Department of Environmental Conservation

Division of Hazardous Waste Remediation

Record of Decision

Tensolite Site
V/ Buchanan, Westchester County
Site Number 3-60-026

March 1996

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* MICHAEL D. ZAGATA, *Commissioner*

DECLARATION STATEMENT - RECORD OF DECISION

Tensolite Inactive Hazardous Waste Site
Village of Buchanan, Westchester County, New York
Site No. 3-60-026

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedial action for the Tensolite inactive hazardous waste disposal site which was chosen in accordance with the New York State Environmental Conservation Law (ECL). The remedial program selected is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300).

This decision is based upon the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the Tensolite Inactive Hazardous Waste Site, and upon public input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. A bibliography of the documents included as a part of the Administrative Record is included in Appendix A of the ROD.

Assessment of the Site

Actual or threatened release of hazardous waste constituents from this site, were addressed by implementing the Interim Remedial Measure (IRM) response action conducted during the Remedial Investigation/Feasibility Study (RI/FS). The site does not present a current or potential threat to public health and the environment.

Description of Selected Remedy

Based upon the results of the RI/FS for the Tensolite site and the criteria identified for evaluation of alternatives, the NYSDEC has selected no further remedial action with continued groundwater monitoring. During the RI/FS, an IRM soil removal was conducted. The IRM removed the source of the contamination on the Tensolite property. All soils contaminated above NYSDEC guidance values were excavated and removed. The components of the remedy are as follows:

- The continued quarterly groundwater monitoring at the affected wells to ensure the decrease of chlorinated solvents in accordance with established numerical goals.
- Annual monitoring of downgradient wells.

New York State Department of Health Acceptance

The New York State Department of Health concurs with the remedy selected for this site as being protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

3/29/96
Date

Michael J. O'Toole, Jr., Director
Division of Hazardous Waste Remediation

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SECTION 1: SITE DESCRIPTION

The Tensolite facility includes a brick building located on a 12.5 acre parcel in the Village of Buchanan, Town of Cortlandt, Westchester County. The property is on the west side of New York and Albany Post Road (Route 9A). The site is bounded by Metro North railroad tracks to the east, Dickey Brook to the north, and a silk screen printing company to the south. Also to the west of the site are private residences, (Figure 1, Site Location.)

SECTION 2: SITE HISTORY

2.1: Operational/Disposal History

The original building was constructed in 1913 and was used to manufacture oil cloth. The building has since been expanded to contain approximately 220,000 square feet. In 1975, Tensolite purchased the property from Standard Coated Products Division of American Cyanamid Company which manufactured wall coverings at the facility. From 1975 to 1989, Tensolite Company, a subsidiary of Carlisle Companies Inc. operated at the site and manufactured coated wire using chlorinated solvents in its manufacturing process. Operations included extrusion, wrapping, curing, printing, striping, cabling, braiding, shielding, and respooling. Tensolite maintained a 19,000 gallon storage tank for their processes and waste located in the rear of the facility. This tank was primarily situated aboveground with approximately twenty percent of the tank below the ground. The tank was comprised of six-compartments, three of which were used to store raw materials, including: 1,1,1-trichloroethane (TCA), naptha, and kerosene. A fourth compartment was used to store waste TCA. The two remaining compartments were not used by Tensolite. Over the years, the tank released some of its contents directly to the soil. In 1989, Tensolite relocated its operations to St. Augustine, Florida. In 1995, Carlisle Companies sold the property to Westchester Industrial Complex, which is currently leasing portions of the property, primarily for warehousing.

2.2 Previous Investigations

Prior to relocating, Carlisle Companies conducted an environmental audit of the property in August 1989. Carlisle performed an extensive sitewide investigation that included; a soil gas survey, soil borings investigation, monitoring well installation, groundwater investigation, and a well search/groundwater usage survey in the area. The soil gas survey included approximately seventy-five sampling points. Following the soil gas survey, eleven monitoring wells were installed and twenty-five soil borings were conducted to characterize the site. The investigations determined that the vicinity of the tank area was the only impacted area of the site.

Chemical concentrations are reported in parts per billion (ppb) and parts per million (ppm). For comparison purposes, environmental Standards, Criteria, and Guidance, (SCGs) are given for each medium.

The groundwater and soil in the tank area had been impacted by chlorinated solvents and petroleum products above NYSDEC guidance levels. Monitoring wells in the vicinity revealed TCA above NYSDOH drinking water standards. Groundwater contamination was detected as high as 1,268,100 ppb TCA and 429,353 ppb

of toluene. The standard for both compounds in the groundwater is 5 ppb. The soil borings and investigation revealed elevated levels of VOCs in the tank area. In the tank area, TCA was detected at 1,800,000 ppb in the soil while the NYSDEC guidance level for TCA in soil is 800 ppb. Toluene was detected in a soil sample at 2,740,000 ppb and the cleanup objective is 1500 ppb. The investigation also revealed a peat layer beneath the tank area that may be possibily inhibiting the migration of contaminants.

