VOLUNTARY CLEAN-UP WORK PLAN

Former Paulsen-Holbrook Lumber Pressure Treating Site Voluntary Clean-Up Agreement Guilderland, New York

December 1998

Prepared for:

Miron Building Products Company
P. O. Box 1598
Kingston, New York 12601

VOLUNTARY CLEAN-UP WORK PLAN

Former Paulsen-Holbrook Lumber Pressure Treating Site Voluntary Clean-Up Agreement Guilderland, New York

December 1998

THE *Chazen* COMPANIES

Prepared by:

The Dutchess County Office:
The Chazen Companies
P.O. Box 3479, 229-B Page Park
Poughkeepsie, NY 12603

FIGURES

APPENDICES

1.0 INTRODUCTION

The Chazen Companies (TCC) have prepared this Work Plan to address the excavation and removal of visually impacted soil located at the former Paulsen-Holbrook Lumber Pressure Treating Site, currently owned by Miron Building Products Company in the Town of Guilderland, Albany County, New York. Visually inspection of the soil during test pit investigations conducted in December, 1996 indicated observations of "green" discoloration of the soil. Based on experience, it is estimated that portions of the discolored soil may be characterized as hazardous waste. This Voluntary Clean-Up Work Plan has been prepared in accordance with the Application for the NYSDEC Voluntary Cleanup Program and outlines the scope of work to excavate and dispose of the visually impacted soils.

A summary of the environmental history of the property and the purpose and scope of the project are presented in the following sections.

1.1 Site Description

The site is described as an area of approximately 18,000 square feet of property within the southern limits of the Miron Lumber Yard in Guilderland, New York. Figure 2 shows the "site limits" which have been identified as the treatment area and areas where soil and/or groundwater has been impacted by the use of copper, chrome and arsenic metals.

1.2 Site History

Predecessor companies including The Paulsen Lumber Co. and The Holbrook Lumber Co. operated a CCA (Copper Chromate Arsenate) lumber pressure treatment system on this area of the site. The lumber pressure treating process is thought to have started some time in the 1950's and ended some time in the 1970's.

The pressure treatment operation introduced a CCA mixture into lumber within a pressure vessel (pressure treatment process). After lumber is treated, "typical pressure treatment operations" include allowing treated lumber to dry on a drip rack as part of the process. Although the former Paulsen-Holbrook site operation is not well documented, the site is thought to have included a pressure treatment area with the pressure vessel and associated machinery, and an adjacent drip rack.

As a function of decommissioning the pressure treatment operation, it appears that some fill may have been placed in the area and the area graded flat to the elevation of the surrounding ground surface.

2.0 PREVIOUS INVESTIGATIONS

2.1 Test Pit Investigation

In December of 1996, a few shallow test pits were excavated at the site in an attempt to determine what type of subsurface conditions exist. A concrete foundation which apparently contained the CCA treatment vessel and associated mechanics was discovered beneath a gravel surfaced area. The concrete foundation appears to contain some piping and may contain some type of abandoned system tank and/or piping. The foundation was approximately 1-2 feet deep with a deeper sump area on the south end. The foundation appeared to have been filled with soil which exhibited evidence of an oily petroleum contaminant. The foundation appears to be approximately 25 feet wide (east-west) and 50 feet long (north-south).

South and west of the foundation shallow test pits were installed in an adjacent gravel surfaced area in an attempt to determine if other evidence of the CCA operation was present. Generally, the area west, north and northeast of the foundation appeared to be clean (not discolored) native sandy soil. Adjacent to the southeast sides of the foundation, green discolored soils and gravel were observed at a depth of 1-2 feet below grade. In a small area east of the foundation, a mixture of green wood timbers, green soil and green sludge-like material was observed starting approximately 1 foot below grade. Green soils were observed up to the limits of the test pit investigation which was limited to the east by a garage building and storage trailer and to the south by the property fence line.

2.2 Monitoring Wells

In August of 1996, five shallow test borings were installed in the site area. The test borings were installed in an attempt to determine if the former CCA operation or former site maintenance garage operations in this area had impacted the subsurface. Monitoring wells were installed in all five test borings.

A small area of visually impacted soil was identified and was investigated along the west side of a former site maintenance garage. Test boring B-2 / Monitoring Well MW-2 was installed in the discolored soil. Monitoring wells MW-1 and MW-3 were installed as upgradient wells and Monitoring Wells MW-4 and MW-5 were installed in areas thought to be generally downgradient of this area. Monitoring well completion diagrams are included in Appendix A. (Note: These wells have also been referred to as ML-1 through ML-5 in previous documents.) In general, groundwater was encountered at a depth of 12-13 feet below grade in all of the monitoring wells. The wells were installed so that the screened interval started above the groundwater table with 5-8 feet of groundwater present in each well.

3.0 INTERPRETATION OF SITE CONDITIONS

3.1 Regional Geology

According to the New York State Surficial Geology Map, the overburden is mapped as lacustrine sand deposited in a large body of water in a near-shore environment. Lacustrine sands are typically stratified, dominated by quartz grains, and well sorted. The thickness of these deposits is variable ranging from 6.5 to 66 feet. Well sorted, fine grained sands tend to have a moderate permeability ranging from 1 to 10 feet/day ($3.5x10^{-4}$ to $3.5x10^{-3}$ cm/sec, (Heath, 1983)).

