: 09/03/97
ANALYST: PAC
INSTRUMENT: C
DIL. FACTOR: 1
ND = not detected at detection limit

Page 13 TOXIKON CORP. REPORT Work Order # 97-08-485
Received: 08/26/97 Results by Sample

SAMPLE ID BOTTOM FRACTION 06A TEST CODE 8021M NAME VOL. ORG. COMP.
Date & Time Collected 08/21/97 16:00:00 Category SOIL

	RESULT	LIMIT		RESULT	LIMIT
Dichlorodifluoromethane	ND	5.0	Ethyl benzene	ND	5.0
Chloromethane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Vinyl Chloride	ND	5.0	m-Xylene	ND	5.0
Bromomethane	ND	5.0	p-Xylene	ND	5.0
Chloroethane	ND	5.0	o-Xylene	ND	5.0
Trichlorofluoromethane	ND	5.0	Styrene	ND	5.0
1,1-Dichloroethene	ND	5.0	Isopropyl benzene	ND	5.0
Methylene Chloride	ND	5.0	Bromoform	ND	5.0
trans-1,2-Dichloroethene	ND	5.0	1,1,2,2-Tetrachloroethane	ND	5.0
1,1-Dichloroethane	ND	5.0	1,2,3-Trichloropropane	ND	5.0
2,2-Dichloropropane	ND	5.0	n-Propyl benzene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0	Bromobenzene	ND	5.0
Chloroform	ND	5.0	1,3,5-Trimethyl benzene	ND	5.0
Bromochloromethane	ND	5.0	2-Chlorotoluene	ND	5.0
1,1,1-Trichloroethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,1-Dichloropropene	ND	5.0	tert-Butyl benzene	ND	5.0
Carbon Tetrachloride	ND	5.0	1,2,4-Trimethylbenzene	ND	5.0
Benzene	ND	5.0	sec-Butylbenzene	ND	5.0
1,2-Dichloroethane	ND	5.0	p-Isopropyltoluene	ND	5.0
Trichloroethene	ND	5.0	1,3-Dichlorobenzene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,4-Dichlorobenzene	ND	5.0
Bromodichloromethane	ND	5.0	n-Butylbenzene	ND	5.0
Dibromomethane	ND	5.0	1,2-Dichlorobenzene	ND	5.0
Toluene	ND	5.0	1,2-Dibromo-3-Chloropropane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	Hexachlorobutadiene	ND	5.0
1,3-Dichloropropane	ND	5.0	Naphthalene	ND	5.0
Dibromochloromethane	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
1,2-Dibromoethane	ND	5.0	Methyl-t-Butyl Ether	ND	5.0
Chlorobenzene	ND	5.0			

Notes and Definitions for this Report:

DATE RUN 08/28/97
ANALYST CMD
INSTRUMENT G GCMS
DILUTION 2.5
UNITS ug/Kg

97 08 485
9 9 97

ETL

Environmental Testing Laboratories, Inc.

516-249-1456
516-249-3150
FAX 516-249-8344

208 Route 109 • Farmingdale • New York 11735

COLLECTED THURS. AUG 21

NY NH MA VT
NJ RI DE ME
CT PA MD VA

SOIL, WATER & AIR ANALYSIS • ORGANIC/INORGANIC • PETRO CHEMICAL

CHAIN OF CUSTODY DOCUMENT

E 3972

Project Name: Robeson Ind. | Project Manager: Greg Mathson | Sampler (Signature): [signature] for (Print): Greg Mathson

Project Address: Castile, New York - Fuel Oil Tank

Bill to: J/N: | ☐ Rush by / /

SAMPLE INFO | Type: SS = Split Spoon; G = Grab; C = Composite; B = Blank | Matrix: L = Liquid; S = Soil; SL = Sludge; A = Air; W = Wipe | * Air - Vol. (Liters) include Flow (CFM)

ID	Date	Time	Type	Matrix	Sample Location	601/8010	602/8020 BTX/BTEX	MTBE	624/8240/8260	625/8270/BN	PCB/Pesticides	Pet. Prods.	TCLP Metals/Totals	RCRA Metals	Reactivity	pH - Corrosivity	Ignitability Flashpoint	418.1-TRPH	8021 - total VOC's	% solids	# CNTRS
1	8/21/97	4:15	C	S	Stockpile	†	**					X	†	†	†			X			4
2	8/21/97	3:00	C	S	North sidewall			X										X			1
3	"	3:30	C	S	South sidewall			X										X			1
4	"	3:15	C	S	East sidewall			X										X			1
5	"	3:45	C	S	West sidewall			X										X			1
6	"	4:00	C	S	Bottom (4) jars, please combine for 1 composite sample) : 1 analysis.													X			1
7																					
8																					
9																					
10																					
11																					
12					please take enough for both analyses from the single 402. jar.																
13																					

Tyree Environmental Technologies

COOLER TEMP = 5.7°

Relinquished by (Signature):	Date 8/25/97 Time 3:00	Printed Name & Agent: Jen Murray, Tyree	Received by (Signature):	Date 8/26 Time 0900	Printed Name & Agent: M. CORNELL TOXIKON
Relinquished by (Signature):	Date Time	Printed Name & Agent:	Comments & Special Instructions:		Disposal Facility:
Received for Lab by (Signature):	Date Time	Printed Name:	Number & Type of Containers:		Preservatives:

FROM : TOXIKON PHONE NO. : 6172711135 Oct. 02 1997 02:22PM P2

CLIENT COPY

APPENDIX E

CERTIFICATE OF FINAL COMPLETION

New York State Department of Environmental Conservation
Division of Environmental Remediation
Bureau of Construction Services, Room 267
50 Wolf Road, Albany, New York 12233-7010
Phone: (518) 457-9280 • **FAX:** (518) 457-7743
Website: www.dec.state.ny.us

John P. Cahill
Commissioner

MAY 04 1999

Mr. Randy Hoose
Project Manager
The Tyree Organization, Ltd.
4 Northway Lane
Latham, NY 12110

Dear Mr. Hoose:

Re: Final Completion, Robeson Industries Site
Contract #D003658
(T) Castile, Wyoming County
Site # 9-61-008

The Department is notifying the Tyree Organization, Ltd. (Tyree) that the subject construction contract has been completed in substantial conformance with the contract documents and Change Order #4. As such, the Department is forwarding documentation from the contract documents that will need to be properly filled out by Tyree before submittal of their final payment. Specifically, pages V-52 through V-57 are enclosed for signature by Tyree and their subcontractor's used during construction at the subject site.

In accordance with Section XIII, Article 13.10, "**The final Application for Payment shall be accompanied by all documentation called for in the contract documents, together with complete and legally effective releases or waivers satisfactory to the Department of all liens arising out of or filed in connection with the work.**" As such, please complete the forms and return them to my attention as soon as possible.

Should you have any questions regarding this matter please do not hesitate to contact David Chiusano, project manager, or me at (518) 457-7878.

Sincerely,

George W. Harris, P.E.
Chief, Western Field Services Section
Bureau of Construction Services
Division of Environmental Remediation

Enclosure

cc: M. Doster - NYSDEC, Region 9
C. Pawlewski/D. McCall - URSG

DJC/mj
bcc: G. Harris
D. Chiusano
K. Kenney
Dayfile
a:rbfnlltr.wpd