2.3 Remedial History

In January 1990, based on these findings, Carlisle removed the tank and properly discarded it as scrap. While conducting the tank removal, Carlisle removed the soil surrounding the tank. Approximately 90 cubic yards of soil in bulk and 36 tons of drummed soil were removed from the tank area and disposed off site at a permitted hazardous waste facility.

In 1991, NYSDEC placed Tensolite on the New York State Registry of Inactive Hazardous Waste Disposal Sites as a class 2.

SECTION 3: CURRENT STATUS

In 1993, Tensolite's parent company, Carlisle Companies Inc., as the operator of the facility and the potentially responsible party (PRP) entered into a Remedial Investigation/Feasibility Study (RI/FS) consent order with NYSDEC for the Tensolite site. In response to a determination that the presence of hazardous waste at the Site presents a significant threat to human health and the environment, the PRP has recently completed a RI/FS.

3.1: Summary of the Remedial Investigation

The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site.

The RI was conducted between June and September 1994. A report entitled Remedial Investigation Report, Tensolite Site, Dec 1994 has been prepared by their consultant describing the field activities and findings of the RI in detail.

The RI included the following activities:

- Installation of soil borings in the tank area and sampling to determine the vertical extent of the contamination.
- Installation of additional monitoring wells for analysis of soils and groundwater at discrete intervals as well as determining the physical properties of soil and hydrogeologic conditions.
- Sampling of previously installed monitoring wells and well points.
- Surface soil samples to determine the risk of dermal contact.

- Surface water samples from Dickey Brook.
- An investigation of the basement sump
- Basement methane investigation
- Habitat Assessment
- Risk Assessment

To determine which media (soil, groundwater, etc.) contain contamination at levels of concern, the RI analytical data was compared to environmental Standards, Criteria, and Guidance (SCGs). Groundwater, drinking water and surface water SCGs identified for the Tensolite site were based on NYSDEC Ambient Water Quality Standards and Guidance Values and Part V of NYS Sanitary Code. NYSDEC Technical and Administrative Guidance Memoranda (TAGM) 4046 soil cleanup guidelines for the protection of groundwater, background conditions, and risk-based remediation criteria were used as SCGs for soil and the Division of Fish and Wildlife Technical Guidance for Screening Contaminated Sediments is used for surface water sediments.

Based upon the results of the remedial investigation in comparison to the SCGs and potential public health and environmental exposure routes, certain areas and media of the site require remediation. These are summarized below. More detailed information can be found in the RI Report.

3.1.1 Nature of Contamination:

As described in the RI report, many soil, groundwater and surface water samples were collected at the site to characterize the nature and extent of contamination. The volatile organic compound TCA and its degradation products were detected during the RI and are the contaminants of concern.

3.1.2 Extent of Contamination

TCA, a chlorinated solvent, was detected in the monitoring wells and the soil borings in the tank area. Degradation products of TCA which include: 1,2- dichlocompany entered, 1,2-dichloroethene (DCE), and vinyl chloride were also included in the analysis. The monitoring wells in the tank area contained levels of TCA as high as 120,000 ppb while the NYSDOH drinking standard for public water systems is 5 ppb. Soil samples in the tank area revealed TCA at 160,000 ppb and toluene at 190,000 ppb, while the NYSDEC guidance levels for soil are 800 ppb and 1,500 ppb, respectively.

Table 1, Nature and Extent of Contamination, summarizes the extent of contamination for the contaminants of concern in groundwater and soil and compares the data with the proposed remedial action levels (SCGs) for the Site. The following is a summary of the investigation's findings for each of the media.

Soil

Five soil borings were installed in the tank area to determine the horizontal and vertical extent of the contamination. From each boring, three samples were sent to a laboratory for VOC analysis. One sample was taken above the peat layer (approximately 4-6 feet) , one from within the peat layer (6-8 feet), and one sample was from beneath the peat layer (8-10 feet). Three surface soil samples, between 0 and 6 inches below the surface, were collected at the site and analyzed for VOCs.

In the tank area, the soil borings' results indicated that the vertical extent of the contamination was confined to the shallow soil above the peat layer and the horizontal extent of the soil contamination was defined to the area adjacent to the location of the former tank. Surface soil samples SS-1 and SS-2 detected TCA at 12 ppb and 16 ppb respectively, well below the NYSDEC recommended soil cleanup guidance of 800 ppb. The surface soil sample results indicate that the surface soil is not of concern at the site.

Sump Sediment

The sump located in the basement of the facility was investigated. The sump contained several inches of sediment which was removed and properly disposed of. The sediment was analyzed and found to contain 48,000 ppb of TCA. Two water samples were taken from the sump and analyzed for VOCs. One sample was collected prior to the removal of the sediment and one after. The first sample collected revealed three compounds: DCA at 20 ppb, DCE at 7 ppb, and TCA at 86 ppb. Following the removal of the sediment, no VOCs were detected in the sump water.