According to the New York State Bedrock Geology Map, the bedrock geology beneath the site area consists of the Utica, Canajoharie, and Normanskill shale that is part of the Lorraine, Trenton, and Black River Groups.

3.2 Site Geology

Five shallow soil borings installed at the former Paulsen-Holbrook lumber pressure treating facility confirmed published geologic information. A brown, fine sand was encountered from grade to a depth of approximately 10 feet below grade. The sand becomes finer in composition, containing a higher percentage of very fine sand and silt from 10 feet to 17 feet below grade. Bedrock was not encountered in any of the soil borings installed at the site and no nearby outcrops were identified.

Boring logs for the five test borings developed into monitoring wells MW-1 through MW-5 are included in Appendix A.

3.3 Groundwater Conditions

Groundwater was encountered in each of the soil borings at a depth of approximately 12 to 13 feet below grade. Based on water level measurements collected from site monitoring wells, the local groundwater flow direction is towards the south and has a hydraulic gradient of approximately 0.017 or 1.7 feet per 100 feet.

Groundwater samples were collected from the monitoring wells and analyzed by EPA Methods 8021 and 8270 for volatile and semi-volatile organic compounds. Trace levels of petroleum compounds were detected in the groundwater, but based on the levels detected, the petroleum contaminated soil did not appear to be leaching petroleum to the groundwater in this area. A summary of the STARS petroleum compounds detected in groundwater from these monitoring wells is included as Table 1. Since this area of the site was also used for pressure treating lumber in the past with a solution containing copper, chromium and arsenic (CCA),

the groundwater was also analyzed for these and other RCRA metals. Copper, chromium and arsenic were found to exist in site groundwater at concentrations greater than New York State groundwater standards (Table 1).

Table 1
Groundwater Sampling
Summary of Compounds Detected in Monitoring Wells

COMPOUND	MW-1 (ppb)	MW-2 (ppb)	MW-3 (ppb)	MW-4 (ppb)	MW-5 (ppb)	GROUNDWATER STANDARDS (ppb)
Chloroform	--	--	--	1	--	7
1,3,5-TMB	--	3	--	--	--	5
1,2,4-TMB	--	6	--	--	--	5
P-Cymene	--	1	--	--	--	--
N-Butylbenzene	--	5	--	--	--	5
Di-n-Butylpthalate	--	12	--	--	--	50
Tetrachloroethylene	8	4	--	--	--	5
Arsenic	--	393	--	450	200	50
Cadmium	--	32	--	--	--	50
Barium	120	150	100	70	30	1000
Chromium	38	1940	8	750	150	50
Copper	--	280	--	--	150	200
Lead	8	--	--	--	9	25

Drinking water in the vicinity of the site is supplied by the combined City/Town water system. It is very unlikely that anyone uses groundwater for drinking water or other purposes in the vicinity of the site.

4.0 NATURE AND EXTENT OF CONTAMINATION

Based on physical conditions observed during test pit investigations and monitoring well installations conducted during August and December 1996, petroleum contaminated soil, identified based on odor, and CCA impacted soils, identified based on soil discoloration (green) were observed to exist at the former Paulsen-Holbrook Lumber Pressure Treating site.

Petroleum impacted soil is limited to what appears to be the previous containment area for the Lumber pressure treating chemical tanks and associated equipment. This area is approximately 1,250 square feet with a depth of approximately two feet below grade. Visually discolored soils (green) are limited to the area east, south, and southeast of the former Lumber pressure treating equipment foundation

(Figure 3). This area is estimated to be approximately 1,300 square feet with a depth of two to eight feet below grade.

5.0 PURPOSE

5.1 Rationale for the Proposed Scope of Work

The volunteer intends to remediate the former CCA treatment area (the site) to a cleanup level that is appropriate for the proposed property use (light industrial/commercial), is compatible with the use and character of surrounding properties (industrial) and is protective of human health and the environment. Since the current New York State Soil Cleanup and Groundwater Standards were developed for the protection of drinking water, the volunteer understands that site cleanup standards will have to be negotiated for this project based on these criteria.

5.2 Standards, Criteria, and Guidelines (SCGs)

The hazardous waste characteristics set forth in 6 NYCRR 371 establishes those criteria for identifying wastes as hazardous.

Table 2
Standards, Criteria, and Guidelines

Compound of Concern	6 NYCRR Part 371 Hazardous Waste Characteristic
Arsenic	5.0 ppm (TCLP)
Chromium, Hexavalent	5.0 ppm (TCLP)
Chromium, Trivalent	--
Copper	--
Lead	5.0 ppm (TCLP)

6.0 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

6.1 Data Quality Objectives

To meet the objectives of the investigation, data collected during the RI will meet Data Quality Objectives (DQOs) outlined in the Quality Assurance Project Plan (QAPP) included with the Sampling and Analysis Plan (SAP). The SAP ensures that all information, data and decisions are technically sound, properly documented, and meet the DQOs established for the SI. Data will be collected using the protocols outlined in the SAP and QAPP. Adherence to these protocols ensures that the data will be representative. The data will be evaluated for Precision, Accuracy, Representation, Completeness and Comparability (PARCC parameters). Procedures based on EPA and NYSDEC guidance documents have been adopted to ensure that field data will conform to applicable standards.

