ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES

PHASE 1 INVESTIGATION

Geier & Bluhm
Site No. 442019
City of Troy, Rensselaer County
Final – May, 1988

Prepared for :
New York State Department of Environmental Conservation

50 Wolf Road, Albany, New York 12233
Thomas C. Jorling, Commissioner

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

Prepared by :
LeRoy Callender, P. C.
Subcontractor to:
Gibbs & Hill, Inc.

ENGINEERING INVESIGATIONS

AT

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IN THE STATE OF NEW YORK

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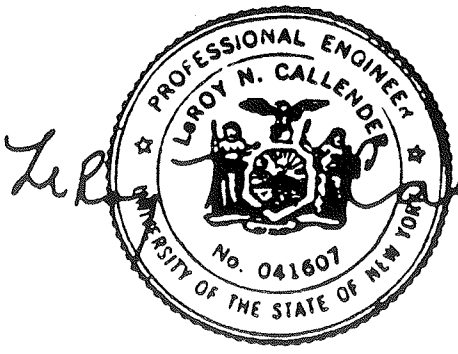

Phase I

Geier & Bluhm

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* HRS = Hazard Ranking System Scoring

Appendix List

1. EXECUTIVE SUMMARY

The Geier & Bluhm site (New York ID No. 442019) is an industrial waste disposal area in Troy, Perssalaer County, New York*. The facility is located in the downtown Troy area at 594 River Street (See Figure 1-1, 1-2, & 1-3). Geier & Bluhm has owned and operated its high precision level manufacturing plant at this site from 1956 to the present. The previous owner was Singer Sewing Machine Company, Trumbull Street, Elizabeth, New Jersey. The site was identified when Mr. David Oster, Vice President of Geier & Bluhm voluntarily answered the Hazardous Waste Disposal Questionnaire issued by New York State Department of Environmental Conservation (NYSDEC) Division of Solid and Hazardous Waste.

From approximately 1979 to 1983, spent lacquer thinner that had been used to clean small parts and to thin paint was poured along the edges of the parking lot to kill vegetation. Based on the owners' estimates, approximately one gallon per month, including winter months, had been disposed of on the perimeter of the parking lot (Figure 1-3). The total quantity disposed of was quite small. Over the last 13 years, an estimated maximum of 156 gallons of lacquer thinner may have been poured on the vegetation. Due to the volatile nature of the lacquer thinner and the method of disposal much of the waste is thought to have evaporated before it penetrated the soil (App.A1.16.)

Spent lacquer thinner contains some highly hazardous ingredients, including toluene, xylene, and acetone, and is considered a strong hazardous waste (See App. A.1.10 & App. A.1.15).

* There is no EPA I.D Number for this site.

Preliminary Hazardous Ranking System (HRS) score for this facility is as follows: Migration Score (S_M) = 2.22; Ground Water Score = 1.88*; Surface Water Score, S_{sw} = 3.36 (chiefly because of proximity to Hudson River); the Air Route Score S_a = 0. Fire and Explosion cannot be scored, because of lack of evidence. Direct Contact Score is S_{DC} = 41.67 (relatively high because of the type of waste and nature of the waste disposal site).

It is recommended that soil sampling and testing be carried out around the perimeter of the parking lot. Soil Samples shall be taken at each test-hole location, once from the layer between 6 and 12 in depth, and the second from the layer between 12 and 18 inches in depth. Should the testing of the soil samples indicate soil contamination greater than 10 ppb volatile organic compounds(VOC) or greater than 100 ppb total petroleum hydrocarbons (TPHC), (NYSDEC soil survey levels normally used as detectable limits), it it recommended that a compliance order is issued to excavate the contaminated soil and transport the same to a licensed disposal facility.

* Because groundwater is not used for industrial or domestic purposes, a direct release to groundwater would not change the migration score due to the algebraic formula.

Site Coordinates

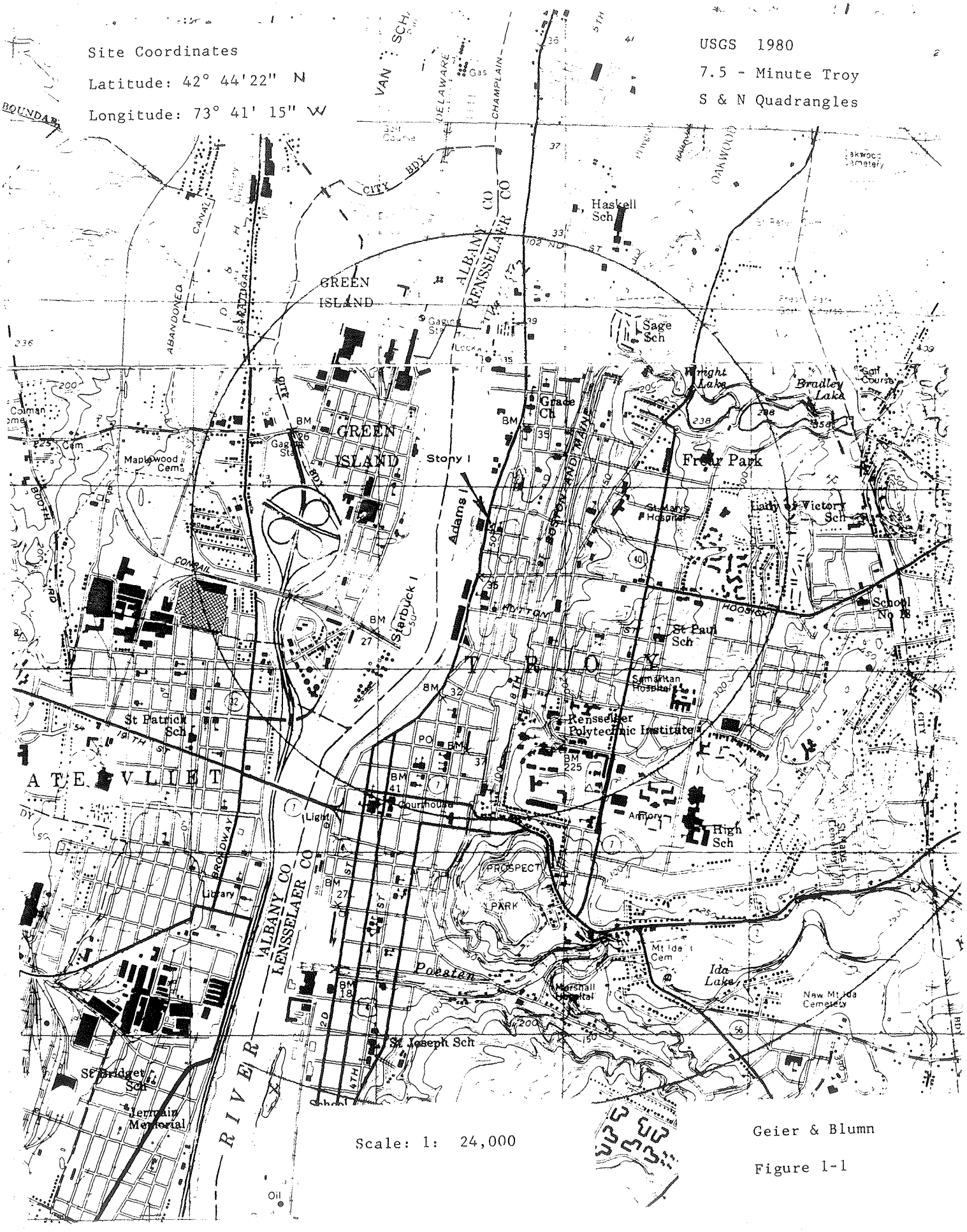
Latitude: 42° 44'22" N

Longitude: 73° 41' 15" W

USGS 1980

7.5 - Minute Troy

S & N Quadrangles



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Geier & Blumn

Figure 1-1

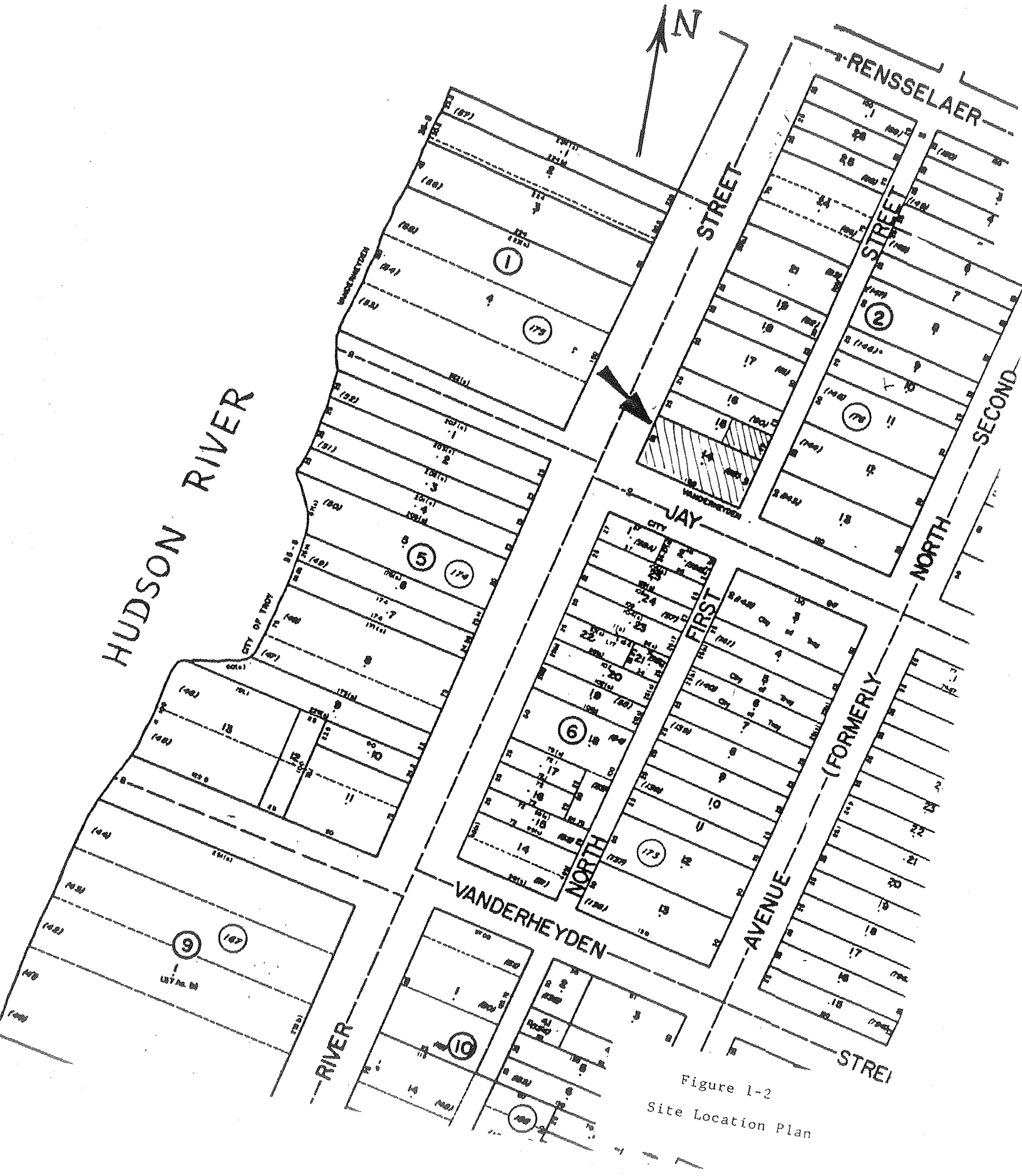


Figure 1-2

Site Location Plan

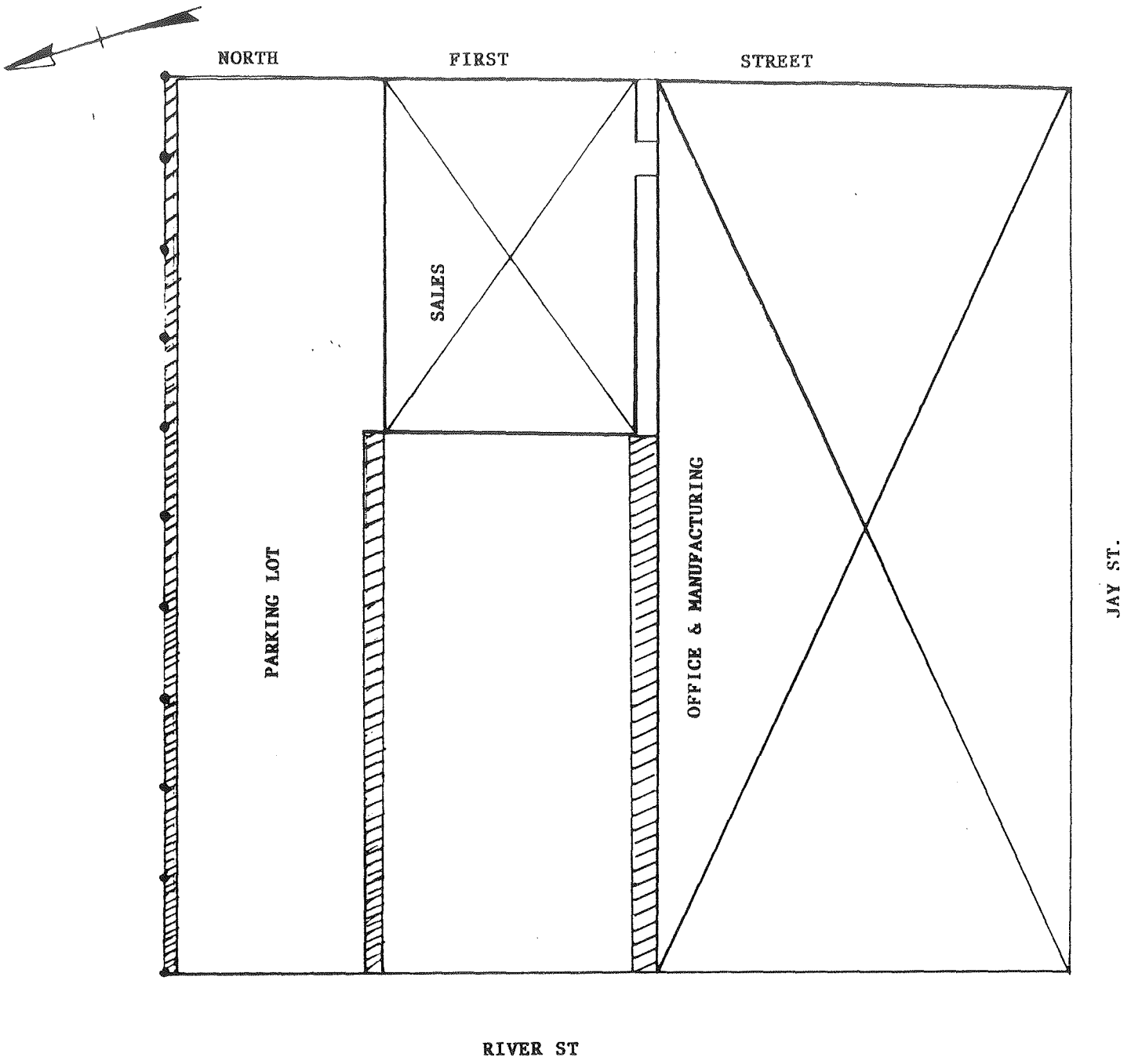


FIGURE 1-3 SITE SKETCH GEIER & BLUHM SITE.

2. Purpose

The Geier & Bluhm site (Site I.D. No. 442019) was listed on the New York State Registry of Inactive Hazardous Waste Sites because lacquer thinner was poured on the vegetation along the perimeter of the facility's parking lot. The management of Geier & Bluhm voluntarily identified this site through a Hazardous Waste Questionnaire, issued to the company by the New York State Department of Environmental Conservation (NYDEC), Division of Solid and Hazardous Waste.

The goal of the Phase I investigation of this site is to: (1) obtain available records on the site history from state, federal, county, and local agencies; (2) obtain information on site topograghy, geology, uses of local surface water and groundwater, previous assessments, of contamination and local demographics; (3) interview site owners, operators, and other groups or individuals knowledgeable of site operations; (4) conduct an inspection of the site to observe and record current conditions; and (5) prepare a Phase I report. The Phase I report includes a preliminary Hazard Ranking Score (HRS), and an assessment of the available information.