Groundwater

Groundwater contamination was limited to the shallow groundwater in the tank area and at one shallow well in the front of the facility. Two rounds of groundwater sampling were performed. The downgradient shallow and deep monitoring wells do not contain groundwater contamination. See Figure 2, Site Plan.

Eleven monitoring wells were sampled during Round 1. VOCs were detected at levels which exceed the standard in four wells: MW-11, MW-12I, MW-12D, and MW-7. MW-11 contained six compounds which exceeded the standards: benzene at 6 ppb, 1,1-dichloroethane at 28 ppb, ethyl benzene at 290 ppb, toluene at 160,000 ppb, TCA at 10 ppb, and xylenes at 2,800 ppb. Both MW-12I and MW-12D contained toluene at 9 ppb. MW-7 contained DCE at 22 ppb and vinyl chloride at 65 ppb.

For Round 2, in addition to the eleven monitoring wells, the four well points located within the tank area were sampled. Two monitoring wells, MW-7 and MW-11 contained VOCs above the standards. MW-7 contained DCA at 9 ppb, DCE at 110 ppb, and vinyl chloride at 190 ppb. MW-11 contained DCA at 21 ppb, ethyl benzene at 150 ppb, toluene at 120,000 ppb, TCA at 8 ppb, and xylenes at 580 ppb. All of the well points contained VOCs above the standards. WP-1, WP-2, and WP-3 contained elevated levels of TCA. WP-1 contained elevated levels of DCA, DCE, and toluene. WP-2 contained benzene and toluene above the standards. Round 2 results were in agreement with Round 1's.

Surface Water

Three surface water samples were collected from Dickey Brook and analyzed for VOCs. One sample was taken upstream, one taken along the site approximately 90 feet downstream, and the third another 170 feet downstream. The only compound detected in the three surface water samples was toluene at 1 ppb in the upstream sample, which is below all applicable cleanup criteria.

Air

At the request of the NYSDOH, an investigation was conducted inside the building to check for methane in the basement area. Holes were drilled in the basement floor for the investigation. The holes were screened with a combustible gas indicator to check the percent of the lower explosive limit and the percent of oxygen vapors in each hole. Previously, a photon ionization meter (HNu) and an organic vapor analyzer (OVA) were used to investigate the holes. The investigation determined that there is no buildup of methane in the basement of the building.

3.2 Interim Remedial Measure:

Interim Remedial Measures (IRMs) are conducted at sites when a source of contamination or exposure pathway can be effectively addressed prior to completion of the RI/FS.

As a result of the RI findings, a soil removal and groundwater sampling IRM took place on site December 1994 - February 1995. The IRM consisted of excavation and off-site disposal of the contaminated soil in the tank area. See Figure 3, Extent of Soil Contamination. An IRM work plan dated December 16, 1994 is on file at the repositories. The excavation was approximately 50 feet by 33 feet and to a depth between 4.5 to 7 feet below grade. The soil removed contained the highest levels of TCA and toluene recorderd during the RI. The NYSDEC soil cleanup objectives from TAGM 4046 were used as a criteria for the soil to be removed. A total of 548 tons of contaminated soil was disposed at a hazardous waste landfill in Michigan. During the excavation, WP-1, WP-2, and WP-3 were removed. The excavation was backfilled with clean fill. The IRM is documented in the IRM report, dated July 18, 1995 also located at the repositories. See Figure 4, Extent of Soil Removal.

Following the soil excavation activities, a round of groundwater samples was collected from the monitoring wells at the site. VOCs were detected at concentrations which exceeded the standard in four wells: MW-11, MW-12I, MW-4, and MW-7. MW-11 contained two compounds which exceeded the standards: toluene at 73,000 ppb and xylenes at an estimated concentration of 470 ppb. Both MW-12I and MW-4 contained toluene at an estimated concentration of 9 ppb and at 71 ppb, respectively. MW-7, where a duplicate sample was collected, contained DCE between 280 and 330 ppb, vinyl chloride between 1,600 and 1,800 ppb, and DCA between 33 and 43 ppb. The results show a decrease in contamination levels in most of the monitoring wells compared to before the IRM. It is believed that the concentration of vinyl chlorde in MW-7 well rose due to disruption of the groundwater flow during the IRM excavation. Since the contaminated soil, which was believed to be the source of the groundwater contamination, has been removed the concentrations in the

monitoring wells should decrease over time. Subsequent sampling rounds indicate that the concentrations are decreasing. During redevelopment of the property, MW-7 was damaged. MW-14 was installed within a few feet from MW-7 and an attempt was made to repair MW-7.