The Quality Assurance Project Plan (QAPP) details numbers of duplicate samples, instrument calibration procedures, potential sources of data inaccuracies, lab methods, laboratory QC, data analysis requirements, independent data validation, completeness tests and the QA/QC management program organization.

6.2 Decontamination

Sampling procedures presented in the following sections at the Former Paulsen-Holbrook facility have been designed to be self-contained, thereby minimizing decontamination requirements and reducing the possibility of cross-contamination. Dedicated sampling devices will be used wherever possible. However, split spoons and other invasive testing equipment that will be used repeatedly will be thoroughly decontaminated between sampling events according to procedures recommended by NYSDEC and the EPA. Split-spoons will initially be steam cleaned prior to use. Split-spoon samplers will be decontaminated between samples by scrubbing with potable water and Alconox® or similar phosphate-free detergent, followed by a potable water rinse.

Decontamination fluids and drilling fluids will be containerized and stored on site for later testing and disposal as appropriate. Transport and disposal of any hazardous materials encountered and containerized during the course of the investigation will be handled using appropriate waste management practices. Containers will be labeled as specified in 6 NYCRR, Part 371 for the site-specific contaminants encountered and disposed in accordance with the protocols outlined in 6 NYCRR Part 370.

6.3 QA/QC Samples

Equipment blanks will be obtained from all non dedicated sampling equipment at the frequency of one per day to test decontamination procedures. The equipment blanks will be prepared by pouring distilled water over decontaminated sampling equipment (i.e.. backhoe bucket, spilt-spoons, and sampling spoons and trowel) and allowed to run directly into laboratory bottles. Equipment blanks will not be obtained from pre-cleaned dedicated sampling equipment.

A trip blank sample will accompany each cooler containing samples for VOC analysis. Lab and method blanks will be obtained from the ELAP laboratory. Matrix spike, matrix spike duplicates and surrogate recovery data will be obtained for each sample run. This QA/QC data will be sufficient to validate the results of the sampling, should it be necessary.

6.4 Data Usability Summary Report (DUSR)

A Data Usability Summary Report (DUSR) will be prepared in accordance with the NYSDEC Division of Remediation Guidance Bulletin titled "Guidance for the Development of Data Usability Summary Reports." The objective of the DUSR is to assure that the data, as presented, meets the site/project specific criteria for data quality and data use. The development of the DUSR will be carried out by the Quality Assurance Officer (QAO).

7.0 REMEDIATION GOALS

7.1 Remedial Action Objectives (RAOs)

The dominant potential exposure route believed to be present at the site is human exposure via inhalation of dust or dermal contact to soils and groundwater contaminated by heavy metals including chromium, copper and arsenic. Remedial Action Objectives (RAOs) for these potential exposure pathways are addressed below.

<u>Soils</u>

Impacted soils underlie the portion of the site where Lumber pressure treating activities occurred. In general, except during short-term excavation activities, there is little or no human exposure to the contaminants in these soils. The objective of the remedial action applied to these soils would be to:

1. prevent direct contact

2. prevent ingestion

3. prevent inhalation of dust containing the contaminants

4. prevent migration which might contaminate groundwater

7.2 Evaluation of Voluntary Cleanup Activities

The voluntary cleanup activities described in Section 8.0 were evaluated on the basis of: 1) protectiveness of human health and the environment; 2) long-term effectiveness and permanence; 3) short-term effectiveness; 4) ability to reduce toxicity or volume of contamination; 5) implementability; and 6) compliance with clean-up Standards, Criteria and Guidelines (SCGs).

7.2.1 Protectiveness of Human Health and the Environment

The highest potential risk to human health is exposure to soils and groundwater that has come into contact with impacted soil. These risk pathways would be addressed by removal of the visually impacted soils at the site. Drinking water is provided to this area by the City/Town.

7.2.2 Long-Term Effectiveness and Permanence

Visually impacted soil with metals contaminants above the negotiated soil cleanup objectives would be removed. Although groundwater does not currently meet the groundwater quality standards published in 6 NYCRR, Part 700 – 706, exposure to groundwater is unlikely. Therefore, the voluntary cleanup activities described above can be considered to include permanent remediation.

7.2.3 Short-Term Effectiveness

The voluntary cleanup activities described above would be effective in protecting human health and the environment in the short term. During the short-term construction phase, protection of workers and the environment would be accomplished through adherence to OSHA standards and community air monitoring requirements. The cleanup activities can be implemented immediately following a Record of Decision.

7.2.4 Reduction of Toxicity, Mobility, or Volume

The voluntary cleanup activities described above employ removal of the visually impacted soils, reducing the volume of metals at the site. Since removal achieves

compliance with soil SCG,s, the cleanup activities do not warrant reduction of mobility or toxicity.

7.2.5 Implementability

The voluntary cleanup activities described above are clearly implementable. Excavation of visually impacted soil is technically and administratively feasible and the service is available.

7.2.6 Compliance with Standards Criteria and Guidelines

The voluntary cleanup activities described above would meet the negotiated soil cleanup objectives. Although groundwater does not currently meet the groundwater quality standards published in 6 NYCRR, Part 700 – 706, exposure to groundwater is unlikely. Accomplishment of complete removal would be defined by obtaining confirmatory samples and the perimeters of the completed excavation as described in Section 8.0. Therefore, this alternative results in rapid compliance with chemical-specific SCGs applicable to soil.