3. SCOPE OF WORK

The Phase I investigation of the Geier & Bluhm site involved a site inspection by LeRoy Callender/P.C. as well as record searches and an interview. The following agencies or individuals were contacted:

CONTACT	INFORMATION SOUGHT/RECEIVED
Mr. David B. Oster Geier & Bluhm 594 River Street Troy, New York 12180 (518) 272-6951	Interviewed on site & Provided site plan. (6/23/87)
Mr. James Covey, P.E. NYS Department of Health Empire State Plaza Corning Tower Building Albany, NY 12237 (518) 473-8879	Community Water Supply Atlas (Personal Contact) (7/01/87)
Marsden Chen, P.E. N.Y. State Dept. of Environmental Conservation Bureau of Site Control 50 Wolf Road Albany, NY 12233-0001 (518) 457-0639	Made personal visit & obtained site data file, and history data. (6/23/87)
Lawrence J. Alden Sanitary Engineer N.Y. State Dept. of Environmental Conservation	
Michael J. Komoroske Sanitary Engineer N.Y. State Dept. of Environmental Conservation	

CONTACT	INFORMATION SOUGHT/RECEIVED
Ms. Mary Ellen Jones Cornell Lab. for Env. Appl. of Remote Sensing 464 Hollister Hall Cornell University Ithaca, N.Y. 14850 (607) 255-6520	No files/Information (Contact by telephone) (6/16/87)
Ms. Lisa Anderson N.Y.S. Geological Survey N.Y.S. Science Service Museum Madison Avenue Albany, NY 12230 (518) 474-3505	List of Available Publications (Contact by telephone) (6/16/87)
Mr. Bill Gilday NYS Department of Health No. 2 University Place Albany, NY 12230 (518) 458-6310	Site File (Personal visit) (7/22/87)
Mr. Jeff Choroser NYS DEC Region IV Division of Solid And Hazardous Waste 2176 Guilderland Avenue Schenectady, NY 12306 (518) 382-0680	Location of Site And Site File (Personal visit) (6/24/87)
Mr. Lloyd Wagner USGS - Albany Office 343 Broadway Albany Federal Court House Building Albany, NY 12207 (518) 472-3109	No File/Information (Contact by telephone) (5/29/87)
Mr. Jeff Hall Federal Environmental Protection Agency 26 Federal Plaza New York, NY (212) 264-2657	EPA Waste Codes (Personal visit) (7/16/87)
Mr. Swanson USDA-Soil Conservation Service District Office Troy, N.Y.	Soil Conservation Map (Contact by Mail) (7/01/87)

CONTACT	INFORMATION SOUGHT/RECEIVED
Mr.Carl Hoffman Investigation Section Bureau of Haz. Site Control Div. of Solid; Haz. Waste 50 Wolf Road Albany, N.Y. 12233	Completion of HRS Eastern Worksheets (Contact by telephone) (7/01/87)
Mr. Maynard Vance NY DEC Region 4 Wildlife Office Stamford, NY 12167 (609) 652-7364	Wetland Maps (Contact by mail) (7/12/87)
Dr. Ed Landerg NY State Geological Survey (518) 473-8071	Formation Names (Contact by telephone) (7/02/87)
Mr. Larry Brown Significant Habitat Unit Endangered Species Unit Wildlife Resource Center Delmar, N.Y. 12054	Assessment of Endangered Species Habitat (Contact by mail) (7/11/87)
Mr. Eldred Rich NYSDEC Region IV Schenectady Regional Office Schenectady, NY (518) 382-0680	NYS File (Personal visit) (6/25/87)
National Climatic Center Ashville, NC (704) 258-2850	National Climatic Maps (Contact by telephone) (7/9/87)
Mr. Jack Dowling Water Department Green Island Village Green Island Village, NY (518) 273-4959	Information on Green Island Water Installed on Center Island (Contact by telephone) (7/13/87)

4. SITE ASSESSMENT - GEIER & BLUHM

4.1 Site History

The Geier & Bluhm site is defined as the perimeter of a company-owned parking lot north of their manufacturing facility. The company, Geier & Bluhm, is located at 594 River Street in Troy, New York. Geier & Bluhm is a company which designs and manufactures high precision levels. Bowls of spent lacquer thinner, used for cleaning parts and thinning paints, were poured on vegetation along the edges of the parking lot. Prior to 1970, a two-story wood-frame building, which was later demolished, stood on the parking lot premises. The site is presently the property of Geier & Blum Corporation, and was previously owned by Singer Sewing Machine, Elizabeth, New Jersey.

The site was identified as a hazardous waste disposal site through the Hazardous Waste Questionaire, issued by the New York State Department of Environmental Conservation (NYSDEC), Division of Solid and Hazardous Waste. (App. A1.11). In 1984, David B. Oster, company Vice President, completed this questionnaire and submitted it to the NYSDEC. Geier & Bluhm was later added the registry of hazardous waste sites in New York State.

Pursuant to filing the Hazardous Waste questionnaire, Mr. Oster had the dumpings halted and began to store the waste. In 1985, Mr. Oster requested advice from the NYSDEC on the best method of disposal of the accumulated waste (App.A1.1), and subsequently contracted licensed haulers to cart away the accumulated wastes (App. A1.2).* At that time a new system for cleaning parts was also instituted. Under this system, the cleaning fluid is contained in a drum which is changed approximately every three(3) months by the Safety-Kleen Corporation (App. A1.3). Therefore, the amount of generated waste was greatly reduced.

Mr. Oster stated that the New York State Department of Health (NYSDOH) conducted a visual inspection of the premises in December 1986. On June 23, 1987, Mr. Oster granted LeRoy Callender team an interview and a tour of the facility. During the site inspection, Mr. Oster pointed out the dumping area, provided historical information and a site plan.

* The liquid waste carted away amounted to approx. 44 Gallons.

4.2 SITE TOPOGRAPHY

The site is a parking lot adjacent to the Geier & Bluhm manufacturing facility approximately 380 feet east of the Hudson River. From 1970 to 1983, spent lacquer thinner (App. A1.10.) was poured along the edges of the parking lot to control vegetation. The area of the parking lot which may have been affected by contamination is unknown.

The site is located in downtown Troy, NY. The United States Department of Agriculture - Soil Conservation Service (USDA-SCS) has mapped the soil directly beneath the facility as "urban land". This is defined as "built up urban land where it is not feasible to examine the soil". Approximately 500 feet to the east, however, three soil types have been mapped: 1H, Hudson silt loam; 122R, Nassau-Manlius complex and 265H, Nassau-Rock outcrop complex. All three soil types have low to moderate permeability (USDA-SCS) (App. A1.6.)

The 1H, Hudson silt loam, is a moderately well drained medium or high lime, clayey soil formed in lake-laid deposits, probably ancestral Lake Albany (Cushman). The permeability of the Hudson silt loam is very low to low (USDA-SCS) (App. A1.6.)

The 122R, Nassau-Manlius complex combines the moderately permeable, excessively drained low-lime, shaly loam of the Nassau complex with the moderately permeable excessively drained low-lime shaly loam of the Manlius complex. The soil was formed over shale and slate bedrock.

The 265H, Nassau-Rock outcrop complex combines the shallow, exeessively drained, low-lime, shaly loam soil formed in till that is 10 to 20 inches thick over folded shale or slate bedrock of the Nassau with scattered shale or slate bedrock exposures with soil too thin to support vegetation (USDA-SCS) (App. A1.6.).

The parking lot area had an estimated grade of less than 3% (App. A1.5.).

The Geier & Bluhm site is situated 380 feet east of the Hudson River, at the intersection of River & Jay Streets. The nearby terrain is sloping towards the river with an average slope of 6.68%.

All homes and industry within a 3-mile radius of Geier & Bluhm and east of the Hudson River are supplied by municipal water from the Tomhannock Reservoir. All surface water runoff from the Geier & Bluhm facility parking lot flows westward toward the Hudson River (NYSDOH) (App. A1.7.).

4.3 SITE HYDROGEOLOGY

4.3.1 - GEOLOGY

The Geier & Bluhm site is underlain by an unknown thickness of glacial outwash, glacial Lake Albany sediments, and construction fill. These glacial sediments and fill cover the Normanskill shale near the contact of the Normanskill shale and the Snake Hill formation (App. A1.8 & Cushman). The Normanskill shale and the Snake Hill formation of Lower to Middle Ordovician age and the Schodack formation of Lower Cambrian age, comprise a broad belt of closely related rocks extending the full length of the western part of Rensselaer County, north and west of the Rensselaer Plateau. These rocks were formerly known as the "Georgian" or "Taconic" beds. All of these rocks are considered to be part of a great detached sheet of rocks that have been moved from their original position somewhere in the east, and thrust westward by intercontinental collisions upon the younger Siluro-Devonian (-395 ma*) Helderberg sequence, which are native to the Hudson River Valley. The Taconic thrust sheet formations near Troy consist of closely folded belts of grey to black shale which are difficult to distinguish from each other (Cushman).

After several long episodes of erosion, the Rensselaer County region was invaded during Pleistocene time (-2.6 ma - 0.1 ma) by several extensive ice sheets which were thick enough to pass over the highest peaks of the Catskills and Adirondack Mountains. The sheets of ice moved across the county from the north toward the south and southeast. The direction of glacial movement is indicated by the trend of glacial striations (grooves and scratches) on exposed rock surfaces, and by the elongated trend of the oval hills of glacial drift known as drumlins.

* ma = Million years ago.

The ice sheets passing over the land scoured materials from exposed rock surfaces and transported them varying distances. Much of the material deposited by these glaciers was till, an unsorted mixture of fragments ranging in size from clay particles to large cobbles. Some stratified sand and gravel was laid down around masses of stagnant ice, distributed by streams issuing from the melting ice. Fine-grained silt and clay was also deposited in lakes created by the damming of glacial meltwaters, such as Lake Albany (Cushman).

Melt waters of a dwindling lobe of ice in the Hudson River Valley created the Pleistocene glacial Lake Albany. The glacial lacustrine deposits from Lake Albany are primarily laminated clay overlain by sand and clayey sand. The glacial clays were laid sown on the lake bottom, and these clays now form the soil on which now sits the Geier & Bluhm facility (Cushman).

4.3.2 - HYDROGEOLOGY

The shales that underlie the Geier & Bluhm facility are not porous. Consequently the shales are capable of transmitting water only through joints and fractures in the rock. The amount of water yielded by wells in these rocks depends chiefly upon the number and size of the joints and fractures intersected during drilling. In Rensselaer County, the distribution of water-bearing fractures is erratic. It is difficult to predict where ground water wells will produce sufficient water supplies. The direction of groundwater movement is towards the Hudson River, namely towards the west. It is not uncommon that two wells sunk in the same rock type will yield greatly disparate amounts of water.

The Normanskill shale typically yields small but reliable supplies of ground water. Wells in the Normanskill shale average 125 feet in depth and average 4 to 5 gallons per minute with a large range of output. The ground water from the Normanskill shale is moderately hard and may contain hydrogen sulfide (Cushman).

The acquifer of concern consists of the saturated zone in the fractured areas of the bedrock, and the unconsolidated deposits close to the Hudson River bank. The average depth to groundwater table in the area surrounding the site is 12 feet. The groundwater is not used for public water supply in the area, which is fed from Tomhannock Surface Water Reservoir (App. A.1.7.)

References:

Cushman, R.V., 1950. The Ground-Water Resources of Rensselaer County, New York, State of New York Department of Conservation Water Power and control, Commission, Bulletin GW-21, Albany, New York. (See excerpts, App. A.1.20.)

New York State Department of Health. 1982. New York State Atlas of Community Water System Sources. (App. A.1.7.)

USDA-Soil Conservation Service. Rensselaer County Soil and Water Conservation District, Troy, New York, Soil Maps, Rensselaer County, New York, (in press). (App. A.1.6.)

4.4 SITE CONTAMINATION

Waste Types and Quantities

From approximately 1970 to 1983, Geier & Bluhm, 594 River Street, Troy, New York, poured spent lacquer thinner along the edges of its adjaent parking lot to kill vegetation. It is estimated by Geier & Bluhm that no more than one gallon of lacquer thinner per month was poured on the parking lot vegetation. The total amount of lacquer thinner disposed of in this manner is estimated to be less than 156 gallons (App. A1.9).

Although Geier & Bluhm does not use exactly the same lacquer thinner that it did in the 1970's, OPEX Lacquer Thinner by Sherwin-Williams is thought to be the lacquer thinner most similar to the type that was poured on the vegetation (For composition of lacquer thinner, see App. A1.10).

Some constituents of lacquer thinner like Toluene, Acetone and Xylene are considered hazardous.

Ground Water

No data available. Since the ground water is only 12 feet below the ground surface, there is a potential for ground water contamination at this site.

Surface Water

No data available. Since Hudson River is not very far from Geier & Bluhm site, there is a potential for surface water contamination.

Soil

No data available. See Section 6.2. (Recommendations).

Air

No data available. See Air Route, on Page 5.4.11.

Site Coordinates

Latitude: 42° 44'22" N

Longitude: 73° 41' 15" W

USGS 1980

7.5 - Minute Troy

S & N Quadrangles

Scale: 1: 24,000

Geier & Blumn

Figure 1-1

Geier & Bluhm
City of Troy, Rensselaer

5.1 Narrative Summary

The Geier & Bluhm site is defined as the perimeter of a company-owned parking lot, approximately 0.01 acres in size, located in the City of Troy, Rensselaer County, New York. The Geier & Bluhm Corporation, represented by Mr. David B. Oster, Vice President, presently owns the property. The property was formerly owned by Singer Sewing Machine Company, Elizabeth, New Jersey. The Geier & Bluhm site was identified through a Hazardous Waste Questionnaire, issued by the New York State Department of Environmental Conservation, Division of Solid And Hazardous Waste.

During the period from about 1970 to 1983, Geier & Bluhm poured waste lacquer thinner on the vegetation along the edges of the parking lot. In 1984 Geier & Bluhm filed a Hazardous Waste Questionnaire with the NYSDEC and was subsequently added to the N.Y.S. Registry of Hazardous Waste Sites. There are no groundwater users in the area. Troy City public water supply system provides all water requirements of the area from Tomhannock surface water reservoir, (See App. A.1.7.)

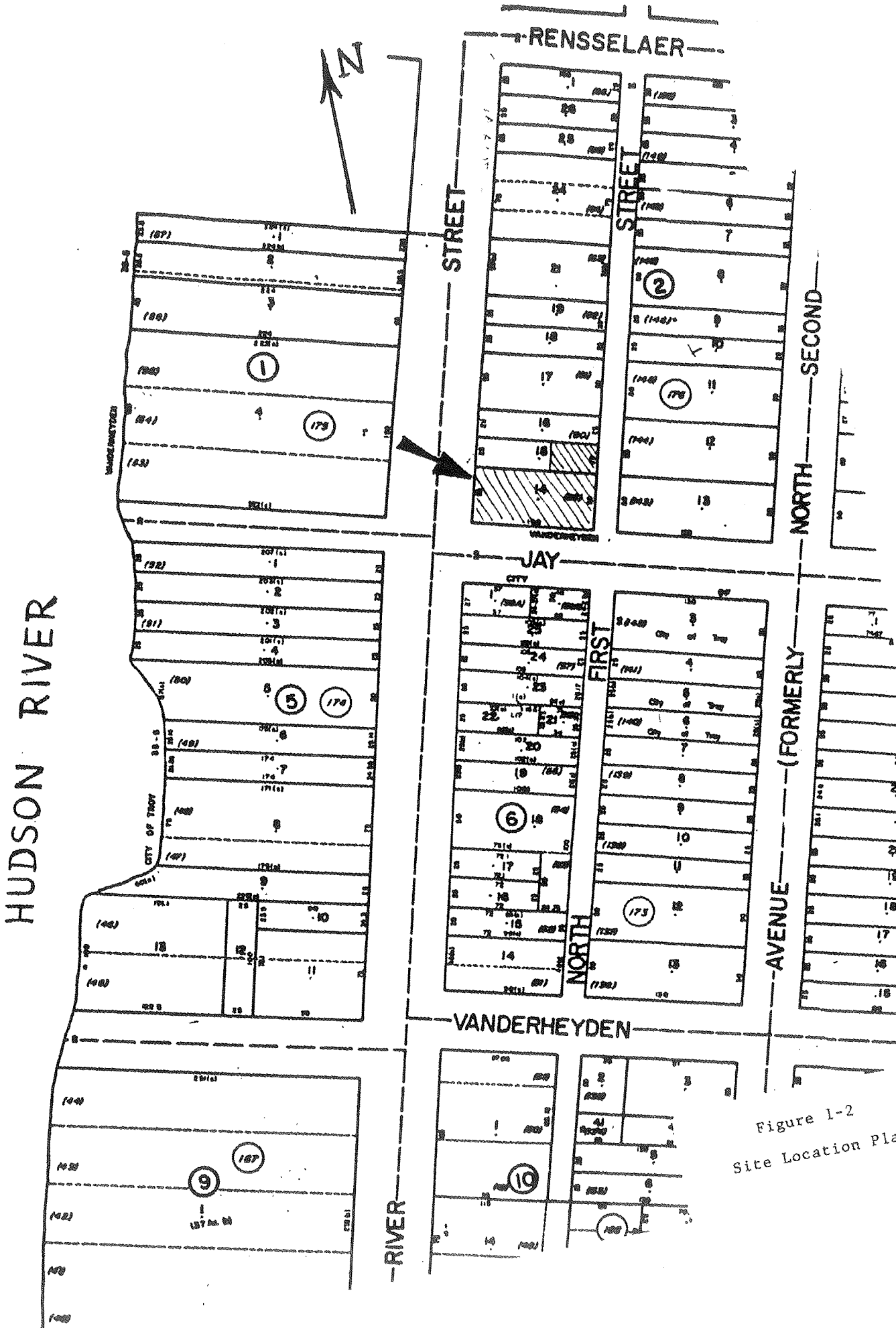


Figure 1-2

Site Location Pla

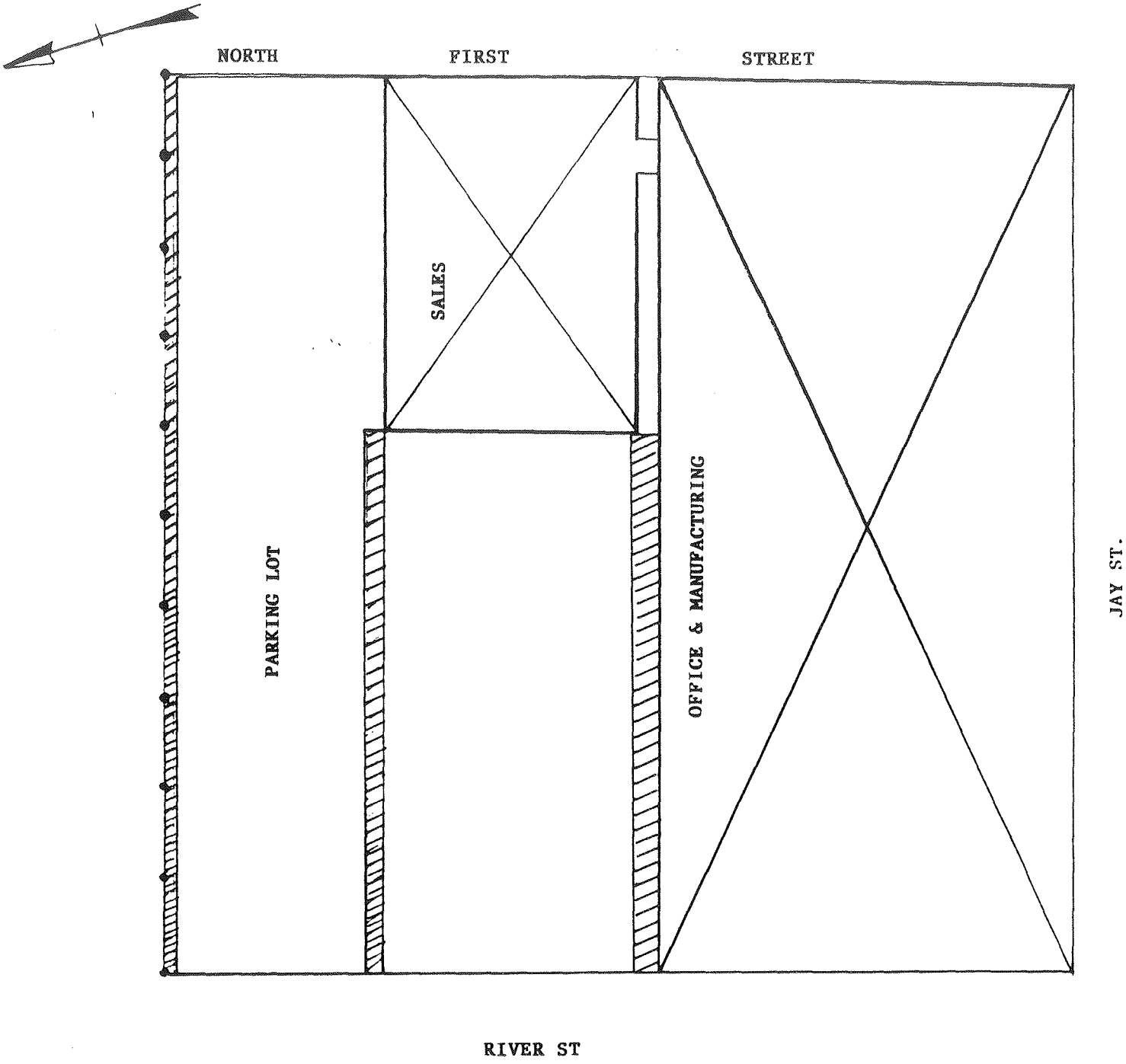


FIGURE 1-3 SITE SKETCH GEIER & BLUHM SITE.