3.3 Summary of Human Exposure Pathways:

This section describes the types of human exposures that may present added health risks to persons at or around the site. A more detailed discussion of the health risks can be found in Section 6.0 of the RI Report.

An exposure pathway is how an individual may come into contact with a contaminant. The five elements of an exposure pathway are 1) the source of contamination; 2) the environmental media and transport mechanisms; 3) the point of exposure; 4) the route of exposure; and 5) the receptor population. These elements of an exposure pathway may be based on past, present, or future events.

Ingestion of the contaminated groundwater and dermal contact with sub-surface soil are two potential exposure pathways.

Groundwater
Presently there are no users of the groundwater in the area. Local residents receive their water from the Peekskill Water Department and the Montrose Improvement District. No private or public supply wells are located in Buchanan or Peekskill. Therefore, use of groundwater by residents is not presently considered to be a pathway of concern. However, future use of the groundwater for industrial purposes may be plausible, but if used for industrial purposes, the deeper groundwater zone which has not been shown to be contaminated would most likely be used.

Soil
Contact with contaminated subsurface soil may have been a concern for construction or utility workers, however all contaminated soil was removed during the IRM.

3.4 Summary of Environmental Exposure Pathways

This section summarizes the types of environmental exposures which may be presented by the site. The Fish and Wildlife Impact Assessment included in the RI, Section 5.0 presents a more detailed discussion of the potential impacts from the site to fish and wildlife resources. The following pathways for environmental exposure have been identified: soil and groundwater

Although several compounds were detected in surface soils at the site, these compounds were found at concentrations well below available toxicity data. Therefore, it is unlikely that surface soils present a risk to wildlife inhabiting the site or the site vicinity.

Groundwater sampling results indicate that contamination from the tank area has not been detected in the down gradient shallow and deep monitoring wells on site. This information reveals that groundwater contamination is not migrating from the site. Toluene was detected in Dickey Brook, but at the upstream sampling point; therefore, it is unlikely that this compound has migrated from this site. Since toluene was found at levels well

below available water quality criteria and toxicity data, and was not detected downstream, it is unlikely that this compound presents a risk to wildlife utilizing the brook or nearby environs. Therefore remediation of the creek will not be necessary.

SECTION 4: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers. The NYSDEC and Carlisle Companies Inc. , Tensolite's parent company entered into a Consent Order D3-0003-93-03 on August 23, 1993. The Order obligates the responsible parties to implement a full remedial program.

SECTION 5: SUMMARY OF THE SELECTED REMEDY

Based upon the results of the RI/FS, previous investigations and the IRM that has been performed at the site, the NYSDEC is selecting no further action with continued groundwater monitoring as the preferred remedial alternative for the site. The Department will reclassify the site from a Class 2 to a Class 4 on the New York State Registry of Inactive Hazardous Waste Disposal Sites, which means that the site is properly remediated and requires continued monitoring.