8.0 VOLUNTARY CLEANUP ACTIVITIES

8.1 Mobilization

Mobilization will include daily site preparation and set-up of the following:

- subcontractors equipment and necessary materials and supplies,
- health and safety monitoring equipment,
- decontamination supplies and equipment, and
- dedicated sampling equipment.

Prior to initiating field activities, a field team orientation meeting will be held with subcontractors to familiarize personnel with the Former Paulson-Holbrook site history, health and safety requirements, and other pertinent field procedures. The Quality Assurance/Quality Control requirements specific to this site will also be discussed.

During the Voluntary Cleanup Activities, existing buildings at the site will be used as a field office, if necessary. Equipment used for excavation will be maintained on site for the duration of the excavation phase of the project, alleviating the need for daily decontamination.

8.2 Waste Characterization

Prior to excavation, composite samples from the waste material will be collected and analyzed for TCLP metals, TCLP semi-volatile and volatile organic compounds, pesticides and herbicides, cyanide/sulfide reactivity, corrosivity, and PCBs as required for disposal purposes. Each composite sample will be prepared from representative samples obtained from six to eight separate nodes. These samples will be collected by digging into the waste soil with a shovel or backhoe and obtaining a representative sample using a clean stainless steel trowel. The samples will be thoroughly mixed in a stainless steel bowl and placed directly into clean jars, supplied by the laboratory.

8.3 Excavation of Visually Impacted Soils

Visually impacted soils identified during the previous test pit investigation and characterized as described in Section 8.2 will be excavated using a backhoe/excavator and placed directly into dump trucks or placed in roll-off dumpsters or staging piles prior to off-site transfer. All field activities will be observed and recorded by a TCC representative. Staging piles will be constructed by placing plastic sheeting on a smooth surface. Hay bales or other suitable material will be used under the outside perimeter of the plastic to provide stormwater runoff/runon control. The excavated soil placed in roll-off dumpsters or staging piles will be covered with plastic or other suitable material to control stormwater runoff.

During excavation, a TCC representative will direct the soil to be segregated based on waste characterization as well as discoloration, odor, or the presence of free liquids. Soils with free liquids will be placed in roll-off dumpsters only.

8.4 Confirmatory Sampling

Following implementation of remedial activities, confirmatory soil samples will be collected to document successful completion of the remedial activities. In addition, groundwater samples will be collected to assess the impact to shallow groundwater.

Soil Sampling

A minimum of one composite soil sample will be collected from the bottom of the excavation and one composite soil sample will be collected from each of the four side walls of the excavation. Each composite sample will be prepared from representative samples obtained from four to six separate nodes. These samples will be collected by digging into the waste soil with a shovel and obtaining a representative sample using a clean stainless steel trowel. The samples will be

thoroughly mixed in a stainless steel bowl and placed directly into clean jars, supplied by the laboratory. These samples will be forwarded to an ELAP-Certified laboratory to be analyzed for TCLP and total RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) plus hexavalent chromium and copper.

Groundwater Sampling

Groundwater samples will be collected from existing monitoring wells MW-1, MW-3, MW-4, and MW-5 and forwarded to an ELAP-Certified laboratory to be analyzed for RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) plus copper.

8.5 Health and Safety

A site-specific Health and Safety Plan is attached to this work plan as Appendix B. Based on previous investigations conducted at the Former Paulson-Holbrook site, The Chazen Companies anticipates that all intrusive activities will be performed at personal protection Level C, utilizing general respiratory protection equipment. This will be done to protect workers from dust emissions and dermal contact with hazardous materials. All other activities occurring at the site shall be conducted at personal protection Modified Level D, with a sufficient level of monitoring to upgrade to Level C should conditions warrant.

8.5.1 Community Air Monitoring

The New York State Department of Health (NYSDOH) has established an air monitoring plan for volatile organic compounds (VOCs) and particulate levels at the perimeter of a work area involving ground-intrusive activities. The Community Air Monitoring Plan for Ground Intrusive Activities, established by the NYSDOH, requires certain activities to be employed on a work site involving ground-intrusive activities.

To implement these requirements, TCC will conduct air monitoring for total volatile organic compounds (VOCs) and particulate levels, using a photoionization detector and a respirable dust meter during all Voluntary Cleanup activities at the site. Air monitoring will be concentrated in the work zone and expanded to perimeter areas, if warranted. All readings will be recorded and available for State (DEC and DOH) personnel to review. Particulate levels will be continuously monitored upwind, downwind and within the work area at temporary monitoring stations. If the downwind particulate level is 150 ug/mg3 greater than the upwind particulate level, then dust suppression techniques will be employed or the work process will be modified to further reduce dust generation.

If VOC concentrations above the recommended threshold of 5 ppm above background are observed, work activities will be halted and monitoring continued. If organic vapor levels are greater than 5 ppm over background but less than 25 ppm over background at the perimeter of the work area, activities will resume provided: the organic vapor level 200 feet downwind of the work area or half the distance to the nearest residential or commercial structure, whichever is less, is below 5 ppm.