Facility name: Geier & Bluhm

Location: 594 River Street, Troy, Rensselaer County, N.Y.

EPA Region: II

Person(s) in charge of the facility: Mr. David B. Oster

594 River Street

Troy, New York 12180

Name of Reviewer: LeRoy Callender, P.C. Date: 30 July 1987

General description of the facility:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

The Geier & Bluhm site is the perimeter of a parking lot adjacent to the company. Approximately 156 gallons of spent lacquer thinner were poured on the vegetation along the edges of the parking lot over a 13-year period.

Scores: $S_M = 2.22$ [$S_{gw} = 1.88$ $S_{sw} = 3.36$ $S_a = 0$]

$S_{FE} =$ NA

$S_{DC} = 41.67$

FIGURE 1
HRS COVER SHEET

Ground Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Release	(0) 45	1	0	45	3.1
If observed release is given a score of 45, proceed to line 4. If observed release is given a score of 0, proceed to line 2.					
2 Route Characteristics					3.2
Depth to Aquifer of Concern	0 1 2 (3)	2	6	6	
Net Precipitation	0 1 (2) 3	1	2	3	
Permeability of the Unsaturated Zone	0 (1) 2 3	1	1	3	
Physical State	0 1 2 (3)	1	3	3	
Total Route Characteristics Score			12	15	
3 Containment	0 1 2 (3)	1	3	3	3.3
4 Waste Characteristics					3.4
Toxicity/Persistence	0 3 6 (9) 12 15 18	1	9	18	
Hazardous Waste Quantity	0 (1) 2 3 4 5 6 7 8	1	1	8	
Total Waste Characteristics Score			10	26	
5 Targets					3.5
Ground Water Use	0 (1) 2 3	3	3	9	
Distance to Nearest Well/Population Served	(0) 4 6 8 10 / 12 16 18 20 / 24 30 32 35 40	1	0	40	
Total Targets Score			3	49	
6 If line 1 is 45, multiply 1 x 4 x 5 / If line 1 is 0, multiply 2 x 3 x 4 x 5			1080	57,330	
7 Divide line 6 by 57,330 and multiply by 100			S_{gw} = 1.88		

FIGURE 2
GROUND WATER ROUTE WORK SHEET

Surface Water Route Work Sheet						
Rating Factor	Assigned Value (Circle One)		Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Release	(0)	45	1	0	45	4.1
If observed release is given a value of 45, proceed to line 4. If observed release is given a value of 0, proceed to line 2.						
2 Route Characteristics						4.2
Facility Slope and Intervening Terrain	0 (1) 2 3		1	1	3	
1-yr. 24-hr. Rainfall	0 1 (2) 3		1	2	3	
Distance to Nearest Surface Water	0 1 2 (3)		2	6	6	
Physical State	0 1 2 (3)		1	3	3	
Total Route Characteristics Score				12	15	
3 Containment	0 1 2 (3)		1	3	3	4.3
4 Waste Characteristics						4.4
Toxicity/Persistence	0 3 6 (9) 12 15 18		1	9	18	
Hazardous Waste Quantity	0 (1) 2 3 4 5 6 7 8		1	1	8	
Total Waste Characteristics Score				10	26	
5 Targets						4.5
Surface Water Use	0 1 (2) 3		3	6	9	
Distance to a Sensitive Environment	(0) 1 2 3		2	0	6	
Population Served/Distance to Water Intake Downstream	(0) 4 6 8 10 12 16 18 20 24 30 32 35 40		1	0	40	
Total Targets Score				6	55	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5				2,160	64,350	
7 Divide line 6 by 64,350 and multiply by 100				S_{SW} = 3.36		

FIGURE 7
SURFACE WATER ROUTE WORK SHEET

Air Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. Section)
[1] Observed Release	(0) 45	1	0	45	5.1
Date and Location:					
Sampling Protocol:					
If line [1] is 0, the S_a = 0. Enter on line [5]. If line [1] is 45, then proceed to line [2].					
[2] Waste Characteristics					5.2
Reactivity and Incompatibility	0 1 (2) 3	1	2	3	
Toxicity	0 1 (2) 3	3	6	9	
Hazardous Waste Quantity	0 (1) 2 3 4 5 6 7 8	1	1	8	
	Total Waste Characteristics Score		9	20	
[3] Targets					5.3
Population Within 4-Mile Radius	0 9 12 15 18 (21) 24 27 30	1	21	30	
Distance to Sensitive Environment	(0) 1 2 3	2	0	6	
Land Use	0 1 2 (3)	1	3	3	
	Total Targets Score		24	39	
[4] Multiply [1] x [2] x [3]			0	35,100	
[5] Divide line [4] by 35,100 and multiply by 100		S_a =	0		

FIGURE 9
AIR ROUTE WORK SHEET

	S	S^2
Groundwater Route Score (S_{gw})	1.88	3.53
Surface Water Route Score (S_{sw})	3.36	11.30
Air Route Score (S_a)	0	0
$S_{gw}^2 + S_{sw}^2 + S_a^2$		14.83
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		3.85
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$		2.22

FIGURE 10
WORKSHEET FOR COMPUTING S_M

Fire and Explosion Work Sheet

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	Ref. (Section)
[1] Containment	1 3	1	*	3	7.1
[2] Waste Characteristics					7.2
Direct Evidence	0 3	1		3	
Ignitability	0 1 2 3	1		3	
Reactivity	0 1 2 3	1		3	
Incompatibility	0 1 2 3	1		3	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
Total Waste Characteristics Score				20	
[3] Targets					7.3
Distance to Nearest Population	0 1 2 3 4 5	1		5	
Distance to Nearest Building	0 1 2 3	1		3	
Distance to Sensitive Environment	0 1 2 3	1		3	
Land Use	0 1 2 3	1		3	
Population Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Buildings Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Total Targets Score				24	
[4] Multiply [1] x [2] x [3]				1,440	
[5] Divide line [4] by 1,440 and multiply by 100			SFE = No Score *		

FIGURE 11
FIRE AND EXPLOSION WORK SHEET

* Fire & Explosion score cannot be assigned, since there has been no threat of a fire or explosion announced by the local fire marshal in the past.

Direct Contact Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Incident	(0) 45	1	0	45	8.1
If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2					
2 Accessibility	0 1 2 (3)	1	3	3	8.2
3 Containment	0 (15)	1	15	15	8.3
4 Waste Characteristics Toxicity	0 1 (2) 3	5	10	15	8.4
5 Targets					8.5
Population Within a 1-Mile Radius	0 1 2 3 4 (5)	4	20	20	
Distance to a Critical Habitat	(0) 1 2 3	4	0	12	
Total Targets Score			20	32	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			9,000	21,600	
7 Divide line 6 by 21,600 and multiply by 100			S_{DC} = 41.67		

FIGURE 12
DIRECT CONTACT WORK SHEET

DOCUMENTATION RECORDS
FOR
HAZARD RANKING SYSTEM

INSTRUCTIONS: The purpose of these records is to provide a convenient way to prepare an auditable record of the data and documentation used to apply the Hazard Ranking System to a given facility. As briefly as possible, summarize the information you used to assign the score for each factor (e.g., "Waste quantity = 4,230 drums plus 800 cubic yards of sludges."). The source of information should be provided for each entry and should be a bibliographic-type reference that will make the document used for a given data point easier to find. Include the location of the document and consider appending a copy of the relevant page(s) for ease in review.

Facility Name: Geier & Bluhm

Location: City of Troy, Rensselaer, New York

GROUND WATER ROUTE

1 OBSERVED RELEASE

No analytical data are available for this facility:

Assigned value = 0.

* * *

2 ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifer(s) of concern:

There is no distinct aquifer below the Geier & Bluhm facility.

Depth from the ground surface to the highest seasonal level of the saturated zone (water table[s]) of the aquifer of concern:

Well No. 592 is an 85 foot drilled well located approximately 3500 ft to the northwest. The depth to water surface in well No. 592 is approximately 12 feet.

References: Cushman, R.V., 1950. The Ground-Water Resources of Rensselaer County, New York, State of New York Department of Conservation Water Power and Control Commmission, Bulletin GW-21, Albany, New York. (See excerpts in App. A.1.20).

Depth from the ground surface to the lowest point of waste disposal/storage:

Waste disposal occurred at the ground surface. Approximately 0-6 inches were affected by the disposal of lacquer thinner on the edge of the parking lot. Groundwater is estimated to be at a depth of 12 + 2 feet, based on limited data. (Well No. 592 and well No. 593, (Cushman). (App. A.1.20).

Assigned value = 3.

Net Precipitation

Mean annual or seasonal precipitation (lists months from seasonal):

35.57 inches.

References: Cushman, R.V., 1950. 1950. The Ground-Water of Resources of Rensselaer County, New York, State of New York Department of Conservation Water Power and Control Commmission, Bulletin GW-21, Albany, New York.

Mean annual lake or seasonal evaporation (list months for seasonal):

27.5 inches.

Reference: Climatic Atlas of the United States, U.S. Department of Commerce, National climatic Center, Ashville, North Carolina, 1979.

Net Precipitation (subtract the above figures):

8.07 inches. Assigned value = 2.

Permeability of Unsaturated Zone

Soil type in unsaturated zone:

The soil below the Geier & Bluhm facility is mapped as urban land by the U.S. Department of Agriculture, Soil Conservation Service. The surrounding soil is mapped a having low to moderate permeability.

Permeability associated with soil type:

Low to moderate permeability.

Assigned value = 1.

Reference: U.S. Department of Agriculture, Soil Conservation Service, District Office, Troy, New York, Rensselaer County Soil Maps, (in press). (App. A1.6.).

Physical State

Physical state of substances at the time of disposal (or at present time for generated gases):

Liquid: Lacquer thinner was poured on vegetation.

Assigned value = 3.

Reference: (App. A.1.11).

* * *

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

no leachate collection system, no liner.

Reference: LC/PC team site inspection June 23, 1987. (App. A1.9 and A1.11.).

Method with the highest score = 3.

* * *

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

OPEX * Lacquer Thinner, Sherwin-Williams product No. R7-K-120 is thought to be the lacquer thinner most similar to the type of lacquer thinner that was poured on the vegetation in the parking lot.

The hazardous ingredient with highest toxicity score:
Toluene (See App. 1.10 & A.1.15)

Assigned value = 2.

Reference: USEPA. "Uncontrolled Hazardous Waste Site Ranking System-A Users Manual", 1984. Table 4-p. 20.

Persistence

Persistence value for Toluene = 1.

Reference: Ibid. Table 4-p. 20.

Combined value for toxicity and persistence = 9.

Reference: Ibid. matrix table, p. 18.

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0.

Approximately 156 gallons. Assigned value = 1.

Basis of estimating and/or computing waste quantity:

According to information obtained during the site visit and interview with the owners dated June 23, 1987 (See App. A.1.9,) it has been estimated that during the period from 1970 to 1983 (13 years), approximately 1 galllon of spent lacquer thinner per month (including winter months) was poured on vegetation in the parking lot, in order to control it.
(See App. A.1.11.)

5 TARGETS

Ground Water Use

Use(s) of aquifer(s) of concern within a three-mile radius of the facility:

Ground water is fit for commerical, industrial or irrigational use, but it is not used. Municipal water from surface water sources supplies the city of Troy, and suburbs within a three mile radius of the Geier & Bluhm, Inc. facility and area of hazardous waste disposal.

Assigned value = 1.

References: 1) Cushman, R.V., 1950. The Ground-Water Resources of Rensselaer County, New York, State of New York Department of Conservation Water Power and Control Commission, Bulletin GW-21, Albany, New York.

2) New York State Department of Health. 1982. New York State Atlas of Community Water Resources. (App. A.1.7)

Distance to Nearest Well

There are drinking water wells within a three mile radius west of the Hudson River; however, for the purposes of scoring this facility, the Hudson River is considered to be a discontinuity (a hydraulic barrier). Troy, New York is supplied with municipal water from the Tomhannock Reservoir. Several small population centers located beyond the Troy city limits are also served by the municipal water system.

Assigned value = 0.

Reference: No. 2 above. See App. A.1.7

Population Served by Ground Water Wells within a 3-mile Radius
Identified water-supply well(s) drawing from aquifer(s) of concern within a three-mile radius and population served by each:

Community Water Supplies:

None within a 3-mile radius

Assigned value = 0.

References: USGS. Photo Revised 1980. 7.5-Minute Series Topographic: North Troy and South Troy Quadrangles.

New York State Department of Health. 1982. New York State Atlas of Community Water Resources.

Computation of land area irrigated by supply well(s) drawing from aquifer(s) of concern within a 3-mile radius: 0.

Total population served by ground water within a 3-mile radius:

None.

Assigned value = 0. Combined value = 0.

Reference: New York State Department of Health. 1982. New York State Atlas of Community Water Resources. (App. A.1.7.)

SURFACE WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected in surface water at the facility or downhill from it:

No data available to confirm release. Assigned value = 0.

Rationale for attributing the contaminants to the facility:

Voluntary response by the owners of Geier & Bluhm to the NYSDEC Hazardous Waste Questionnaire, 1984. (See App. A.1.11.)

* *

2 ROUTE CHARACTERISTICS

Facility Slope and Intervening Terrain

Average slope of facility in percent:

Average slope = < 3% Assigned value = 0.

References: USGS. Photo Revised 1980. 7.5.- Minute Series Topographics: North Troy and South Troy Quadrangles. (See App. A.1.14.)

Name/description of nearest downgradient surface water: Hudson River.

Average slope of terrain between facility and above cited surface water body in percent: Average slope = 6.68%

Is the facility located either partially or totally in surface water: No.

Is the facility completely surrounded by areas of higher elevation: No.

Intervening terrain and facility slope combined value = 1.

1-Year, 24-Hour Rainfall in inches

approximately 2.3 inches Assigned value = 2.

References: Rainfall Frequency Atlas of the United States, Technical Paper No. 40, U.S. Department of Commerce, U.S. Government Printing Office, Washington, D.C., 1963.

Distance to Nearest Down Slope Surface Water

Name/description of nearest downslope surface water:

Hudson river is approximately 380 feet from the facility.

Assigned value = 3.

References: USGS. Photo Revised 1980. 7.5-Minute Series Topographic: North Troy and South Troy Quadrangles. App. 1.1.14.

Physical State

Physical state of substances at the time of disposal (or at present time for generated gases):

Liquid: Lacquer thinner was poured on vegetation .

Assigned value = 3.

Reference: M. S.D.S. for Lacquer Thinner - App. A.1.10

* * *

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

No leachate collection system, no liner.

Reference: Site inspection dated June 23, 1987 by LeRoy Callender, P.C. team.

Method with the highest score = 3. (App. A1.5 and A1. 11.).

* * *

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

OPFX * Lacquer Thinner, Sherwin-Williams product No. R7-K-120 is thought to be the lacquer thinner most similar to the type of lacquer thinner that was poured on the vegetation in the parking lot.

The hazardous ingredient with highest toxicity score:
Toluene (See App. A.1.10 & A.1.15.)

Assigned value = 2.

Reference: USEPA. "Uncontrolled Hazardous Waste Site Ranking System-A Users Manual", 1984. Table 4-p. 20.

Persistence

Persistence value for Toluene = 1.

Reference: Ibid. Table 4-p. 20

Combined value for toxicity and persistence = 9.

Reference: Ibid. matrix table, p. 18.

Hazardous Waste Quantity

Total quantity of hazardous subtances at the facility, excluding those with a containment score of 0.

Approximately 156 gallons. Assigned value = 1.

According to information obtained during the site visit and interview with the owners dated June 23, 1987 (See App. A.1.9,) it has been estimated that during the period from 1970 to 1983 (13 years), approximately 1 gallon of spent lacquer thinner per month (including winter months) was poured on vegetation in the parking lot, in order to control it.

5. TARGETS

Surface Water Use

Uses(s) of surface water within 3 miles downstream of the hazardous substance:

Recreation. Assigned value = 2.

Reference: App. A.1.14.

Distance to a Sensitive Environment

Distance to a 5-acre (minimum) coastal wetland, if 2 miles or less:

None. Assigned value = 0.

Distance to a 5-acre (minimum) freshwater wetland, if 1 mile or less: None.

Assigned value = 0.

Distance to critical habitat, endangered species or national wild liferefuge, if 1 mile or less:

None. Assigned value = 0.

References: New York State DEC, Freshwater Wetland Maps, Rensselaer County, Troy South and Troy North maps. (App. A.1.17, 1 and 2.) New York State DEC, Wildlife Resource Center, reply to a written request, 1987. (App. A1.19.)

Population served by surface Water

Location(s) of water supply intake(s) within 3 miles (free-flowing bodies) or 1 mile (static bodies) downstream of the hazardous substance and population served by each intake:

None.

Reference: New York State Department of Health. 1982. New York State Atlas of Community Water Resources.

Computation of land area irrigated by above-cited intake(s) and conversion to population (1.5 people per acre).