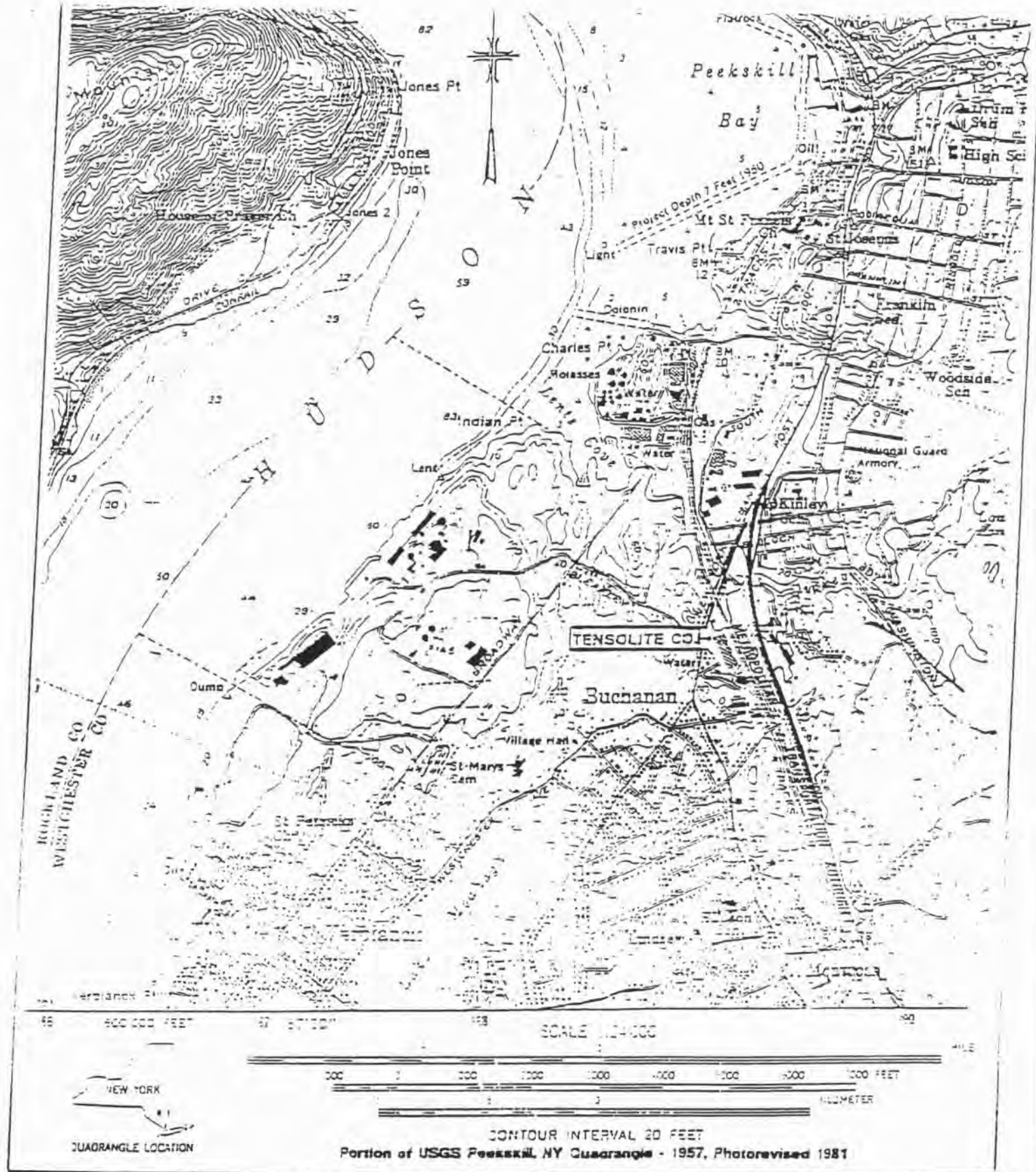
Numerical criteria would be used to determine whether additional investigation and/or additional remediation will be undertaken. First, the groundwater standards for the contaminants found at the site at MW-13I and MW-13D cannot be exceeded in any sampling round. Second, theoretical numerical goals for the maximum vinyl chloride concentration in MW-7 and MW-14 based on natural attenuation over a 30 year period to groundwater standards is tabulated below. Should the trend in the level of maximum concentration of vinyl chloride fall within the numerical goals, then no further monitoring would be required. If the concentrations exceed the goals, NYSDEC will determine the appropriate action at the site.

No. Years	Concentration of Vinyl Chloride (ppb)
0	1500
1	1203
2	964
3	773
4	620
5	497
10	165
20	18
30	2

SECTION 6: HIGHLIGHTS OF COMMUNITY PARTICIPATION

As part of the remedial investigation process, a number of Citizen Participation (CP) activities were undertaken in an effort to inform and educate the public about conditions at the site and the potential remedial alternatives. The following public participation activities were conducted for the site:

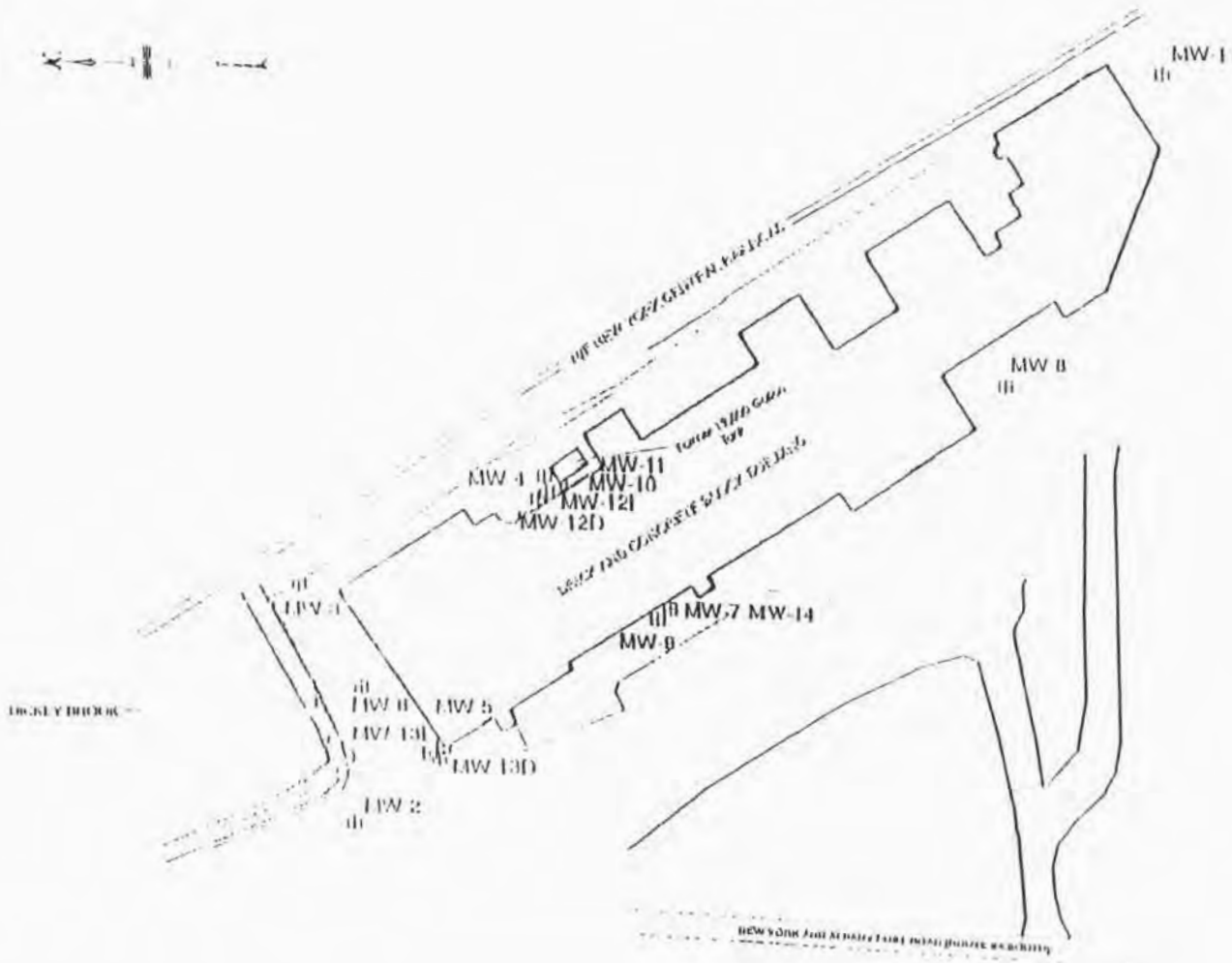
- A Citizen Participation Plan was developed for the site.
- A repository for documents pertaining to the site was established.
- A site mailing list was established which included nearby property owners, local political officials, local media and other interested parties.
- A Factsheet detailing the RI/FS Workplan was mailed out in June 1994
- Another Factsheet which included the results of the RI and the IRM was sent to the mailing list in November 1995
- A Factsheet announcing the PRAP and a public meeting notice was sent out in February 1996.
- A public meeting was held on March 13, 1996 at the Cortlandt Town Hall.
- In March 1996, a Responsiveness Summary , Appendix B, was prepared indicating that no comments received during the public comment period for the PRAP.