If organic levels persist above 5 ppm above background 200 feet downwind or half the distance to the nearest residential or commercial structure, then air quality will be monitored within 20 feet of the perimeter of the nearest residential or commercial structure. If efforts to abate the emission are unsuccessful and if the levels in the 20 foot zone are approaching 5 ppm above background for more than 30 minutes or are greater than 10 ppm, then the following Major Vapor Emission Response Plan shall be placed into effect:

1.) All emergency response contacts listed in the Health and Safety Plan of the work plan will go into effect and the local police will be contacted and advised of the situation.

2.) Frequent air monitoring will be conducted at 30 minute intervals within the 20 foot zone. If two successive readings below action levels are measured, air monitoring will be halted or modified by the Safety Officer.

Other pertinent health and safety conditions are presented in the Health and Safety Plan. Should conditions be encountered during site investigation that warrant further consideration, field activities will be stopped and the situation will be evaluated. Should field conditions warrant health and safety level upgrades, appropriate actions will be undertaken to protect the health of site workers and the nearby residents.

8.6 Human Health Exposure Assessment

A Human Exposure Assessment will be performed to define the potential exposure pathways that may represent a public health risk. The potential pathways include: 1) inhalation of dust impacted with hazardous wastes, 2) ingestion of contaminated soil or groundwater, and 3) dermal exposure via contact with contaminated soils or groundwater. The exposure assessment will be utilized to develop an appropriate remediation scenario for the site.

9.0 PROJECT ORGANIZATION

The project organization, including functions and responsibilities, are described below.

Project Manager – Kim Baines. Mr. Baines will be the primary contact with the NYSDEC. He will be responsible for establishing protocols to be used during the remedial activities, establishing sampling methods, and data validation procedures. He will confirm implementation of established protocols, maintain quality and consistency, and monitor the overall work assignment, schedules, and budgets.

Field Operations Leader – Jason Pelton. Mr. Pelton will be responsible for executing the scope of work and for task-specific budgeting and scheduling. During field activities, he will be the liaison among field staff, subcontractors, and on-site representatives from NYSDEC.

Field Staff – Tamara Girard, Ann-Marie Malena, Paul Shannon, Julie Hartman, Ken Helcoski. The field staff will be involved with the field activities, including adherence to and interpretation of the HASP and quality assurance protocols, oversight of site activities and sampling. The field staff will also be involved with data reduction, evaluation, and report preparation. Additional or substitute field staff may be identified when the field schedule is finalized.

Health and Safety - Julie Hartman. Ms. Hartman will act as site Health and Safety Officer. She will be responsible for review and approval of the site-specific Health and Safety Plan and ensuring that throughout the duration of the field activities all aspects of the Health and Safety Plan will be complied with. Ms. Hartman will have authority to stop work should unacceptable health and safety risks occur.

Sample Management – Tamara Girard. Ms. Girard will manage laboratory subcontractors, supervise data validation, and provide assistance to the Site Manager when interpreting chemical data.

10.0 PROJECT SCHEDULE AND ASSUMPTIONS

Upon submittal of the Remediation Work Plan to the NYSDEC, TCC anticipates that the remediation will take approximately two to four weeks to complete. Excavation and disposal should be accomplished by February 1999.

This schedule represents our best estimates for conducting activities and is based upon conducting the proposed activities at the level of effort and the extent of confirmatory laboratory sampling provided in this Work Plan. If additional

activities are warranted at the completion of any of the project tasks, then the project schedule may need to be adjusted. Potential delays that may be encountered during this investigation include: 1) unfavorable weather conditions; 2) laboratory turn-around times; 3) review and interpretation of results by interested parties; 4) subcontractor availability; and 5) other unforeseen and uncontrollable site conditions.