Total population served: 0.

Name/description of nearest surface water bodies: Hudson River.

Distance to above-cited water supply intakes, measured in stream miles: > 3 miles.

Assigned value = 0.

Reference: - USEPA. "Uncontrolled Hazardous Waste Site Ranking System - A Users Manual, 1984. Distance to Surface Water, table on p. 38.

- App. A.1.19, letter from NYSDEC Wildlife Resource Center, Delmar, N.Y.

AIR ROUTE

1 OBSFRVED RELEASE

Contaminants Detected:

During the LC/PC team site inspection on 23 June 1987, it was judged that although the total quantity of waste lacquer thinner may have been as great as 156 gallons, the quantities disposed of at any one time were very small (1 pint - 1 quart). In light of the highly volatile nature of the thinner, it is to be expected that much of the waste would evaporate upon disposal. The high rate of evaporation of the thinner, combined with the fact that this method of disposal has not been practiced since 1983, makes the likehood of air contamination very remote

Assign value = 0

* * *

2 WASTE CHARACTERISTICS

Reactivity and Incompatibility

Most reactive compound: Sulfuric Acid. Assigned value = 2.

Most incompatible pair of compounds: Chromic Acid & Acetic Acid.

Reference: USFPA. "Uncontrolled Hazardous Waste Site Ranking System-A Users Manual", 1984. Table 4, p.20 & Table 12, p. 43. - App. A.1.1

Assigned value = 1.

Combined value for reactivity and incompatibility = 2.

Toxicity

Most toxic compound: Toluene. Assigned value = 2.

Reference: Ibid. Table 4, p. 20

Hazardous Waste Quantity

Total quantity of hazardous waste:

Basis of estimating and/or computing waste quantity: See page.

5.4.4. Assigned value = 1.

* * *

3 TARGETS

Population Within 4-Mile Radius

Circle radius used, give population, and indicate how determined:

(0 - 4 mi: > 10,000) 0 to 1 mi 0 to 1/2 mi 0 to 1/4 mi

Assigned value = 21.

(Reference: App. A.1.14.)

Distance to a Sensitive Environment

Distance to a 5-acre (minimum) coastal wetland, if 2 miles or less: None.

Assigned value = 0.

Distance to a 5-acre (minimum) freshwater wetland, if 1 mile or less: None.

Assigned value = 0.

Distance to critical habitat of endangered species, if 1 mile or less: None.

Assigned value = 0.

Land Use

Distance to commercial/industrial area, if 1 mile or less: commercial area of City of Troy is within 1/4 mile.

Assigned value = 2.

Distance to national or state parks, forest, wildlife reserves, and residential areas:

Residential areas of Troy City are within 1/4 mile or less.

Assigned value = 3.

Reference: USGS Topo Map. App. A.1.14.

FIRE AND EXPLOSION

Disposing of spent lacquer thinner on site soils ceased in 1983. The ignitable or volatile fractions have since volatalized and, therefore, do not pose a fire or explosion threat.

Fire and explosion score cannot be assigned.

DIRECT CONTACT

1 OBSERVED INCIDENT

Date, location, and pertinent details of incident:

None reported Assigned value = 0

Reference: LeRoy Callender, P.C site inspection, 23 June 1987 (Appendix A1.9).

* * *

2 ACCESSIBILITY

Describe type(s) of barrier(s):

No barriers surround the site. Assigned value = 3.

Reference: Appendix A1.13

* * *

3 CONTAINMENT

Type of containment, if applicable:

Waste was poured on vegetation.

Assigned Value = 15.

Reference: LCPC/team site inspection, 23 June 1987.

* * *

4 WASTE CHARACTERISTICS

Toxicity

Compounds evaluated:

The chief components of the waste dumped on the site are toluene (App. A1. 15), hydrocarbon solvent, V.M. & P Naphtha, and acetone.

Assigned value = 2. Ref. See page 5.4.4 herein.

* * *

5 TARGETS

Population Within 1 - Mile Radius

Site is in a commercial area, with a population greater than 10,000.

Assigned value = 5. (Ref. App. A1.18.)

Distance to Critical Habitat (of Endangered Species)

Although distance to a significant habitat (Troy Dam Waterfowl Wintering Area) is less than a mile, the chances of direct contact with the hazardous substances residual at this site, if any, are remote.

Therefore, Assigned value = 0.

Reference: App. A.1.19.

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER:

II SITE NAME AND LOCATION

01 SITE NAME	02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER				
Geier & Bluhm	594 River Street				
03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG. DIST.
Troy	NY	12180	Rensselaer		
09 COORDINATES LATITUDE: 42° 44' 22" N	LONGITUDE: 73° 41' 15" W				

10 DIRECTIONS TO SITE (Starting from nearest public road)

Adjacent to River Street and Jay Street intersection.

III RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)			
David B. Oster, Vice President	594 River Street			
03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER	
Troy	NY	12180	(518) 272-6951	
07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)			
Same as above	Same as above			
09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER	
Same			( )	

13 TYPE OF OWNERSHIP (Check one)
X A. PRIVATE ☐ B. FEDERAL _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER _____ (Specify) ☐ G. UNKNOWN

14 OWNER-OPERATOR NOTIFICATION ON FILE (Check all that apply)
☐ A. RCRA 3001 DATE RECEIVED _____ (Month, Day, Year) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103c) DATE RECEIVED _____ (Month, Day, Year) X C. NONE

IV CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
X YES DATE 06/23/87 (Month, Day, Year)
☐ NO

BY (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR ☐ C. STATE X D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER _____ (Specify)
CONTRACTOR NAME(S): LeRoy Callender, P.C.

02 SITE STATUS (Check one)	03 YEARS OF OPERATION		
☐ A. ACTIVE X B. INACTIVE ☐ C. UNKNOWN	1960± (Beginning Year)	1983 (Ending Year)	☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN OR ALLEGED

Spent lacquer thinner poured on vegetation

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND OR POPULATION

Potential soil & groundwater contamination.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)
☐ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) X C. LOW (Inspection at discretion) ☐ D. NONE (No further action needed)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NUMBER
David B. Oster	Geier & Blubm, Inc.	(518) 272-6951
04 PERSON RESPONSIBLE FOR ASSESSMENT	**05 AGENCY**	**06 ORGANIZATION**	**07 TELEPHONE NUMBER**	**08 DATE**
LeRoy Callender	LC/PC	Consultant	(212) 989-2900	6/23/87 (Month, Day, Year)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE: NY | 02 SITE NUMBER:

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

X A SOLID
B POWDER, FINES
C SLUDGE
D OTHER _____
E SLURRY
X F LIQUID
G GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS: 0.78
CUBIC YARDS: _____
NO. OF DRUMS: _____

03 WASTE CHARACTERISTICS (Check all that apply)

X A TOXIC
B CORROSIVE
C RADIOACTIVE
D PERSISTENT
E SOLUBLE
F INFECTIOUS
X G FLAMMABLE
H IGNITABLE
X I HIGHLY VOLATILE
J EXPLOSIVE
K REACTIVE
L INCOMPATIBLE
M NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS	<400	Gallons	Dumped over period of ≈ 23 yrs
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
				% COMPOSITION	
Sol	Lacquer Thinner	--	Poured on Vegetation		
	-Toluene			15%	
	-Hydrocarbon Solv.			20%	
	-V.M. & P. Naphtha			15%	
	-Xylene			5%	
	-Methanol			<5%	
	-Ethanol			5%	
	-2-Methyl-1-Propanol			5%	
	-2-Butaxyethanol			<5%	
	-Acetone			20%	
	-Methyl n-Amyl Ketone			<5%	
	-Isobutyl Acetate			5	

V. FEEDSTOCKS (See Appendix for CAS numbers) Not Applicable

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

-Interview with Mr. David B. Oster
-Mat'l safety data sheet

EPA FORM 2070-12 (7-81)

GEIER & BLUHM

Exhibit 2

Site Inspection Report

EPA Form 2070 - 13

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION

01 STATE: NY | 02 SITE NUMBER:

II SITE NAME AND LOCATION

01 SITE NAME	02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER				
Geier & Bluhm	594 River Street				
03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG. DIST.
Troy	NY	12180	Rensselaer	083	

09 COORDINATES: LATITUDE 42° 44' 22" N | LONGITUDE 73 41 15" W

10 TYPE OF OWNERSHIP: [X] A PRIVATE [ ] B FEDERAL _____ [ ] C STATE [ ] D COUNTY [ ] E MUNICIPAL [ ] F OTHER _____ [ ] G UNKNOWN

III INSPECTION INFORMATION

01 DATE OF INSPECTION	02 SITE STATUS	03 YEARS OF OPERATION
6 23 87 (MONTH DAY YEAR)	[ ] ACTIVE [X] INACTIVE	1960 ± (BEGINNING YEAR) | 1983 (ENDING YEAR) ___ UNKNOWN

04 AGENCY PERFORMING INSPECTION: [ ] A EPA [ ] B EPA CONTRACTOR _____ [ ] C MUNICIPAL [ ] D MUNICIPAL CONTRACTOR _____ [ ] E STATE [X] F STATE CONTRACTOR LeRoy Callender, PC [ ] G OTHER _____

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Michael Minter	Technician	LeRoy Callender	212) 989-2900
09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
Dana Coyle	Geologist	LeRoy Callender	(212) 989-2900
			( )
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO.
David B. Oster	V.P.	594 River Street Troy, N.Y. 12180	518) 272-6951
			( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
[X] PERMISSION [ ] WARRANT	2:30 PM	Sunny, Warm, Dry

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (AGENCY/ORGANIZATION)	03 TELEPHONE NO.
LeRoy N. Callender	LeRoy Callender, P.C. Consulting Engr.	(212) 989-2900

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
Michael Minter	LeRoy Callender	Consulting Engineers	(212) 989-2900	06 23 87 (MONTH DAY YEAR)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER:

II WASTE STATES QUANTITIES AND CHARACTERISTICS

07 PHYSICAL STATES (Check all that apply)
A SOLID
B POWDER, FINES
C SLUDGE
D OTHER
E SLURRY
X LIQUID
F GAS

02 WASTE QUANTITY AT SITE
(Measures of waste quantities)
TONS: 0.78
CUBIC YARDS:
NO. OF DRUMS:

03 WASTE CHARACTERISTICS (Check all that apply)
X A TOXIC
B CORROSIVE
C RADIOACTIVE
D PERSISTENT
E SOLUBLE
F INFECTIOUS
G FLAMMABLE
H IGNITABLE
X I HIGHLY VOLATILE
J EXPLOSIVE
K REACTIVE
L INCOMPATIBLE
M NOT APPLICABLE

III WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS	< 400	Gallons	Dumped over period of ≈ 23 yrs.
PST	PESTICIDES			
OOC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
				% Composition	
Sol	Lacquer Thinner	-	Poured on Vegetation		
	- Toluene	108-88-3		15	
	-Hydrocarbon Solvent	64-742-89-9		20	
	-V.M. & P. Naphtha	64-742-48-9		15	
COMPONENTS	-Xylene	1330-20-7		5	
	-Methanol	67-56-1		< 5	
	-Ethanol	64-17-5		5	
	-2-Methyl-1-Propanol	78-83-1		5	
	-2-Butoxyethanol	111-76-2		< 5	
	-Acetone	67-64-1		20	
	-Methyl n-Amyl Ketone	110-43-0		< 5	
	-Isobutyl Acetate	110-19-0		5	

V FEEDSTOCKS (See Appendix for CAS Numbers) Not Applicable

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

- Interview with Mr. David B. Oster
- Mat'l Safety Data Sheet

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: NY
02 SITE NUMBER:

II HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A GROUNDWATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: None
02 [ ] OBSERVED (DATE _____) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Site is located in a commercial area. No residences downgradient. All water is supplied by Troy City - (Tomhannock Reservoir)

01 [X] B SURFACE WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: Unknown
02 [ ] OBSERVED (DATE _____) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

The nearest body of water is the Hudson River, which is 380 feet west of the site.

01 [ ] C CONTAMINATION OF AIR
03 POPULATION POTENTIALLY AFFECTED: _____
02 [ ] OBSERVED (DATE _____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

N/A

01 [ ] D FIRE/EXPLOSIVE CONDITIONS
03 POPULATION POTENTIALLY AFFECTED: _____
02 [ ] OBSERVED (DATE _____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

N/A

01 [X] E DIRECT CONTACT
03 POPULATION POTENTIALLY AFFECTED: 15,000
02 [ ] OBSERVED (DATE _____) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Population within one mile radius may be potentially affected by direct contact with hazardous substances dumped on parking lot vegetation.

01 [X] F CONTAMINATION OF SOIL
03 AREA POTENTIALLY AFFECTED: Unknown (Acres)
02 [ ] OBSERVED (DATE _____) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Area of soil contamination is probably very small, since the spent solvent is of highly volatile nature and was poured on vegetation in small quantities (1 Pt. - 1 Qt).

01 [ ] G DRINKING WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: _____
02 [ ] OBSERVED (DATE _____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

There is no groundwater used for drinking within a 3-mile radius of the site, and east of the Hudson River.

01 [ ] H WORKER EXPOSURE/INJURY
03 WORKERS POTENTIALLY AFFECTED: _____
02 [ ] OBSERVED (DATE _____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

N/A

01 [ ] I POPULATION EXPOSURE/INJURY
03 POPULATION POTENTIALLY AFFECTED: _____
02 [ ] OBSERVED (DATE _____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

N/A

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER:

II HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A DAMAGE TO FLORA
04 NARRATIVE DESCRIPTION
02 [ ] OBSERVED DATE _____ X POTENTIAL [ ] ALLEGED

Spent solvent was poured on vegetation in an attempt to control it. No damage to vegetation

01 [ ] B DAMAGE TO FAUNA
04 NARRATIVE DESCRIPTION
02 [ ] OBSERVED DATE _____ [ ] POTENTIAL [ ] ALLEGED

N/A

01 [ ] C CONTAMINATION OF FOOD CHAIN
04 NARRATIVE DESCRIPTION
02 [ ] OBSERVED DATE _____ [ ] POTENTIAL [ ] ALLEGED

N/A

01 [ ] M UNSTABLE CONTAINMENT OF WASTES
03 POPULATION POTENTIALLY AFFECTED _____
02 [ ] OBSERVED DATE _____ [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

N/A

01 [ ] N DAMAGE TO OFFSITE PROPERTY
04 NARRATIVE DESCRIPTION
02 [ ] OBSERVED DATE _____ [ ] POTENTIAL [ ] ALLEGED

N/A

01 [ ] O CONTAMINATION OF SEWERS STORM DRAINS WWTPs
04 NARRATIVE DESCRIPTION
02 [ ] OBSERVED DATE _____ [ ] POTENTIAL [ ] ALLEGED

None observed or reported.

01 [X] P ILLEGAL UNAUTHORIZED DUMPING
04 NARRATIVE DESCRIPTION
02 [ ] OBSERVED DATE _____ X POTENTIAL [ ] ALLEGED

Disposal method was illegal. This method of disposal has been stopped by the company.

05 DESCRIPTION OF ANY OTHER KNOWN POTENTIAL OR ALLEGED HAZARDS

None known

III TOTAL POPULATION POTENTIALLY AFFECTED _____

IV COMMENTS

There is no groundwater use in the area, and there are no residences downgradient of the site.

V SOURCES OF INFORMATION

- Interview with David B. Oster
- NYSDEC Files

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I IDENTIFICATION
01 STATE: NY
02 SITE NUMBER:

II PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Enter all that apply)	02 PERMIT NUMBER(S)	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☐ A. NPDES				
☐ B. UIC				
☐ C. AIR				
☐ D. RCRA				
☐ E. RCRA INTERIM STATUS				
☐ F. SPCC PLAN				
☐ G. STATE (Specify)				
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
☒ J. NONE	N/A			Small Generator

III SITE DESCRIPTION

01 STORAGE/DISPOSAL (Enter all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☐ A. SURFACE IMPOUNDMENT		
☐ B. PILES		
☐ C. DRUMS, ABOVE GROUND		
☐ D. TANK, ABOVE GROUND		
☐ E. TANK, BELOW GROUND		
☐ F. LANDFILL		
☐ G. LANDFARM		
☒ H. OPEN DUMP	300-400	Gallons
☐ I. OTHER (Specify)		

04 TREATMENT (Enter all that apply)
- ☐ A. INCINERATION
- ☐ B. UNDERGROUND INJECTION
- ☐ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☐ H. OTHER (Specify)

05 OTHER
- ☒ A. BUILDINGS ON SITE

Two Buildings

06 AREA OF SITE
0.01 (Acres)

07 COMMENTS

Spent solvents were poured on vegetation along perimeter of parking lot.

IV CONTAINMENT

01 CONTAINMENT OF WASTES (Enter one)
☐ A. ADEQUATE, SECURE ☐ B. MODERATE ☒ C. INADEQUATE, POOR ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

Waste was not contained at time of disposal.

V ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☒ YES ☐ NO

02 COMMENTS: Waste poured on vegetation is potentially within reach of passers-by.

VI SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

- Site Inspection
- Interview with David B. Oster
- NYSDEC Files

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE: NY | 02 SITE NUMBER:

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

	SURFACE	WELL
COMMUNITY	A X	B ☐
NON-COMMUNITY	C ☐	D ☐

02 STATUS

ENDANGERED	AFFECTED	MONITORED
A ☐	B ☐	C X
D ☐	E ☐	F ☐

03 DISTANCE TO SITE

A ___ (mi)
B ___ (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

X A. ONLY SOURCE FOR DRINKING
☐ B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available)
☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available)
X D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER: None within 3-mile R

03 DISTANCE TO NEAREST DRINKING WATER WELL: >3 (mi)

04 DEPTH TO GROUNDWATER: 12 (ft)

05 DIRECTION OF GROUNDWATER FLOW: Westward to Hudson R.

06 DEPTH TO AQUIFER OF CONCERN: 12 (ft)

07 POTENTIAL YIELD OF AQUIFER: * (gpd)

08 SOLE SOURCE AQUIFER: ☐ YES X NO

09 DESCRIPTION OF WELLS (Including usage, depth, and location relative to population and buildings)

*Estimated 4-5 gpm; erratic

10 RECHARGE AREA

X YES
☐ NO

COMMENTS: Recharge is primarily from rainfall

11 DISCHARGE AREA

☐ YES
X NO

COMMENTS:

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

X A. RESERVOIR, RECREATION, DRINKING WATER SOURCE
☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES
☐ C. COMMERCIAL, INDUSTRIAL
☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME	AFFECTED	DISTANCE TO SITE
Hudson River	X	380 Ft (mi)
	☐	(mi)
	☐	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A 15,000 (NO. OF PERSONS)	B >40,000 (NO. OF PERSONS)	C >55,000 (NO. OF PERSONS)

02 DISTANCE TO NEAREST POPULATION: <½ (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE: 2500

04 DISTANCE TO NEAREST OFF-SITE BUILDING: <½ (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

Site is located in a commercial area. For population data, see App. A.1.7. & App. A.1.18.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER:

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☒ A. 10^{-6} - 10^{-8} cm/sec ☐ B. 10^{-4} - 10^{-6} cm/sec ☐ C. 10^{-2} - 10^{-4} cm/sec ☐ D. GREATER THAN 10^{-2} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☒ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☐ B. RELATIVELY IMPERMEABLE (10^{-4} - 10^{-6} cm/sec) ☐ C. RELATIVELY PERMEABLE (10^{-2} - 10^{-4} cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH	
Unknown (ft.)	Less than 1 (ft.)	Unknown	

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
8.07 (in.)	2.3 (in.)	< 3 %	Westward	< 6.68 %

09 FLOOD POTENTIAL

SITE IS IN _____ YEAR FLOODPLAIN

10 ☐ SITE IS ON BARRIER ISLAND COASTAL HIGH HAZARD AREA RIVERINE FLOODWAY
None of the above.

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE	OTHER
A. None (mi.)	B. ** (mi.)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

None (mi.)

ENDANGERED SPECIES: None

13 LAND USE IN VICINITY

DISTANCE TO

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS; FORESTS OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AGRICULTURAL LANDS: AG LAND
A. < 1 (mi.)	B. _____ (mi.)	C. _____ (mi.)	D. _____ (mi.)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

Lacquer thinner was dumped along edges of the parking lot and along the wall of the largest building on site.

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

- Site inspection

** See App. A.1.19.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - SAMPLE AND FIELD INFORMATION

I IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	

II SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER			
SURFACE WATER			
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL			
VEGETATION			
OTHER	None		

III FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
Boundary	Area where solvents were dumped using tape meas.

IV PHOTOGRAPHS AND MAPS

01 TYPE X GROUND AERIAL

02 IN CUSTODY OF LeRoy Callender, P.C.
(NAME OF ORGANIZATION OR OFFICER)

01 MAP	02 LOCATION OF MAP
X YES NO	LeRoy Callender, P.C.

V OTHER FIELD DATA COLLECTED (DESCRIBE RESULTS OR ATTACH ADDITIONAL SHEETS)

VI SOURCES OF INFORMATION (CITE SPECIFIC REFERENCES, E.G., STATE FILES, SAMPLING REPORTS)

- Site inspection
- Interview with David B. Oster

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION
01 STATE: NY
02 SITE NUMBER:

II. CURRENT OWNER(S)

01 NAME: Geier & Bluhm
02 D+B NUMBER:
03 STREET ADDRESS (P.O. Box, RFD #, etc.): 594 River Street
04 SIC CODE:
05 CITY: Troy
06 STATE: NY
07 ZIP CODE: 12180

01 NAME:
02 D+B NUMBER:
03 STREET ADDRESS (P.O. Box, RFD #, etc.):
04 SIC CODE:
05 CITY:
06 STATE:
07 ZIP CODE:

01 NAME:
02 D+B NUMBER:
03 STREET ADDRESS (P.O. Box, RFD #, etc.):
04 SIC CODE:
05 CITY:
06 STATE:
07 ZIP CODE:

01 NAME:
02 D+B NUMBER:
03 STREET ADDRESS (P.O. Box, RFD #, etc.):
04 SIC CODE:
05 CITY:
06 STATE:
07 ZIP CODE:

PARENT COMPANY

08 NAME:
09 D+B NUMBER:
10 STREET ADDRESS (P.O. Box, RFD #, etc.):
11 SIC CODE:
12 CITY:
13 STATE:
14 ZIP CODE:

08 NAME:
09 D+B NUMBER:
10 STREET ADDRESS (P.O. Box, RFD #, etc.):
11 SIC CODE:
12 CITY:
13 STATE:
14 ZIP CODE:

08 NAME:
09 D+B NUMBER:
10 STREET ADDRESS (P.O. Box, RFD #, etc.):
11 SIC CODE:
12 CITY:
13 STATE:
14 ZIP CODE:

III. PREVIOUS OWNER(S) (List most recent first)

01 NAME: Singer Sewing Machine Co.
02 D+B NUMBER:
03 STREET ADDRESS (P.O. Box, RFD #, etc.): Trumbull Street
04 SIC CODE:
05 CITY: Elizabeth
06 STATE: N.J.
07 ZIP CODE:

01 NAME:
02 D+B NUMBER:
03 STREET ADDRESS (P.O. Box, RFD #, etc.):
04 SIC CODE:
05 CITY:
06 STATE:
07 ZIP CODE:

01 NAME:
02 D+B NUMBER:
03 STREET ADDRESS (P.O. Box, RFD #, etc.):
04 SIC CODE:
05 CITY:
06 STATE:
07 ZIP CODE:

IV. REALTY OWNER(S) (If applicable; list most recent first)

01 NAME:
02 D+B NUMBER:
03 STREET ADDRESS (P.O. Box, RFD #, etc.):
04 SIC CODE:
05 CITY:
06 STATE:
07 ZIP CODE:

01 NAME:
02 D+B NUMBER:
03 STREET ADDRESS (P.O. Box, RFD #, etc.):
04 SIC CODE:
05 CITY:
06 STATE:
07 ZIP CODE:

01 NAME:
02 D+B NUMBER:
03 STREET ADDRESS (P.O. Box, RFD #, etc.):
04 SIC CODE:
05 CITY:
06 STATE:
07 ZIP CODE:

V. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

Interview with David B. Oster, Vice President, Geier & Bluhm.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER:

II CURRENT OPERATOR

01 NAME: Geier & Bluhm
02 D+B NUMBER:
03 STREET ADDRESS: 594 River Street
04 SIC CODE:
05 CITY: Troy
06 STATE: NY
07 ZIP CODE: 12180
08 YEARS OF OPERATION: 13
09 NAME OF OWNER: Geier & Bluhm Corp.

OPERATOR'S PARENT COMPANY

10 NAME:
11 D+B NUMBER:
12 STREET ADDRESS:
13 SIC CODE:
14 CITY:
15 STATE:
16 ZIP CODE:

III. PREVIOUS OPERATOR(S)

01 NAME:
02 D+B NUMBER:
03 STREET ADDRESS:
04 SIC CODE:
05 CITY:
06 STATE:
07 ZIP CODE:
08 YEARS OF OPERATION:
09 NAME OF OWNER DURING THIS PERIOD:

PREVIOUS OPERATORS' PARENT COMPANIES

10 NAME:
11 D+B NUMBER:
12 STREET ADDRESS:
13 SIC CODE:
14 CITY:
15 STATE:
16 ZIP CODE:

01 NAME:
02 D+B NUMBER:
03 STREET ADDRESS:
04 SIC CODE:
05 CITY:
06 STATE:
07 ZIP CODE:
08 YEARS OF OPERATION:
09 NAME OF OWNER DURING THIS PERIOD:
10 NAME:
11 D+B NUMBER:
12 STREET ADDRESS:
13 SIC CODE:
14 CITY:
15 STATE:
16 ZIP CODE:

01 NAME:
02 D+B NUMBER:
03 STREET ADDRESS:
04 SIC CODE:
05 CITY:
06 STATE:
07 ZIP CODE:
08 YEARS OF OPERATION:
09 NAME OF OWNER DURING THIS PERIOD:
10 NAME:
11 D+B NUMBER:
12 STREET ADDRESS:
13 SIC CODE:
14 CITY:
15 STATE:
16 ZIP CODE:

IV. SOURCES OF INFORMATION

- Interview with David B. Oster

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - GENERATOR/TRANSPORTER INFORMATION

I IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	

II ON-SITE GENERATOR

01 NAME	02 D-B NUMBER
Geier & Bluhm	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	**04 SIC CODE**
594 River Street	
05 CITY	**06 STATE** / **07 ZIP CODE**
Troy	NY / 12180

III OFF-SITE GENERATOR(S)

01 NAME	02 D-B NUMBER	01 NAME	02 D-B NUMBER
Not Applicable			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D-B NUMBER	01 NAME	02 D-B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

IV TRANSPORTER(S)

01 NAME	02 D-B NUMBER	01 NAME	02 D-B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D-B NUMBER	01 NAME	02 D-B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

V SOURCES OF INFORMATION (Cite sources, e.g., state files, sample analysis, reports)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER:

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED | 02 DATE | 03 AGENCY
04 DESCRIPTION
None observed or reported

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED | 02 DATE | 03 AGENCY
04 DESCRIPTION
None observed or reported

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED | 02 DATE | 03 AGENCY
04 DESCRIPTION
None observed or reported

01 ☐ D. SPILLED MATERIAL REMOVED | 02 DATE | 03 AGENCY
04 DESCRIPTION
None observed or reported

01 ☐ E. CONTAMINATED SOIL REMOVED | 02 DATE | 03 AGENCY
04 DESCRIPTION
None observed or reported

01 ☐ F. WASTE REPACKAGED | 02 DATE | 03 AGENCY
04 DESCRIPTION
None observed or reported

01 ☒ G. WASTE DISPOSED ELSEWHERE | 02 DATE | 03 AGENCY
04 DESCRIPTION
Waste stored in cans and carted away by licensed haulers (West Central Environmental Co.)

01 ☐ H. ON SITE BURIAL | 02 DATE | 03 AGENCY
04 DESCRIPTION
None observed or reported

01 ☐ I. IN SITU CHEMICAL TREATMENT | 02 DATE | 03 AGENCY
04 DESCRIPTION
None observed or reported

01 ☐ J. IN SITU BIOLOGICAL TREATMENT | 02 DATE | 03 AGENCY
04 DESCRIPTION
None observed or reported

01 ☐ K. IN SITU PHYSICAL TREATMENT | 02 DATE | 03 AGENCY
04 DESCRIPTION
None observed or reported

01 ☐ L. ENCAPSULATION | 02 DATE | 03 AGENCY
04 DESCRIPTION
None observed or reported

01 ☐ M. EMERGENCY WASTE TREATMENT | 02 DATE | 03 AGENCY
04 DESCRIPTION
None observed or reported

01 ☐ N. CUTOFF WALLS | 02 DATE | 03 AGENCY
04 DESCRIPTION
None observed or reported

01 ☐ O. EMERGENCY DIKING SURFACE WATER DIVERSION | 02 DATE | 03 AGENCY
04 DESCRIPTION
None observed or reported

01 ☐ P. CUTOFF TRENCHES SUMP | 02 DATE | 03 AGENCY
04 DESCRIPTION
None observed or reported

01 ☐ Q. SUBSURFACE CUTOFF WALL | 02 DATE | 03 AGENCY
04 DESCRIPTION
None observed or reported

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER:

II. PAST RESPONSE ACTIVITIES

01 ☐ A BARRIER WALLS CONSTRUCTED | 02 DATE | 03 AGENCY
04 DESCRIPTION
None observed or reported.

01 ☐ S CAPPING/COVERING | 02 DATE | 03 AGENCY
04 DESCRIPTION
None observed or reported

01 ☐ T BULK TANKAGE REPAIRED | 02 DATE | 03 AGENCY
04 DESCRIPTION
None observed or reported

01 ☐ U GROUT CURTAIN CONSTRUCTED | 02 DATE | 03 AGENCY
04 DESCRIPTION
None observed or reported

01 ☐ V BOTTOM SEALED | 02 DATE | 03 AGENCY
04 DESCRIPTION
None observed or reported

01 ☐ W GAS CONTROL | 02 DATE | 03 AGENCY
04 DESCRIPTION
None observed or reported

01 ☐ X FIRE CONTROL | 02 DATE | 03 AGENCY
04 DESCRIPTION
None observed or reported

01 ☐ Y LEACHATE TREATMENT | 02 DATE | 03 AGENCY
04 DESCRIPTION
None observed or reported

01 ☐ Z AREA EVACUATED | 02 DATE | 03 AGENCY
04 DESCRIPTION
None observed or reported

01 ☐ 1 ACCESS TO SITE RESTRICTED | 02 DATE | 03 AGENCY
04 DESCRIPTION
None observed or reported

01 ☐ 2 POPULATION RELOCATED | 02 DATE | 03 AGENCY
04 DESCRIPTION
None observed or reported

01 ☒ 3 OTHER REMEDIAL ACTIVITIES | 02 DATE | 03 AGENCY
04 DESCRIPTION

The amount of generated waste has been decreased through the implementation of a new system for cleaning parts.

III. SOURCES OF INFORMATION

- Interview with David B. Oster
- Tour of facilities

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION

01 STATE: NY | 02 SITE NUMBER:

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY ENFORCEMENT ACTION YES X NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY ENFORCEMENT ACTION

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

- Interview with David B. Oster
- NYSDEC Files

6. ASSESSMENT OF DATA ADEQUACY AND RECOMMENDATIONS

6.1 ADEQUACY OF EXISTING DATA

The available data are considered insufficient to prepare a final HRS score for this site. However, based on site investigations, there is good reason to attempt to verify the presence of hazardous wastes on site and possibly confirm a release to ground water or surface water by obtaining anlytical data.

Surface Water

If soil sampling shows evidence of contamination, then it would be justifiable to sample and test the waters of the Hudson River at the nearest point to the site.

Ground Water

Soil sampling may provide sufficient evidence to require sampling and testing of ground water at the site to obtain analytical data to evaluate ground water contamination.

Air

Sampling of the air at the site is not required, because the practice of dumping hazardous waste at the site was discontinued in 1983.

6.2 RECOMMENDATIONS

It is recommended that soil sampling and testing be carried out around the perimeter of the parking lot. Soil samples shall be taken at each test-hole location, once from the layer between 6 and 12 inches in depth, and the second from the layer between 12 and 18 inches in depth. Should the testing of the soil samples indicate soil contamination greater than 10 ppm volatile organic compounds (VOC) or greater than 100 ppm total petroleum hydrocarbons (TPHC), (NYSDEC soil survey levels normally used as detectable limits), it is recommended that a compliance order be issued to excavate the contaminated soil and transport the same to a licensed disposal facility.

Appendix List

APPENDIX A.1.1.

GEIER & BLUHM, INC.
594 RIVER STREET • TROY, NEW YORK 12180 • (518) 272-6951
SPIRIT LEVELS

1/6

RECEIVED

March 29, 1985

Bill Ports
Bureau of Hazardous Waste Technology
Division of Solid and Hazardous Waste
N.Y.S. Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233-0001

Dear Mr. Ports,

I contacted you late last year concerning the disposal of potentially hazardous and non-hazardous material. Over many years we have accumulated this material and are now interested in disposing of it in an economical and safe method. During our telephone conversation you requested that I send you a list of material and you would help us determine safe methods of disposal. Enclosed is the list for your review with the best available descriptions for each item.

I would appreciate any help that you can give us in disposing of this material. If you cannot, please make recommendations as to reputable private companies that can take care of this waste.

Since this disposal process is long overdue we would appreciate your prompt attention to this matter. If you have any questions please contact me.

Very Truly Yours,

Geier & Bluhm, Inc.

David B. Oster

David B. Oster
Vice President

DBO/pc
CC: Irv Bonsel
N.Y.S. Dept of Environmental Conservation
Region 4 office
2176 Guilderland Avenue
Schenectady, N.Y. 12306

Geier & Bluhm, Inc.
194 River Street
Troy, N.Y. 12180

MAR 2 9 1985

Quant.	No. Containers	Description
1 Gal	1	MAGNUS METAL COATING P300 SERIES P302 GRAY
1 Gal	1	POLANE CATALYST V66 V27
1 Gal	1	LOGO BRASSLYFE M405
½ Gal	1	PRIMER MIL P 52192 COMP A
½ PT	1	SYNTHETIC IRON OXIDE RUST INHIBITING LACQUER PRIMER T.T. P. 664
½ PT	1	FOREST GREEN ENAMEL MIL-E-52798
½ GAL	1	OLIVE DRAB ENAMEL X-34087 TT-E-527
1 GAL	1	VINYL ZINC CHROMATE PRIMER MIL-P-15930-B
1 GAL	1	KEM FAST-DRI PRIMER GRAY E61 A1
1 GAL	1	EPOXY PRIMER MIL-P-52192 Comp A
1 Qt.	1	EPOXY PRIMER MIL-P-52192 Comp B
5 Qts	5	HYSOL PART A
5 Qts	5	HYSOL PART B
1 GAL	1	LACQUER PAINT 24087 MIL-L-14486
1 GAL	1	VARNISH MIL-V-173
1 GAL	1	ENAMEL PAINT 34087 TT-E 516
1½ GAL	2	ENAMEL BLACK PAINT 27038 TT-E-529
1 Qt	1	BLACK PAINT
1 GAL	1	DARK GREEN SOLAR + HEAT REFLECTING ENAMEL MIL-E-4606
1 GAL	1	OPEX LINE LACQUER - WHITE L60 W3
1 GAL	1	ZINC CHROMATE PRIMER TT-P-666
2 Qts	2	BAKING LACQUER
1 Qt	1	OPEX INDUSTRIAL LACQUER Lt. BLUE L61 L30
1 Qt	1	BLACK CRYSTAL LACQUER C4771
1 Pt.	1	PAINT MIL-P-52192
½ Pt	1	MARINE CORP GREEN TTE-485 TYPE 4
½ Pt	1	INSTRUMENT BAKING LACQUER