MALCOLM PIRNIE

TENSOLITE COMPANY - BUCHANAN, NEW YORK
DIVISION OF CARLISLE COMPANIES, INC.
SITE LOCATION MAP

FIGURE 1

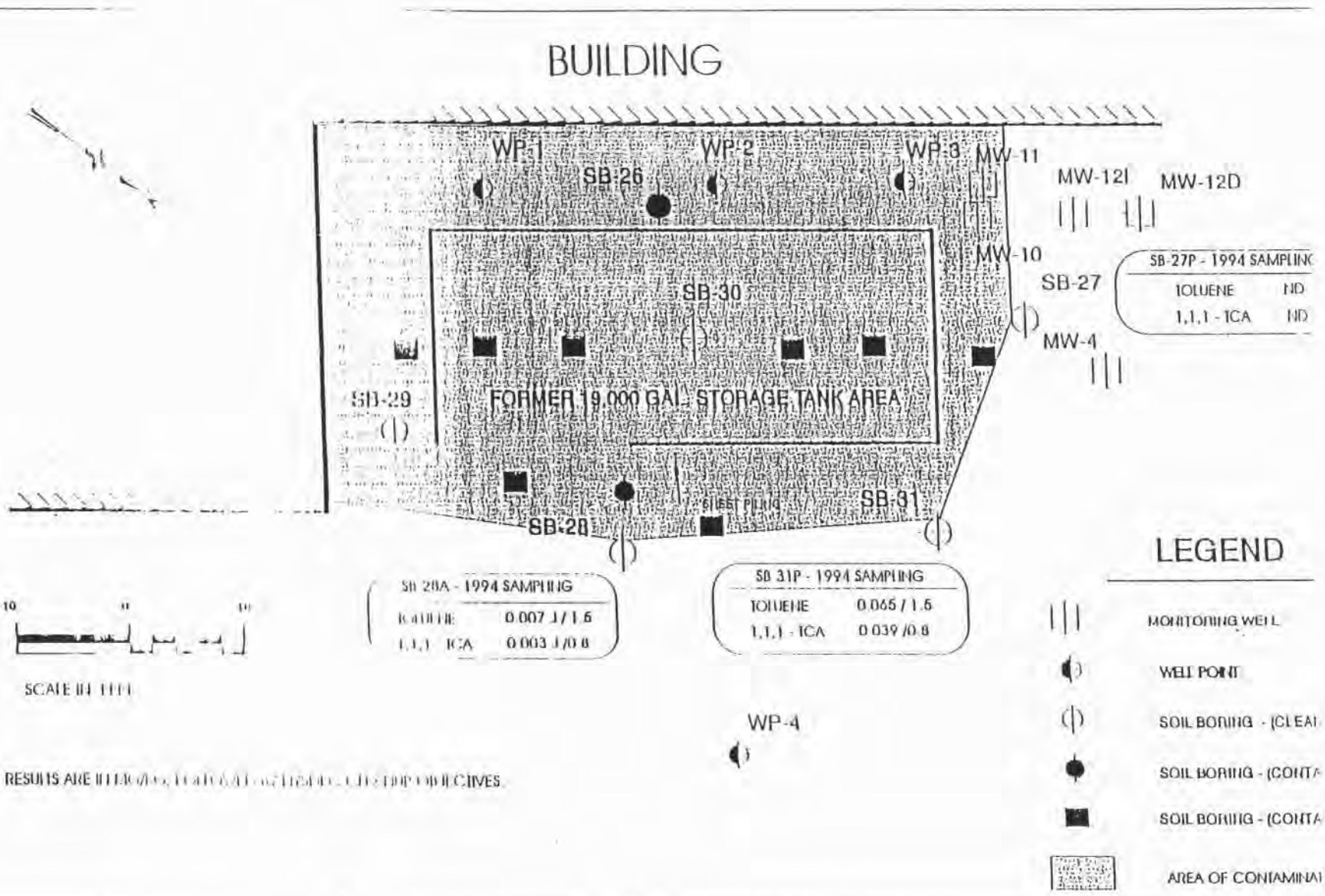


MALCOLM PIRNIE

ENVIRONMENTAL ENGINEERS, SCIENTISTS & PLANNERS

TENSOLITE COMPANY
BUCHANAN, NEW YORK
SITE PLAN

FIGURE 2



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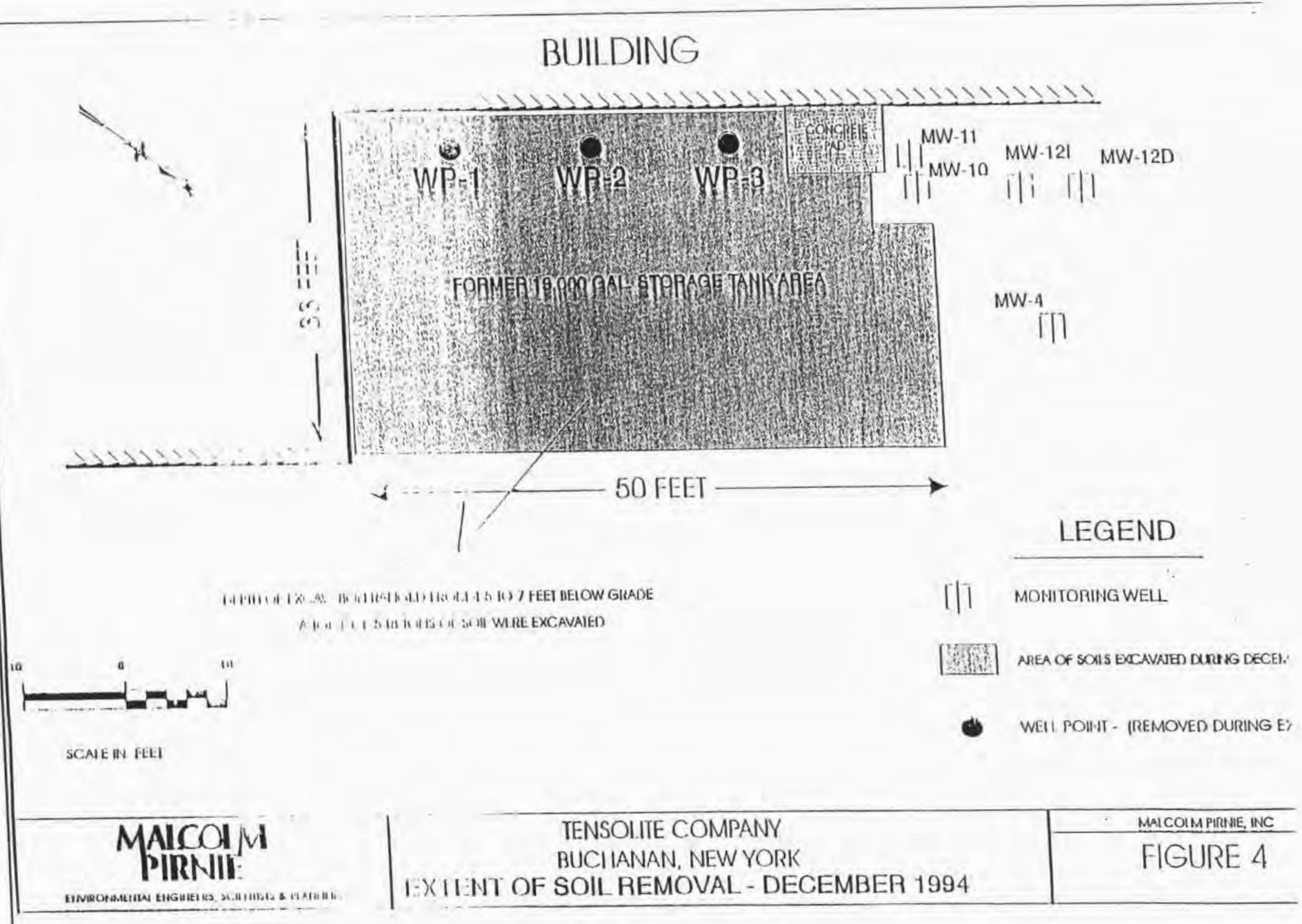
MALCOLM PIRNIE