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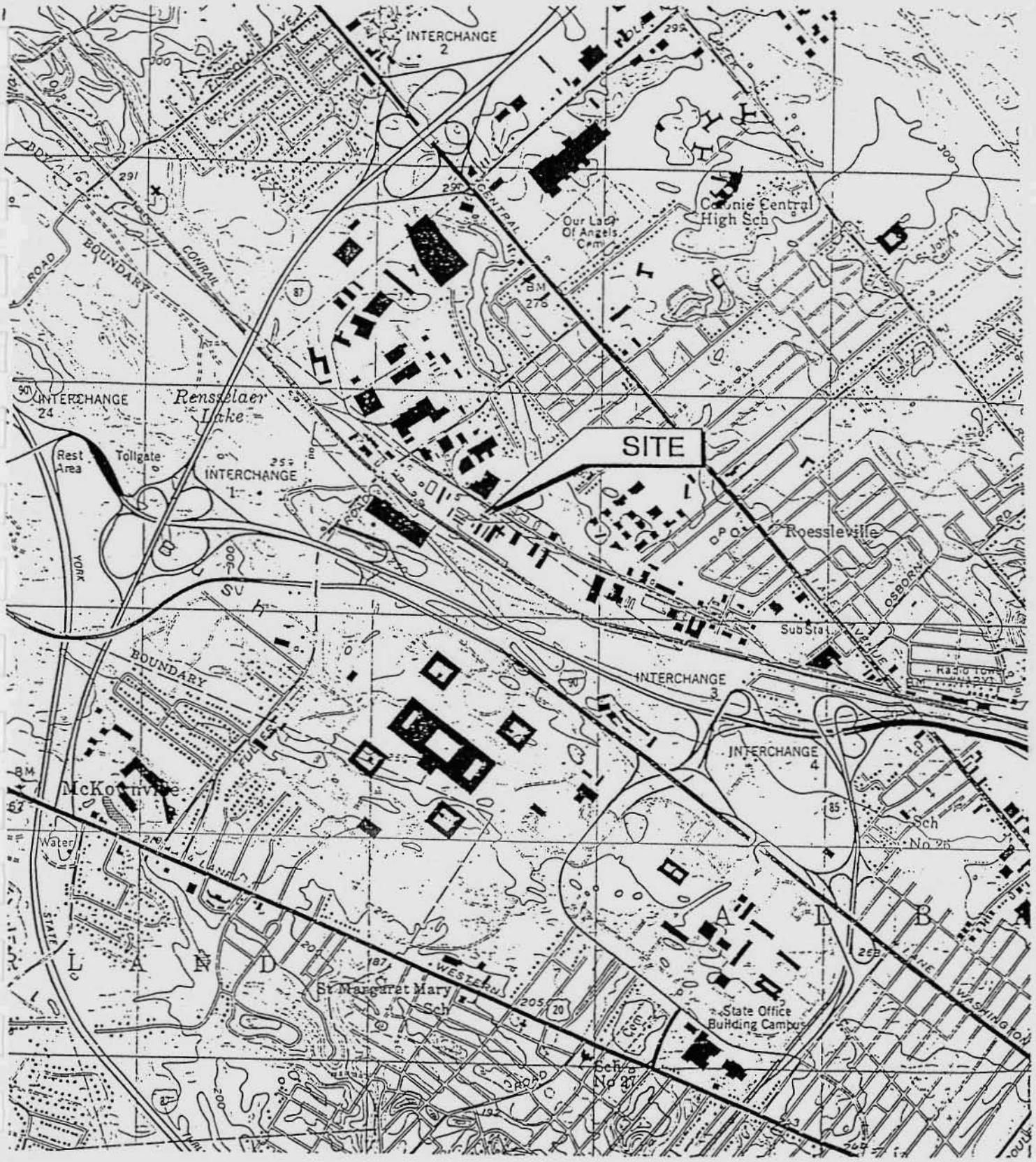
FIGURES



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MIRON LUMBER CO.