Geier & Bluhm, Inc.
594 River Street
Troy, N.Y. 12180

MAR 2 9 1985

QUANT.	NO. CONT.	DESCRIPTION
1/8 PT	1	HELOIS LACQUER RICH
1 GAL	1	2710 BLACK AIR DRY ENAMEL
3 GAL	3	OLIVE DRAB ENAMEL X-24087 TT-E-529A Class A
4 QT	4	DUPONT FLOW KOTE RUBBER BASE PAINT NO. 1355
1 Qt	1	PEP-EPOXY ENAMEL - COMP A
2 Qt	2	PEP-EPOXY ACTIVATOR B
1 GAL	1	RED BAKING LACQUER
1/2 GAL	1	SEMI-GLOSS ENAMEL - MARINE CORP GREEN NO. 23 TT-E-48
1 GAL	1	WHITE SHELLAC
1/4 GAL	1	VARNISH
2 GAL	2	SYNTHETIC PAINT PRIMER TT-P-636
1/4 GAL	1	POLANE SILVER GRAY PAINT
9 Qt	9	CERAMIC PAINT - VARIOUS COLORS MFG: FERRO
1 1/2 PT	3	BLUE CERAMIC PAINT NO. 2106 in 175 OIL MFG: DRAKENFELD
2 PT	2	SQUEEGEE OIL NO. 175 MFG: DRAKENFELD
1 PT	1	LINSEED OIL
1 GAL	1	PRESTO-KLEEN NSC-1
1 GAL	1	TECTYL 502C PERSERVATIVE MIL-C-16173C Grade 2

Geier & Bluhm, Inc.
594 River Street
Troy, N.Y. 12180

MAR 2 9 1985

QUANT.	NO. CONT.	DESCRIPTION
1½ GAL	2	CHROMIC ACID 10%
1 PT	1	ACETIC ACID
4 lbs.	5	CHROMIC ACID - SOLID
2 oz	1	OXALIC ACID
1 PT	1	NITRIC ACID HNO_3
½ PT	1	HYDROCHLORIC ACID HCl
1 PT	1	SULFURIC ACID H_2SO_4
¼ PT	1	LACTIC ACID
½ PT	1	OXALIC ACID
3½ PT	6	PHOSPHORIC ACID H_3PO_4
1 lb	1	CHROMIUM TRIOXIDE MERCK (CHROMIC ACID) SOLID
1/10 PT	1	TOLUENE
¾ GAL	1	BENZENE, BENZOL
1½ GAL	2	HEPTANE
¼ PT	1	ALKYL ARYL POLYETHER ALCOHOL
2 lbs.	1	POLYGLYCOL
6 PT	6	GLYCERIN
2 PT	4	TOLUOL (TOLUENE)
½ PT	1	GLYCERIN
1 GAL	2	METHYL ALCOHOL MERCK (METHANOL)
1 GAL	1	HEPTANE
1⅛ GAL	2	MINERAL SPIRITS - SHELL 8181
½ PT	1	DIETHYLENE GLYCOL - MONO BUTYL ETHER
2½ PT	1	HEPTANE $CH_3(CH_2)_5CH_3$
2 GAL	2	PROPYLENE GLYCOL
½ PT	1	METHYL ETHYL KEYTONE

Geier & Bluhm, Inc.
594 River Street
Troy, N.Y. 12180

MAR 2 9 1985

QUANT	NO. CONT.	DESCRIPTION
5 oz.	2	AMMONIUM DICHROMATE - SOLID
1 PT	1	AMMONIUM DICHROMATE SOLUTION 4oz. to 1 Qt of H_2O
1 oz	1	MERCURY
2 lbs.	1	FERRIC CHLORIDE $FeCl \cdot Cl_4H_2O$ SOLID
2½ lbs	1	AMMONIUM ACETATE CH_3COONH_4 SOLID
1 Qt.	1	SODIUM DICHROMATE - AQUEOUS SOLUTION 5%
1 Qt.	1	AQUEOUS SOLUTION - NITRIC ACID 20%, SODIUM DICHROMATE 2%
¾ lbs.	1	AMMONIUM BIFLUORIDE $NH_4F \cdot HF$ (SOLID)
225 Grams	1	AMMONIUM CHLORIDE NH_4Cl
¾ lbs.	1	SODIUM DICHROMATE $Na_2Cr_2O_2 \cdot 2H_2O$ SOLID
2 GAL	2	GLYPTAL 74100 Comp. MFG. G.E.
1 Gram	1	BROMOPHENOL BLUE
1PT	1	VOLCK OIL SPRAY } Weed killers + pesticides
1 GAL	1	WEED KILLER } Weed killers + pesticides
1 GAL	1	MALATHION } Weed killers + pesticides
30 GAL ~~5 CONT~~	5	FLOOR WAX
6 GAL	1	FLOOR STRIPPER
3 GAL	1	SOLVENT EMULSION DEGREASER - FOR FLOOR
¼ GAL	1	MASONERY CONDITIONER
½ GAL	1	COOLANT CONCENTRATE - MACHINE CAMP BELLEVUE
½ GAL	1	5% SILICONE WATER REPELLENT

Geier & Bluhm, Inc.
594 River Street
Troy, N.Y. 12180

MAR 2 9 1985

QUANT.	NO. CONT.	DESCRIPTION	
3 GAL	3	OAKITE COMPOUND NO. 36 for Milkstone Removal	
1 GAL	1	LOCTITE ACTIVATOR 707	
1 PT	1	SS 4120 SILICONE PRIMER	G.E.
1/2 PT	1	3M NO. EC801	
5 lbs.	1	FISHER BATH WAX	
1/2 GAL	1	ARALDITE HARDENER HN-951	CIBA COMP.
1/2 QT	1	BONDMASTER INDUSTRIAL ADHESIVE NO. CH-22	PHS. Plate Glo:
1 PT	1	LACQUER CEMENT NO. 1276 (GLYPTAL)	G.E.
1 QT	1	DECAL ADHESIVE NO. 2040	NAZ-DAR
2 QT	2	CLEAR LACQUER PASTE - DECALCOMANIA # OL-170	NAZ-DAR
1 QT	1	BLACK LACQUER DECALCOMANIA # OL-111	NAZ-DAR
1 QT	1	SCREEN PROCESS ENAMEL INK BLACK	SHERWIN-WM:
1 QT	1	SCREEN PROCESS GLOSS EXTENDER INK 2897	COLONIAL
4/5 GAL	2	MINERAL OIL SOLUTIONS - VARIOUS	
1 2/5 GAL	6	MINERAL SPIRITS SOLUTIONS - VARIOUS	
3/4 GAL	1	IRIDITE NO. 17-P + WATER	
1 CAN	1	AMWAY INDUSTRIAL CLEANER	
1/2 CAN	1/2	SAFE FLOOR WAX	

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Hazardous Waste MANIFEST SECTION, State Office Building, Hartford, CT 06106

APPENDIX A1.2.

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of 2	Information in the shaded areas is not required by Federal law, but may be required by State law.
	N Y D 0 0 0 7 0 8 2 7 1	85013		

Generator's Name and Mailing Address
West Central Environmental
PO Box 83 Rensselaer NY 12144

4. Generator's Phone (518) 272-6891

A. State Manifest Document Number: CT A 0077151

B. State Gen. ID: SAME

C. State Tran. ID: S-39160 NY4A-106

D. Tran. Phone: 518272-6891

E. State Tran. ID:

F. Tran. Phone:

5. Transporter 1 Company Name: West Central Environmental

6. US EPA ID Number: NYD000708271

7. Transporter 2 Company Name:

8. US EPA ID Number:

9. Designated Facility Name and Site Address
Environmental Waste Removal
130 Freight St
Waterbury, CT 06702

10. US EPA ID Number: CTD072138969

G. State Facility's ID: SAME

H. Facility's Phone: 203755-2263

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	Waste No
a. waste corrosive liquid, NOS — corrosive material — UN 1760	002	DM	400	P	D002
b. waste corrosive liquid, poisonous NOS — corrosive material — UN 2922	001	DM	200	P	D002
c. waste combustible liquid, NOS — combustible liquid — NA 1993	001	DM	200	P	D001
d. waste flammable liquid, NOS — flammable — UN 1993	003	DM	600	P	D001

Additional Description for Materials Listed Above

a. see packing list
b. see packing list
c. see packing list
d. see packing list

K. Handling Codes for Wastes Listed Above

a. c.
b. d.

15. Special Handling Instructions and Additional Information

A,B,C,D are package lab chemicals

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations, and all applicable State laws and regulations.

Printed/Typed Name: David L Cummings Jr. | Signature | Date: Month 08 Day 12 Year 85

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: CURT ZABEL | Signature | Date: Month 08 Day 12 Year 85

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date: Month Day Year

19. Discrepancy Indication Space

Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name | Signature | Date: Month Day Year

EPA Form 8700 22 (3-84) Form Approved. OMB No. 2050-0039 Expires 7-31-86

COPY 5: TRANSPORTER 1 – Retained by Transporter

COPY 5: TRANSPORTER 1 – Retained by Transporter

CT A 0077151

2/2

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

UNIFORM HAZARDOUS WASTE MANIFEST

Generator's US EPA ID No.: NYD000708271 | Manifest No.: 85013

2. Page 1 of 2 | Information in the shaded areas is not required by Federal law, but may be required by State law.

3. Generator's Name and Mailing Address
West Central Environmental
PO Box 83, Rensselaer, NY 12144
Generator's Phone (518) 272-6891

A. State Manifest Document Number: CT A 0077153
B. State Gen. ID: SAME
C. State Tran. ID: S-39160 NY4A-106
D. Tran. Phone: 518-272-6891
E. State Trans. ID:
F. Tran. Phone:
G. State Facility's ID: SAME
H. Facility's Phone: 203-755-2283

5. Transporter 1 Company Name: West Central Environmental
6. US EPA ID Number: NYD000708271

7. Transporter 2 Company Name:
8. US EPA ID Number:

9. Designated Facility Name and Site Address
Environmental Waste Removal
130 Freight St
Waterbury, CT 06702
10. US EPA ID Number: CTD072138969

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. hazardous waste ORM-E NA 9189 solid NOS	001	DM	200	P	D009
b.					
c.					
d.					

J. Additional Description for Materials Listed Above
a.
b.
c.
d. lab packs w/mercury

K. Handling Codes for Waste Listed Above
a.
b.
c.
d.

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations, and all applicable State laws and regulations.
Printed/Typed Name: David E Cummings Jr.
Signature:
Date: Month 08 Day 12 Year 85

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Curt ZABEL
Signature:
Date: Month 08 Day 12 Year 85

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Date: Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name:
Signature:
Date: Month Day Year

EPA Form 8700-22 (3-84) Form Approved. OMB No. 2050-0404 Expires 7-31-86

COPY 5: TRANSPORTER 1 – Retained by Transporter

COPY 5: TRANSPORTER 1 – Retained by Transporter

CT A 0077153

safety-kleen corp.

777 BIG TIMBER ROAD • ELGIN, ILLINOIS 60123

DUNS NO. 05106-0408

FOR SERVICE CALL

TRANSPORTER

FED. ID NO. 39-6090019

GENE BLACK

518-783-8080 0-100 PP

SCHEDULED SERVICE WEEK	SCHEDULED SERVICE TERRITORY	REFERENCE NUMBER
87- 7	03-08	172206

MANIFEST NUMBER XXXXX

App. A1.3.

GENERATOR

2-004-01-1552-5
GEIER & BLUHM INC
594 RIVER ST
TROY NY 12180
PRICES EFFECTIVE 01/01/87

BILL TO

SERVICE DATE	SALESMAN'S NO.	SALES SPECIALIST	SALES TAX EXEMPTION NUMBER	HANDLING CODE	CREDIT CODE	PORTION OVER 45 DAYS	PREVIOUS BALANCE	PORTION OVER 90 DAYS
2/20/87	4032	XXXX			C	XXXXXXX		

BUSINESS TYPE	CHAIN	CUSTOMER P.O. NUMBER	GENERATOR/CUSTOMER PHONE #	MAJOR INDUSTRIAL	O.C.	SVC P/S	PROD. P/S	SERVICE TAX	C.O.M.S. TAX	PRODUCT TAX
07	NO		518-272-6951	NO	NO	034	001	.07	.07	.07

MACHINE SERVICE SECTION

	MACHINE NUMBER	SERVICE CHARGE	SALES TAX	TOTAL CHARGE	SERVICE TERM	CHANGE SERVICE TO (WEEKS)	(INITIAL)	REMARKS
1	110-25279	86.50	6.06	92.56	12			
2								
3								
4								
5								
6								
7								
8								
9								
TOTAL SERVICE SECTION			$92.56					

MACHINE INSPECTION SECTION (PLEASE CHECK APPROPRIATE BOXES)

	GOOD / YES	POOR / NO
MACHINE CONDITION & CLEANLINESS	☑	☐
LAMP ASSEMBLY CONDITION	☑	☐
DECALS IN PLACE AND LEGIBLE	☑	☐
FUSIBLE LINK INSTALLED	☑	☐
EMERGENCY CLOSING OF LID UNOBSTRUCTED	☑	☐
MACHINE PROPERLY GROUNDED	☑	☐
LOCAL PHONE NO STICKER AFFIXED TO MACHINE	☑	☐

GENERATOR USA EPA ID NO.

GENERATOR STATE ID NO. 33-210-8454

UNIFORM HAZARDOUS WASTE MANIFEST INFORMATION

PAILS NO. DM	16 GAL. NO. DM	30 GAL. NO. DM	US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)
			Waste, Petroleum Naphtha, Combustible Liquid, UN 1255
	1		Waste, Compound, Cleaning, Liquid, Corrosive Material, NA 1760

I certify that my hazardous waste streams total less than 220 pounds (100 kg) for this calendar month and that I am not required to obtain an EPA identification number

GENERATOR'S INITIALS [signature]

Total Quantity = Number of Drums x Ave. Wt/Drum of: Pails 35, 16 Gal. 45, 30 Gal. 80

DESIGNATED FACILITY NAME AND ADDRESS: SAFETY-KLEEN CORP.
72 SICKER ROAD LATHAM, NY 12110

USA EPA ID NO. NYD000708206

STATE ID NO.

PRODUCT SALES SECTION

PRODUCT NUMBER	DEALER PRICE	U/M	QUANTITY DELIVERED	SALES AMOUNT	TAX	LINE TOTAL
101	43.50	CS				
104	49.00	CS				
105	47.50	CS				
106	49.00	CS				
107	43.50	CS				
108	49.00	CS				
602	[illegible]	EA				
604	15.50	EA				
610	2.78	EA				
611	2.78	EA				
619	3.77	EA				
666	28.80	BX				
10666	117.00	BX				

PRODUCT NUMBER	DEALER PRICE	U/M	QUANTITY DELIVERED	SALES AMOUNT	TAX	LINE TOTAL
609	65.00	EA				
612	9.85	PR				
600	3.70	EA				
613	10.60	EA				
614	7.40	EA				
615	6.50	EA				

PAYMENT RECEIVED SECTION

CASH ☐ / CHECK NUMBER	TOTAL RECEIVED	APPLY PAYMENT TO:
		☐ TODAYS SERVICE/SALE ☐ PREVIOUS BALANCE AS FOLLOWS

INV. # ______ AMOUNT $ ______

INV. # ______ AMOUNT $ ______

INV. # ______ AMOUNT $ ______

TOTAL PRODUCT AMOUNTS

TOTAL SERVICE AMOUNT (FROM ABOVE) 92.56

TOTAL DUE $

CHARGE MY ACCOUNT FOR THIS TRANSACTION UNLESS OTHERWISE INDICATED IN THE PAYMENT RECEIVED SECTION. ALSO I HAVE NOTED THE MACHINE INSPECTION SECTION ABOVE AND THE PRESENCE OF MACHINE, SOLVENT AND RECLAMATION AGREEMENT INFORMATION ON THE REVERSE SIDE. THE ABOVE AMOUNT IS SUBJECT TO AN INTEREST CHARGE OF THE LESSOR OF 1½% PER MONTH (18% PER ANNUM) OR THE MAXIMUM RATE ALLOWED BY LAW ON ANY UNPAID INVOICES THAT ARE NOT

IN THE EVENT OF DEFAULT, SAFETY-KLEEN SHALL BE ENTITLED TO RECOVER COSTS OF COLLECTION, INCLUDING REASONABLE ATTORNEY'S FEES.