ENVIRONMENTAL ENGINEERS SCIENTISTS & PLANNERS

TENSOLITE COMPANY
BUCHANAN, NEW YORK
EXTENT OF SOIL CONTAMINATION

MALCOLM PIRNIE, I

FIGURE 3



MALCOLM PIRNIE
ENVIRONMENTAL ENGINEERS, SCIENTISTS & PLANNERS

TENSOLITE COMPANY
BUCHANAN, NEW YORK
EXTENT OF SOIL REMOVAL - DECEMBER 1994

MALCOLM PIRNIE, INC
FIGURE 4

Table 1
Nature and Extent of Contamination
During Remedial Investigation Prior to IRM

MEDIA	CLASS	CONTAMINANT OF CONCERN	CONCENTRATION RANGE (ppb)	FREQUENCY of EXCEEDING SCGs	SCG (ppb)
Groundwater	Volatile Organic Compounds (VOCs)	Trichloroethane	ND to 1,268,100	7 of 32	5
		Vinyl Chloride	ND - 1,290	2 of 32	2
		Dichloroethane	ND - 83	7 of 32	5
		Benzene	ND - 6	2 of 32	5
		Dichloroethene	ND - 22	1 of 32	5
		Chloroethane	ND - 190	3 of 32	NA
		Xylenes	ND - 2,800	5 of 32	5
		Toluene	ND - 517,288	11 of 32	1,000
		Methylene chloride	ND - 34,861	7 of 32	5
Soils	Volatile Organic Compounds (VOCs)	Trichloroethane	ND -1,827,000	18 of 40	760
		Dichloroethane	ND - 7000	10 of 40	200
		Methylene chloride	ND - 637	21 of 40	100
		Chlorobenzene	ND-116,000	1 of 40	1700
		Acetone	ND - 400	13 of 40	110
		Toluene	ND - 12,139,000	26 of 40	1500

APPENDIX A

Administrative Record

Order on Consent , Index # D3-0003-93-03, NYSDEC, August 1993

Remedial Investigation/ Feasibility Study Workplan, Malcolm Pirnie Inc., June 1994

Citizen Participation Plan, Malcolm Pirnie Inc., June 1994

Remedial Investigation Report, Malcolm Pirnie Inc, September 1994

IRM Workplan, Malcolm Pirnie Inc., December 1994

IRM Report, Malcolm Pirnie Inc., July 1995

Feasibility Study Report, Malcolm Pirnie Inc., February 1996

Proposed Remedial Action Plan, NYSDEC, February 1996

Responsiveness Summary, NYSDEC, March 1996

APPENDIX B

Responsiveness Summary

The New York State Department of Environmental Conservation (NYSDEC) held a public meeting on March 13, 1996 at the Cortlandt Town Hall to discuss and recieve public comment on the findings of the Remedial Investigation/Feasibility Study (RI/FS) and NYSDEC's Proposed Remedial Action Plan (PRAP). The RI/FS was performed by Malcolm Pirnie Inc. consultants retained by Carlisle Companies Inc of Syracuse, NY, the parent company of Tensolite. Present at the public meeting were representatives from NYSDEC, Westchester County Health Department, Carlisle Companies, and Malcolm Pirnie.

The PRAP and the FS were made availible for public viewing by February 21, 1996 at the document repositories established for this site;

Hendrick Hudson Library
1 Kings Ferry Road
Montrose, NY 10548
(914) 739-5654

The hours at the library are:
Monday, Tuesday, Thursday, Friday 9:30-5:00
Wednesday 12:00-8:00
Saturday 10:00-5:00
Sunday (Sept-June only) 2:00-5:00

NYSDEC Region 3
21 South Putt Corners Road
New Paltz, NY 12561
(914) 256-3052
Monday - Friday 9:00-4:30

During the public comment period which extended from February 22,1996 to March 22, 1996 no comments were recieved.