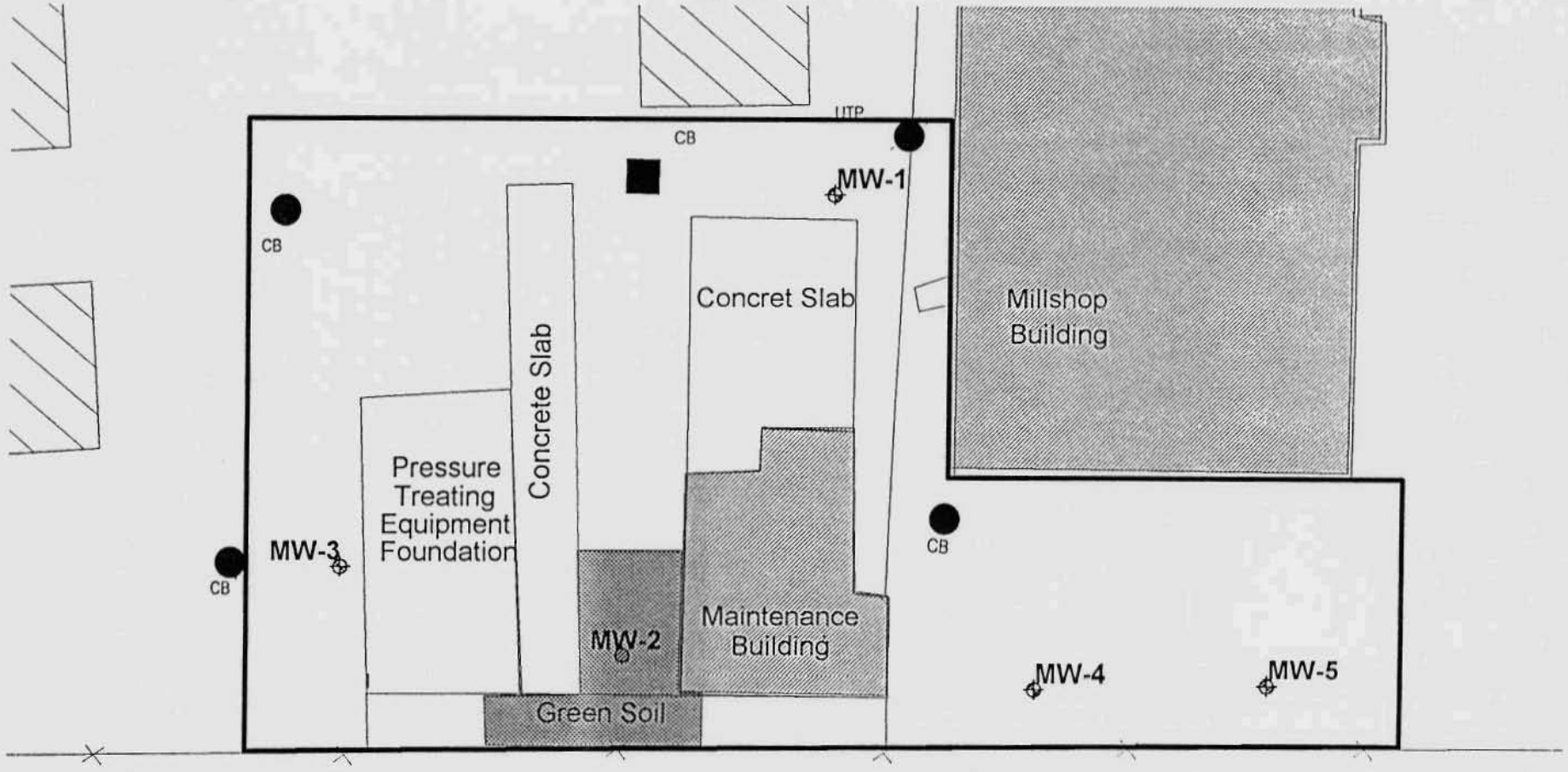
FIGURE 1
SITE LOCATION MAP

TOWN OF GUILDERLAND, ALBANY COUNTY, NEW YORK

sheet no.

date
11/96

project no.
39645



MW-1 Monitoring Well

MW-3 Abandoned Monitoring Well

N

0 30

Feet

Environmental Software 5882 Bolsa Avenue Suite 100 Huntington Beach, CA 92649-1115	TITLE: Identified Extent of Visually Impacted Soil	DRAWING:	SITE NAME: PaulsenHolbrook
		DATE: 12/15/98	PROJECT NO: 39645.01
		CHKD: APPD:	FIGURE NO: 2

APPENDIX A
MONITORING WELL LOGS

Former Paulson-Holbrook Lumber Pressure Treating Site Voluntary Clean-Up Agreement Guilderland, New York

December 1998

THE Chazen COMPANIES

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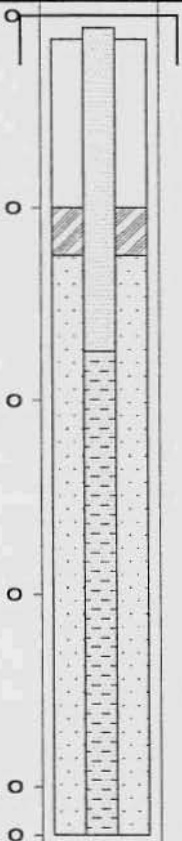
Boring Log
(MW-1)

Site name: Paulsen - Holbrook	Project number: 39645.01
Client name: Miron Lumber	Depth to water at drilling time: 12.75
Location: N.E. of Green Soil	Screen size/unit: two inches
Date drilled: 8/7/96	Screen Type: PVC Slotted
Date finished: 8/7/96	Drill method: Hollow Stem Auger
Surface elevation:	Notes: Elevation T.O.C. = 100.03
Logged by: Lorraine Zeller	
Drilling Co.: T&K Drilling	
Driller: Kevin Kennedy	
Total depth of hole: 17 ft	



Depth (ft)	Well	(PID) PPM	Samples: Number	Condition	Recovery	Blows	Graphic Log	USCS symbol	Description
0.0			SS-1			6 8 8 11		SP	Gray - Brown fine SAND
			SS-2			2 2 4 3		SP	Yellow - Brown fine SAND
4.0			SS-3			2 5 5 6		SP	Yellow - Brown fine SAND
			SS-4			10 9 9 8		SM	Brown fine - very fine SAND
8.0			SS-5			5 7 7 6		SM	Brown fine - very fine SAND
			SS-6			4 5 4 5		SM	Brown fine - very fine SAND
12.0			SS-7			3 3 5 6		SM	Brown fine - very fine SAND
			SS-8			0 2 3 4		SM	Brown fine - very fine SAND
16.0								SM	Brown fine - very fine SAND
17.0									

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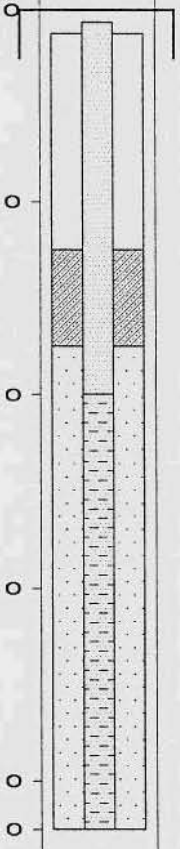
Boring Log
(MW-2)

Site name: Paulsen - Holbrook	Project number: 39645.01
Client name: Miron Lumber	Depth to water at drilling time: 13.09
Location: Green Soil Area	Screen size/unit: two inches
Date drilled: 8/7/96	Screen Type: PVC Slotted
Date finished: 8/7/96	Drill method: Hollow Stem Auger
Surface elevation:	Notes: Elevation T.O.C. = 99.98
Logged by: Lorraine Zeller	
Drilling Co.: T&K Drilling	
Driller: Kevin Kennedy	
Total depth of hole: 17 ft	