[signature]

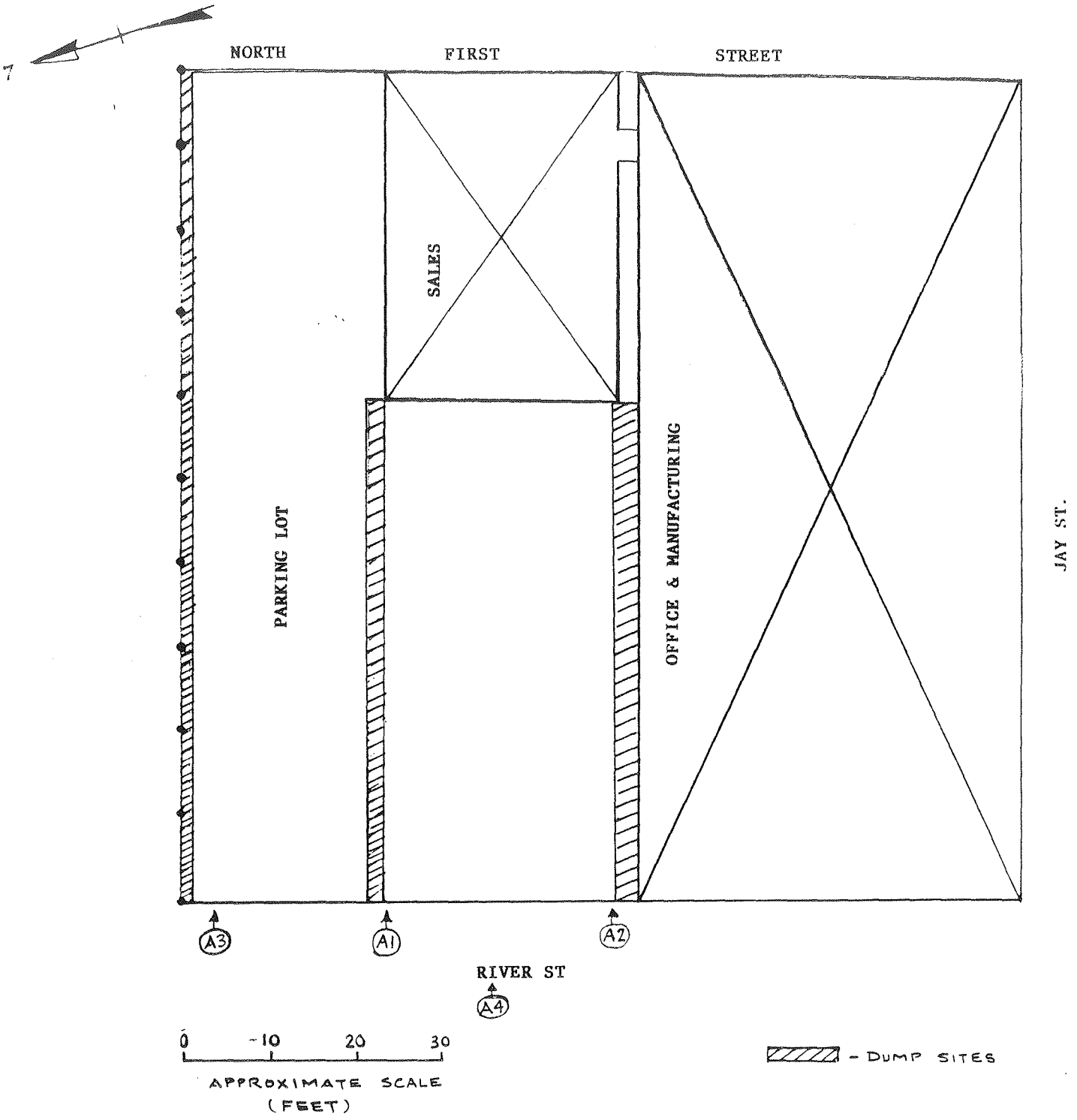
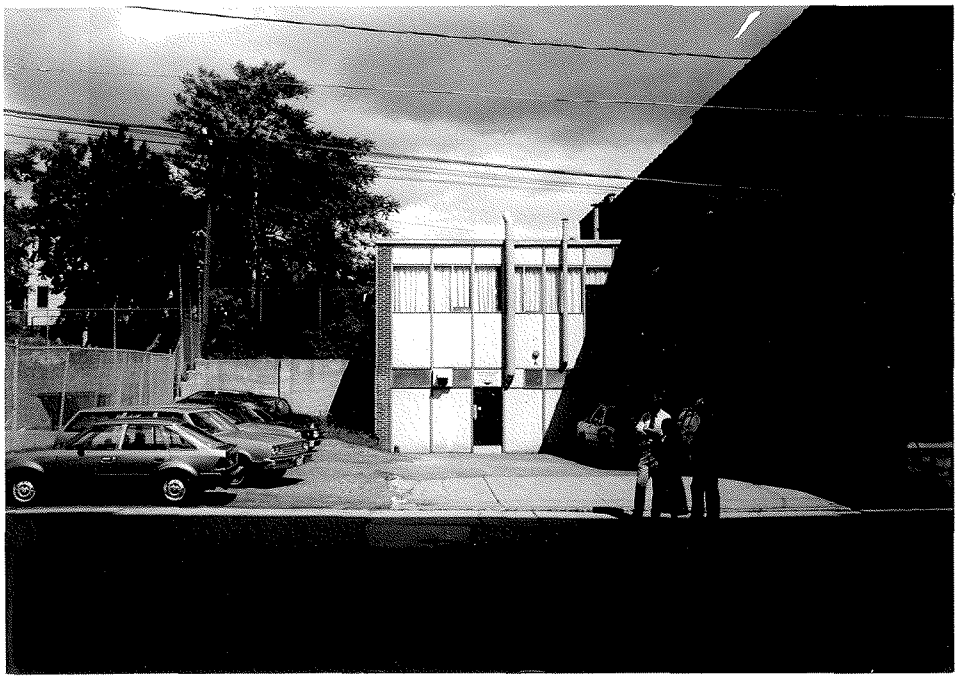


FIGURE 1-3 SITE SKETCH GEIER & BLUHM SITE.

A1. SOUTHEAST PERIMETER OF PARKING LOT (RUNNING INTO PHOTO).

A2. SOUTHEAST WALL OF MAIN BUILDING.

A3. SOUTHEAST FENCE BORDERING THE PARKING LOT.



A4. ENTIRE SITE, ADJACENT TO RIVER STREET.

'68 PHOTO BASE MAP # IJJ-191

Scale 1" = 132'

APPENDIX A.1.6

311 Urban Land

Heavily built up urban areas where it is not feasible to examine the soil.

YOUR SITE LOCATION

265UR Nassau-Rock outcrop complex, rolling slopes, 1 to 16 percent slopes

265H Nassau-Rock outcrop complex, hilly, 16 to 65 percent slopes

Nassau part: Shallow, excessively drained, low lime, shaly loam soil formed in till that is 10 to 20 inches thick over folded shale or slate bedrock. The available water capacity is low to very low. Permeability is moderate.

Rock outcrop part: Scattered shale or slate bedrock exposures or soil too thin to support vegetation.

1B Hudson silt loam, 3 to 8 percent slopes, gently sloping

1C Hudson " " 8 to 15 percent slopes, sloping

1H Hudson " " 10 to 30 percent slopes, hilly

Deep, moderately well drained, medium or high lime, clayey soil formed in lake-laid deposits. The available water capacity is high. Permeability is slow or very slow. These soils are wet from mid-fall to early spring due to a temporary seasonal perched water table.

HILLSIDE 6-600' E

122U Nassau-Manlius complex, undulating, 1 to 8 percent slopes

122R Nassau-Manlius complex, rolling, 5 to 15 percent slopes

HILLSIDE 600-800' E

Nassau part: Shallow, excessively drained, low lime, shaly loam soil formed in till that is 10 to 20 inches thick over folded shale or slate bedrock. Available water capacity is very low to moderate. Permeability is moderate.

Manlius part: Moderately deep, well to excessively drained low lime, shaly loam soil formed in till that is 20 to 40 inches thick over folded shale or slate bedrock. Available water capacity is very low to moderate. Permeability is moderate.

265 MORE DETAIL

NY0093 SOIL INTERPRETATIONS RECORD

MLRA(S): 100, 101, 140, 142, 144A, 145
REV. HEW,RDB, 6-83
LITHIC DYSTROCHREPTS, LOAMY-SKELETAL, MIXED, MESIC

NASSAU SERIES

THE NASSAU SERIES CONSISTS OF SHALLOW, SOMEWHAT EXCESSIVELY DRAINED SOILS ON UPLANDS. THEY FORMED IN GLACIAL TILL. TYPICALLY THESE SOILS HAVE A VERY DARK GRAYISH BROWN SHALY SILT LOAM SURFACE LAYER 6 INCHES THICK. THE SUBSOIL FROM 6 TO 16 INCHES IS YELLOWISH BROWN AND BROWN VERY SHALY SILT LOAM. HARD SHALE AND SLATE BEDROCK IS AT 16 INCHES. SLOPES RANGE FROM 0 TO 65 PERCENT.

ESTIMATED SOIL PROPERTIES (A)

DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHTO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO 4	10	40	200	LIQUID LIMIT	PLASTICITY INDEX
0-6	SIL, L	ML, SM, CL-ML, SM-SC	A-4	0-5	80-90	75-85	65-80	45-75	25-37	4-10
0-6	SH-SIL, SH-L	ML, GM, SM, CL-ML	A-2, A-4	5-20	55-85	50-80	40-75	25-70	25-37	4-10
0-6	SHV-SIL, SHV-L	GM, GM-GC	A-2, A-4, A-1	5-20	30-60	25-55	20-55	15-50	25-35	4-10
6-16	SHV-SIL, SHV-L	GM, GM-GC	A-2, A-4, A-1	10-25	30-60	25-55	20-55	15-50	25-35	4-10
16	UWB									

DEPTH (IN.)	CLAY (PCT)	MOIST BULK DENSITY (G/CM3)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (PH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	EROSION FACTORS K	EROSION FACTORS T	WIND EROD. GROUP	ORGANIC MATTER (PCT)	CORROSIVITY STEEL	CORROSIVITY CONCRETE
0-6	1-10	1.10-1.40	0.6-2.0	0.13-0.17	4.5-5.5	-	LOW	.32	2	-	3-5	LOW	HIGH
0-6	1-10	1.10-1.40	0.6-2.0	0.08-0.16	4.5-5.5	-	LOW	.20	2	-	3-5		
0-6	1-10	1.10-1.40	0.6-2.0	0.07-0.12	4.5-5.5	-	LOW	.20	2	-	3-5		
6-16	1-10	1.20-1.50	0.6-2.0	0.07-0.12	4.5-5.5	-	LOW	.20					
16													

FLOODING FREQUENCY	FLOODING DURATION	FLOODING MONTHS	HIGH WATER TABLE DEPTH (FT)	HIGH WATER TABLE KIND	HIGH WATER TABLE MONTHS	CEMENTED PAN DEPTH (IN)	CEMENTED PAN HARDNESS	BEDROCK DEPTH (IN)	BEDROCK HARDNESS	SUBSIDENCE INIT. (IN)	SUBSIDENCE TOTAL (IN)	HYD GRP	POTENTIAL FROST ACTION
NONE			>6.0			-		10-20	HARD	-		C	MODERATE

SANITARY FACILITIES (B)

SEPTIC TANK ABSORPTION FIELDS	0-15%: SEVERE-DEPTH TO ROCK 15+%: SEVERE-SLOPE,DEPTH TO ROCK
SEWAGE LAGOON AREAS	0-7%: SEVERE-DEPTH TO ROCK 7+%: SEVERE-SLOPE,DEPTH TO ROCK
SANITARY LANDFILL (TRENCH)	0-15%: SEVERE-DEPTH TO ROCK 15+%: SEVERE-SLOPE,DEPTH TO ROCK
SANITARY LANDFILL (AREA)	0-15%: SEVERE-DEPTH TO ROCK 15+%: SEVERE-SLOPE,DEPTH TO ROCK
DAILY COVER FOR LANDFILL	0-15%: POOR-AREA RECLAIM,SMALL STONES 15+%: POOR-SLOPE,AREA RECLAIM,SMALL STONES

BUILDING SITE DEVELOPMENT (B)

SHALLOW EXCAVATIONS	0-15%: SEVERE-DEPTH TO ROCK 15+%: SEVERE-SLOPE,DEPTH TO ROCK
DWELLINGS WITHOUT BASEMENTS	0-15%: SEVERE-DEPTH TO ROCK 15+%: SEVERE-SLOPE,DEPTH TO ROCK
DWELLINGS WITH BASEMENTS	0-15%: SEVERE-DEPTH TO ROCK 15+%: SEVERE-SLOPE,DEPTH TO ROCK
SMALL COMMERCIAL BUILDINGS	0-8%: SEVERE-DEPTH TO ROCK 8+%: SEVERE-SLOPE,DEPTH TO ROCK
LOCAL ROADS AND STREETS	0-15%: SEVERE-DEPTH TO ROCK 15+%: SEVERE-SLOPE,DEPTH TO ROCK
LAWNS, LANDSCAPING AND GOLF FAIRWAYS	0-15% SIL,L,SH: SEVERE-THIN LAYER 15+% SIL,L,SH: SEVERE-SLOPE,THIN LAYER 0-15% SHV: SEVERE-SMALL STONES,THIN LAYER 15+%SHV:SEVERE-SMALL STONES,SLOPE,THIN LAYER

REGIONAL INTERPRETATIONS

CONSTRUCTION MATERIAL (B)

ROADFILL	0-25%: POOR-THIN LAYER,AREA RECLAIM 25+%: POOR-SLOPE,THIN LAYER,AREA RECLAIM
SAND	IMPROBABLE-EXCESS FINES
GRAVEL	IMPROBABLE-EXCESS FINES
TOPSOIL	0-15%: POOR-AREA RECLAIM,SMALL STONES 15+%: POOR-SLOPE,AREA RECLAIM,SMALL STONES

WATER MANAGEMENT (B)

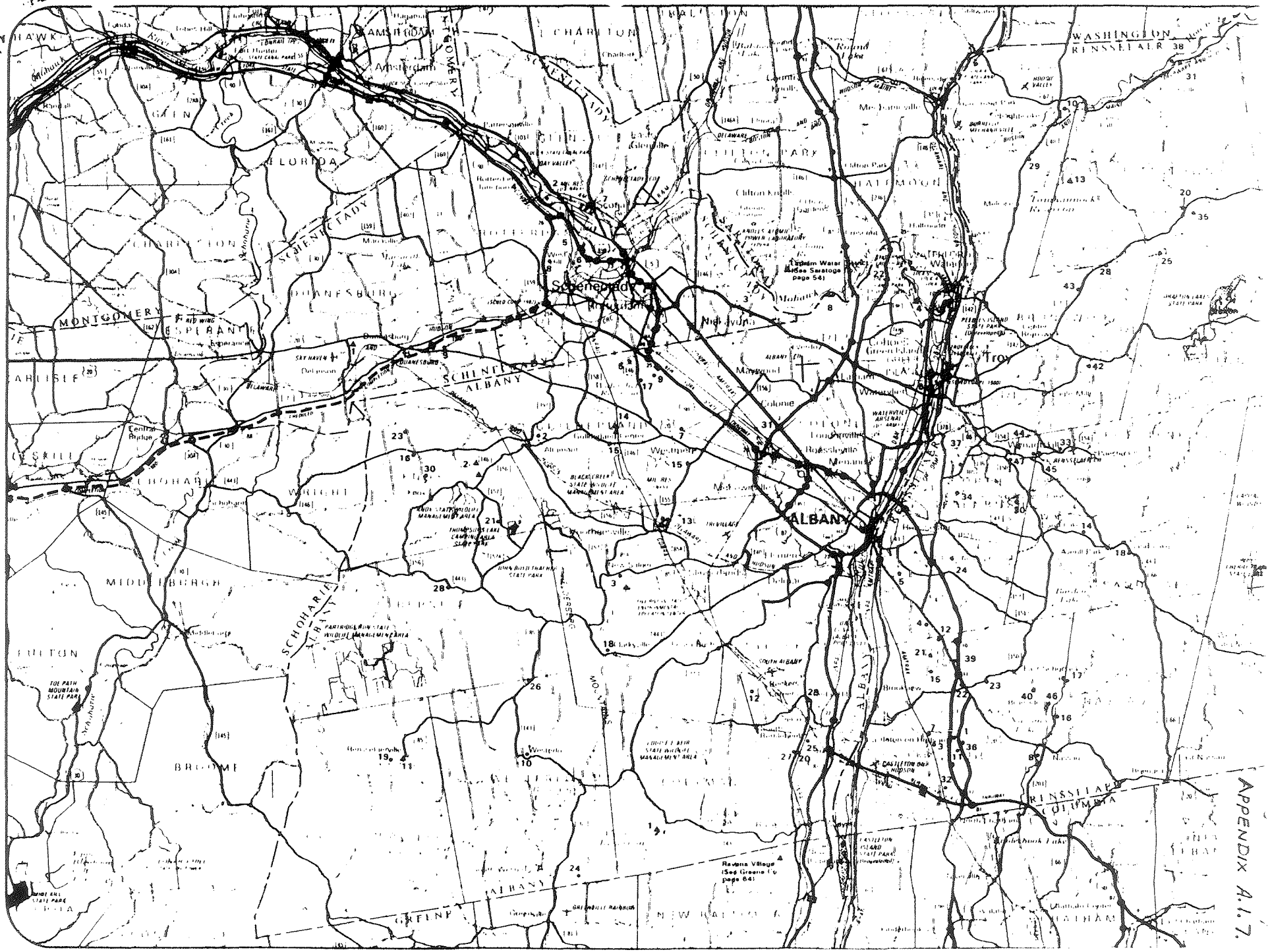
POND RESERVOIR AREA	0-8%: SEVERE-DEPTH TO ROCK 8+%: SEVERE-DEPTH TO ROCK,SLOPE
EMBANKMENTS DIKES AND LEVEES	SEVERE-SEEPAGE,THIN LAYER
EXCAVATED PONDS AQUIFER FED	SEVERE-NO WATER
DRAINAGE	DEEP TO WATER
IRRIGATION	0-3%: DROUGHTY,DEPTH TO ROCK 3+%: DROUGHTY,DEPTH TO ROCK,SLOPE
TERRACES AND DIVERSIONS	0-8%: LARGE STONES,DEPTH TO ROCK 8+%: SLOPE,LARGE STONES,DEPTH TO ROCK
GRASSED WATERWAYS	0-8%: LARGE STONES,DROUGHTY,DEPTH TO ROCK 8+%: SLOPE,LARGE STONES,DROUGHTY

311 - NO INFO MORE

LOC ON OF COMMUNITY WATER SYSTEM SOURCES-1982

NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL PROTECTION
BUREAU OF PUBLIC WATER SUPPLY PROTECTION

ALBANY, RENSSI ER and SCHEI



APPENDIX A.1.7.