Depth (ft)	Well	(PID) PPM	Samples: Number	Condition	Recovery	Blows	Graphic Log	USCS symbol	Description
0.0			SS-1			6 8 8 11		SP	Gray/Brown fine SAND
4.0			SS-2			5 5 7 9		SP	Yellow/Brown fine SAND, trace gravel
			SS-3			5 7 9 10		SP	Yellow/Brown fine SAND
8.0			SS-4			10 10 8 10		SP	Yellow/Brown fine SAND
			SS-5			12 10 8 9		SP	Yellow/Brown fine SAND
12.0			SS-6			4 4 6 6		SM	Brown fine - very fine SAND
			SS-7			3 4 6 4		SM	Brown fine - very fine SAND
16.0									
17.0									

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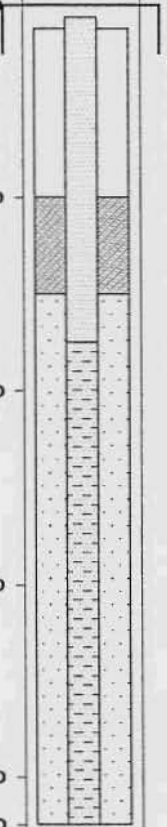
Boring Log
(MW-3)

Site name: Paulsen - Holbrook	Project number: 39645.01
Client name: Miron Lumber	Depth to water at drilling time: 13.09
ocation: West of Green Soil	Screen size/unit: two inches
ate drilled: 8/7/96	Screen Type: PVC Slotted
Date finished: 8/7/96	Drill method: Hollow Stem Auger
Surface elevation:	Notes: Elevation T.O.C. = 100.47
ogged by: Lorraine Zeller	
rilling Co.: T&K Drilling	
Driller: Kevin Kennedy	
Total depth of hole: 17 ft	



Depth (ft)	Well	(PID) PPM	Samples: Number	Condition	Recovery	Blows	Graphic Log	USCS symbol	Description
0.0			SS-1			5			
						4		SP	Brown fine SAND
						5			
			SS-2			4			
						2			
						2		SP	Brown fine SAND
						5			
4.0			SS-3			4			
						3			
						3		SP	Yellow/Brown fine SAND
						5			
			SS-4			6			
						7			
						8		SP	Yellow/Brown fine SAND
						10			
8.0						4			
			SS-5			3			
						3		SP	Brown fine SAND
						4			
12.0						4			
			SS-6			1			
						1		SM	Brown fine - very fine SAND
16.0						3			
17.0						4			

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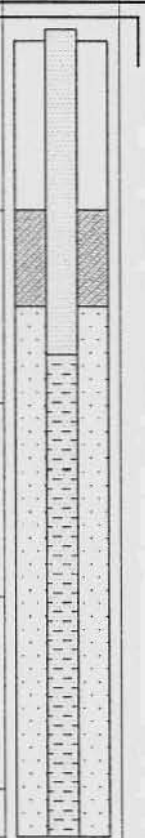
Boring Log
(MW-4)

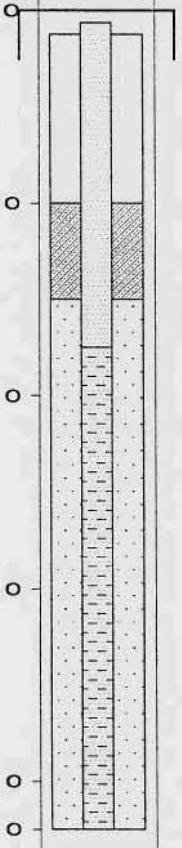
Site name: Paulsen - Holbrook	Project number: 39645.01
Client name: Miron Lumber	Depth to water at drilling time: 12.57
Location: East of Green Soil	Screen size/unit: two inches
Date drilled: 8/7/96	Screen Type: PVC Slotted
Date finished: 8/7/96	Drill method: Hollow Stem Auger
Surface elevation:	Notes: Elevation T.O.C. = 98.67
Logged by: Loraine Zeller	
Drilling Co.: T&K Drilling	
Driller: Kevin Kennedy	
Total depth of hole: 17 ft	



Depth (ft)	Well	(PID) PPM	Samples: Number	Condition	Recovery	Blows	Graphic Log	USCS symbol	Description
0.0			SS-1			10 8 6 6		SP	Brown fine SAND
4.0			SS-2			2 2 5 6		SP	Yellow/Brown fine SAND
8.0			SS-3			2 3 6 4		SP	Brown fine SAND
12.0			SS-4			1 1 2 3		SM	Brown fine - very fine SAND
16.0									
17.0									

Boring Log
(MW-5)

Site name: Paulsen - Holbrook	Project number: 39645.01
Client name: Miron Lumber	Depth to water at drilling time: 12.17
Location: East of ML-4	Screen size/unit: two inches
Date drilled: 8/8/96	Screen Type: PVC Slotted
Date finished: 8/8/96	Drill method: Hollow Stem Auger
Surface elevation:	Notes: Elevation T.O.C. = 97.96
Logged by: Lorraine Zeller	
Drilling Co.: T&K Drilling	
Driller: Kevin Kennedy	
Total depth of hole: 17 ft	



Depth (ft)	Well	(PID) PPM	Samples: Number	Condition	Recovery	Blows	Graphic Log	USCS symbol	Description
0.0			SS-1			3 3 4 5		SP	Brown fine SAND
4.0			SS-2			2 4 5 5		SP	Yellow/Brown fine SAND
8.0			SS-3			3 2 2 3		SP	Brown fine SAND
12.0			SS-4			1 1 1 2		SM	Brown fine - very fine SAND
16.0									
17.0									

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