ALBANY COUNTY

ID NO	COMMUNITY WATER SYSTEM	POPULATION	SOURCE
Municipal Community			
1	Albany City	101767	Alcove Reservoir
2	Altamont Village	1518	Altamont Reservoirs 1 & 2, Wells
3	Bethlehem Water District #1	24000	Vly Creek Reservoir, Wells
4	Cohoes City	18144	Mohawk River
5	Fort Hunter Water District	500	Wells
6	Green Island Village	3100	Wells (Infiltration Gallery)
7	Guilderland Water District	450	Wells
8	Latham Water District (See also No 17 Saratoga Co, Page 54)	69688	Mohawk River, Wells
9	Lone Pine Water District	125	Wells
10	Northside Water District	90	Wells
	Ravena Village (See No 8 Greene Co, Page 64)	3100	
11	Rensselaerville Water District	114	Myosotis Lake
12	South Albany Water District	40	Wells
13	Voorheesville Village	3320	Wells
14	Watervliet City	11300	Watervliet Reservoir
15	Westmere Water District	15000	Watervliet Reservoir, Wells
Non Municipal Community			
16	Bremridan House for Senior Living	50	Wells
17	Carmen Courts	80	Wells
18	Country Manor	30	Wells
19	Edward R. Cass Youth Camp	70	Wells
20	Flemings Mobile Home Park	136	Wells
21	Green Acres	50	Wells
22	Isaacsen Mobile Home Park	40	Wells
23	Kountry Knolls	50	Wells
24	Maplefree Apartments	58	Wells
25	Meitak's Mobile Home Park	350	Wells
26	Old Orchard Estates	45	Wells
27	Pantages Mobile Home Park	200	Wells
28	Pine Mobile Home Park	90	Wells
29	Twenty Acres, Inc	60	Wells
30	Warren's Mobile Home Park	51	Wells
31	Whitestone Mobile Home Park	76	Wells

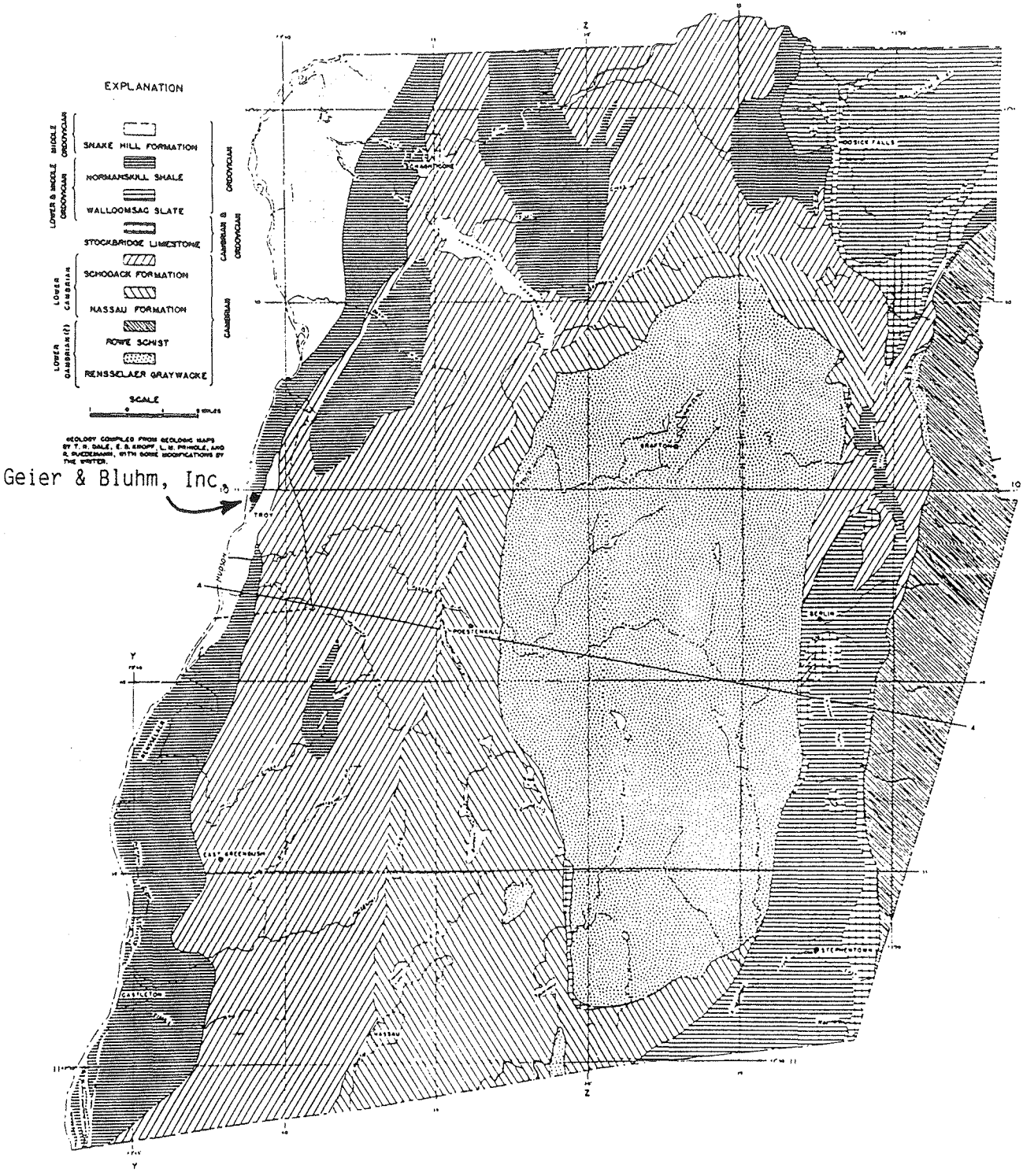
RENSSELAER COUNTY

ID NO	COMMUNITY WATER SYSTEM	POPULATION	SOURCE
Municipal Community			
1	Battisti Public Water Supply	185	Wells
2	Berlin Water District #2	655	Wells
3	Castleton-on-Hudson Village	2105	Vlockie Kill
4	East Greenbush Water Company	180	Wells
5	Hampton Manor-Hillview Water District #4	2241	Wells
6	Hoosick Falls Village	4100	Wells
7	Maple Hill Water Company	91	Wells
8	Nassau Village Public Water Supply	1306	Wells
9	Petersburg Water District	400	Wells
10	Schaghticoke Village Public Water Supply	860	Wells
11	Schodack Water District #1	375	Wells
12	Schodack Water District #2	120	Wells
13	Troy City Public Water Supply	55000	Tomhannock Reservoir
Non Municipal Community			
14	Bon Acre Trailer Park	120	Wells
15	Byers Apartments	28	Wells
16	Caprons Mobile Home Park	30	Wells
17	Cedar Acres Trailer Park	63	Wells
18	Charles Land Apartments	28	Wells
19	Chuckleberry Park	120	Wells
20	Country Acres Mobile Home Park	192	Wells
21	Country Village Apartments	50	Wells
22	Creekside Park	230	Wells
23	Curtis Mobile Homes	280	Wells
24	Drake Trailer Park	20	Wells
25	Drop Realty Mobile Home Park	27	Wells
26	Hoosac Meadows	65	Wells
27	Hoosac School	110	Wells (Infiltration Gallery, Springs)
28	KAJ Trailer Park	24	Wells
29	Kingsley Arms	NA	Wells
30	Lakeside Grove	80	Wells
31	Lakeside Mobile Home Park	30	Wells
32	Leavenworth Trailer Park	60	Wells
33	Lochvue Apartments	45	Wells
34	Maple Lane Apartments	NA	Wells
35	Mores Coach Sites	24	Wells
36	Pine Haven Mobile Court	300	Wells
37	Pirri Apartments	72	Wells
38	Ravenwood Estates	200	Wells
39	Rensselaer Mobile Homes Inc	212	Wells
40	Sundown Mobile Home Court	24	Wells
41	Sykes Trailer Park	25	Wells
42	Tamarac Apartments	36	Wells
43	Terrace Haven	112	Wells
44	Terry-Lynn Apartments	36	Wells
45	Vanderheyden Hall, Inc	115	Wells
46	Walter J. Smith Apartments	34	Wells
47	Willowbrook Apartments	28	Wells

SCHENECTADY COUNTY

ID NO	COMMUNITY WATER SYSTEM	POPULATION	SOURCE
Municipal Community			
1	Delanson Village Water Wor		
2	Glenville Water District #		
3	Niskayuna Water District #		
4	Rotterdam Water District N		
5	Rotterdam Water District S		
6	Schenectady City		
7	Scotia Village Water Work		
8	West Hill Water Company		
Non Municipal Community			
9	Laporte's Motel & Trailer		

GEOLOGIC MAP OF RENSSELAER COUNTY, NEW YORK



Source: Cushman, R.V., 1950. The Ground-Water Resources of Rensselaer County, New York, State of New York Department of Conservation Water Power and Control Commission Bulletin GW-21.

LeROY CALLENDER P.C. CONSULTING ENGINEERS
236 WEST 26th STREET • NEW YORK, N.Y. 10001
(212) 989-2900

INSPECTION REPORT

PROJECT:
Engineering Investigation of
Inactive Hazardous Wastes Sites
New York State Department of
Environmental Conservation

DATE OF INSPECTION: June 23, 1987
WEATHER: Sunny, Warm, Dry
INSPECTOR: M. Minter, D. Coyle
SITE CODE: 442019 (Geier & Bluhm)
EPA I.D.: None
TOWN: Troy
COUNTY: Rensselaer

The site is the perimeter of a company owned parking lot north of the manufacturing facility. The company is Geier & Bluhm, located at 594 River St. in Troy, New York. The site was inspected at approximately 2:30 PM on Tuesday June 23. Mr. David B. Oster, V.P. and Mr. Russell Oster were interviewed, and photos, depicting the areas where wastes were dumped, were taken at the site. A material classification list, site plan, and other documents were obtained from Mr. Oster.

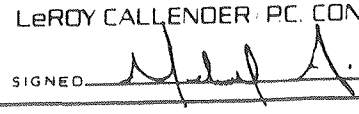
Geier & Bluhm is a company which manufactures spirit levels. Bowls of lacquer thinner used for cleaning parts and thinning paints were dumped on the vegetation along the edges of the parking lot. The frequency of dumping was at most 1 gallon/month. The period of dumping was approximately from 1970 to 1983.

Since 1984, the waste was accumulated and stored in cans which were carried away by licensed handlers. The amount of generated waste has also been decreased through the implementation of a new cleaning system.

There have been no state-mandated actions, although the Dept. of Health conducted a visual inspection in December 1986. Geier & Bluhm requested a copy of the report, but the Dept. of Health said, "it was not yet complete".

COPY TO:

LeROY CALLENDER P.C. CONSULTING ENGINEERS

SIGNED 

MATERIAL SAFETY DATA SHEET

23 FOR COATINGS, RESINS AND RELATED MATERIALS

(Approved by U.S. Department of Labor 'Essentially Similar' to form OSHA-20)

MANUFACTURER'S NAME
THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, Ohio 44115

EMERGENCY TELEPHONE NO.
(216) 566-2917

DATE OF PREPARATION
7-Aug-85

INFORMATION TELEPHONE NO.
(216) 566-2902

Section I -- PRODUCT IDENTIFICATION

PRODUCT NUMBER
R7 K 120

* - Trade Mark

PRODUCT NAME
OPEX* Lacquer Thinner

PRODUCT CLASS
Reducer

Section II -- HAZARDOUS INGREDIENTS

CAS No.	INGREDIENT	PERCENT	TLV-PPM	TLV-MG/M3	LEL	V.P.
64742-89-8	Lt. Aliphatic Hydrocarbon Solvent.	20	100.	364.	1.0	53.0
64742-48-9	V. M. & P. Naphtha.	15	300.	1350.	0.9	12.0
108-88-3	Toluene.	15	100.	375.	1.0	22.0
1330-20-7	Xylene.	5	100.	435.	1.0	5.9
67-56-1	Methanol	<5	200.	260.	6.0	92.0
64-17-5	Ethanol	5	1000.	1900.	3.3	44.0
78-83-1	2-Methyl-1-propanol	5	50.	150.	1.2	8.7
111-76-2	2-Butoxyethanol	<5	25.	120.	1.1	0.6
67-64-1	Acetone.	20	750.	1780.	2.2	180.0
110-43-0	Methyl n-Amyl Ketone.	<5	50.	235.	1.1	2.1
110-19-0	Isobutyl Acetate.	5	150.	700.	1.3	12.5

Section III -- PHYSICAL DATA

EVAPORATION RATE -- Slower than Ether

VAPOR DENSITY -- Heavier than Air

BOILING RANGE (F)	% VOLATILE VOLUME	WT/GAL
132 - 340	100.0	6.57

Section IV -- FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY CLASSIFICATION FLASH POINT 3 F TCC LEL 0.9

RED LABEL -- Extremely Flammable, Flash below 21 F

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Keep containers tightly closed. Isolate from heat, electrical equipment, sparks, and open flame. Closed containers may explode when exposed to extreme heat. Application to hot surfaces requires special precautions. During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

Continued on page 2

Section V -- HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE -- See Section II

EFFECTS OF OVEREXPOSURE

ACUTE: In a confined area vapors in high concentration are anesthetic. Overexposure may result in lightheadedness and staggering gait. Irritant to skin and upper respiratory system.

CHRONIC: Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

EMERGENCY AND FIRST AID PROCEDURES

If INHALED: If affected, remove from exposure. Restore breathing. Keep warm and quiet.

If on SKIN: Wash affected area thoroughly with soap and water. Remove contaminated clothing and launder before re-use.

If in EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.

If SWALLOWED: Never give anything by mouth to an unconscious person. DO NOT INDUCE VOMITING. Give several glasses of water. Seek medical attention.

Section VI -- REACTIVITY DATA

STABILITY -- Stable

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION -- Will Not Occur

Section VII -- SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Remove all sources of ignition. Ventilate and remove with inert absorbent.

WASTE DISPOSAL METHOD

Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State, and Local regulations regarding pollution.

Section VIII -- PROTECTION INFORMATION

PRECAUTIONS TO BE TAKEN IN USE

Use only with adequate ventilation. Avoid breathing vapor and spray mist. Avoid contact with skin and eyes. Wash hands after using.

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section II is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear respiratory device approved by NIOSH/MSHA for protection against materials in Section II.

PROTECTIVE GLOVES

Wear gloves which are recommended by glove supplier for protection against materials in Section II.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

Continued on page 3

APPENDIX A.1.10. 1/2

Section IX -- PRECAUTIONS

DOL STORAGE CATEGORY -- 1B

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Contents are EXTREMELY FLAMMABLE. Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.

During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.

Consult NFPA Code. Use approved Bonding and Grounding procedures.

Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally. Keep out of the reach of children.

OTHER PRECAUTIONS

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

TK # 10115

YY

APPENDIX A.1.1

GENERATOR FORM PART - I

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID AND HAZARDOUS WASTE

50 WOLF ROAD
ALBANY, NEW YORK 12233

1/2

HAZARDOUS WASTE DISPOSAL QUESTIONNAIRE

PLEASE COMPLETE AND RETURN TO THE ABOVE ADDRESS, ATTENTION: RTK PROCESSING UNIT, ROOM 525

ICS #: 4004842
GEIER & BLUHM INC.
DAVID OSTER
594 RIVER ST
TROY NY
12180

ICS CODE EPA ID NUMBER	
STATE	ZIP CODE
CONTACT NAME	TELEPHONE
STATE	ZIP CODE

PRINCIPAL BUSINESS OF PLANT: MFG levels

PLEASE ANSWER THE FOLLOWING QUESTIONS:

CHECK ONE

1. SINCE JANUARY 1, 1952 THRU DECEMBER 31, 1981, HAVE YOU OR ANY PREVIOUS OWNERS/OPERATORS OF THIS FACILITY GENERATED ANY HAZARDOUS WASTE (SEE INSTRUCTIONS) AT YOUR PRESENT FACILITY, PLANT, PROPERTY, ETC?

☑ YES ☐ NO

IF THE ANSWER IS **YES** COMPLETE QUESTIONS **1, 2, 3,** 4 AND **GENERATOR FORM PART - II**
IF THE ANSWER IS **NO** COMPLETE QUESTIONS 1 AND 4 AND RETURN THIS FORM

2. HAS THE FACILITY AT THIS LOCATION CHANGED ITS NAME OR IDENTIFICATION BECAUSE THERE WAS A CHANGE IN OWNERSHIP, CORPORATE NAME OR OPERATOR NAME, ETC. IF YES LIST THE NAMES BY WHICH THIS FACILITY HAS BEEN IDENTIFIED SINCE JANUARY 1, 1952 TO THE PRESENT.

☑ YES ☐ NO

NAME, ADDRESSES, AND TELEPHONE NUMBERS	DATES
(1) SINGER SEWING MACHINE COMPANY TRUMBULL STREET, ELIZABETH NEW JERSEY	1952 - 1956
(2) GEIER + BLUHM INC 594 RIVER ST. TROY N.Y. 12180 518 272-6451	1956 - PRESENT

3. DESCRIBE THE DOCUMENTS FROM WHICH DATA THAT IS INCLUDED ON PART-II WAS OBTAINED (SEE INSTRUCTIONS).

DOCUMENT DESCRIPTION	DATES

4. I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT INFORMATION SUPPLIED IS TRUE AND COMPLETE. FALSE STATEMENTS SUBMITTED ON THIS DOCUMENT ARE PUNISHABLE PURSUANT TO SECTION 210.45 OF THE PENAL LAW.

DAVID B. Oster / GEIER + BLUHM INC. V.P. 9/25/84

NAME OF OWNER/OPERATOR, PARTNER OFFICER OR AUTHORIZED REPRESENTATIVE — TITLE — DATE

David B. Oster — 518-272-6451

SIGNATURE — BUSINESS PHONE

NAME (Printed or Typed) DAVID B. OSTER

NAME GEIER & BLUMM INC	ICS NUMBER - EPA ID NUMBER 401-4542	
ADDRESS 594 RIVER ST.		
CITY TROY, N.Y.	STATE N.Y.	ZIP 12180

GENERATOR FORM

PART - II

G

DATE Sept. 25, 1984

1. HAZARDOUS WASTE DISPOSAL SITE (SEE INSTRUCTIONS)	2. DESCRIPTION OF HAZARDOUS WASTES DEPOSITED AT THIS LOCATION (SEE INSTRUCTIONS)	3. EPA WASTE CODE	4. WASTE DISPOSED OF QUANTITY OF WASTE (TONS)	FORM LIQUID	FORM SOLID	FORM DRUMS	5. WASTE DISPOSAL DATES	6. TRANSPORTER OF HAZARDOUS WASTE (SEE INSTRUCTIONS)
594 RIVER ST. TROY, N.Y. DISPOSAL WAS DONE ON SITE	SPENT CLEANING THINNER (LACQUER THINNER) WHICH WAS SPREAD ALONG ~~[illegible]~~ PARKING AREA TO CONTROL	~~D?~~ F001 F003	.075 TONS PER YEAR	X			UNKNOWN 1960 (est) -1983	NONE
	VEGETATION. THIS METHOD OF DISPOSAL WAS DEEMED UNACCEPTABLE THEREFORE WE ~~TH~~ HAVE STOPPED DOING							
	THIS. WE REALIZED THAT THIS CASE IS A RELATIVE SMALL AMOUNT OF WASTE ~~[illegible]~~ DISPOSED BUT							
	WE FELT WE HAD AN OBLIGATION TO REPORT THIS CASE.							

.5
20
300

2/

[GEIER & BLUHM] {SPIRIT LEVELS}

- 1984 - SURVEY REQUESTED BY G&B

- METHOD: BOWLS OF USED LACQUER THINNER { USED TO CLEAN PART. THIN PAINTS
  DUMPED ON GRASS, MAX. AMT.
  1 GALLON/MONTH

- BUILDING EXISTED ON SITE UNTIL EARLY 70's. (NO BASEMENT)
  PART OF G&B. BUILDING DEMOLISHED AND PARKING LOT INSTALLED. SUSPECT WASTE WAS PREV. ALLOWED TO EVAPORATE

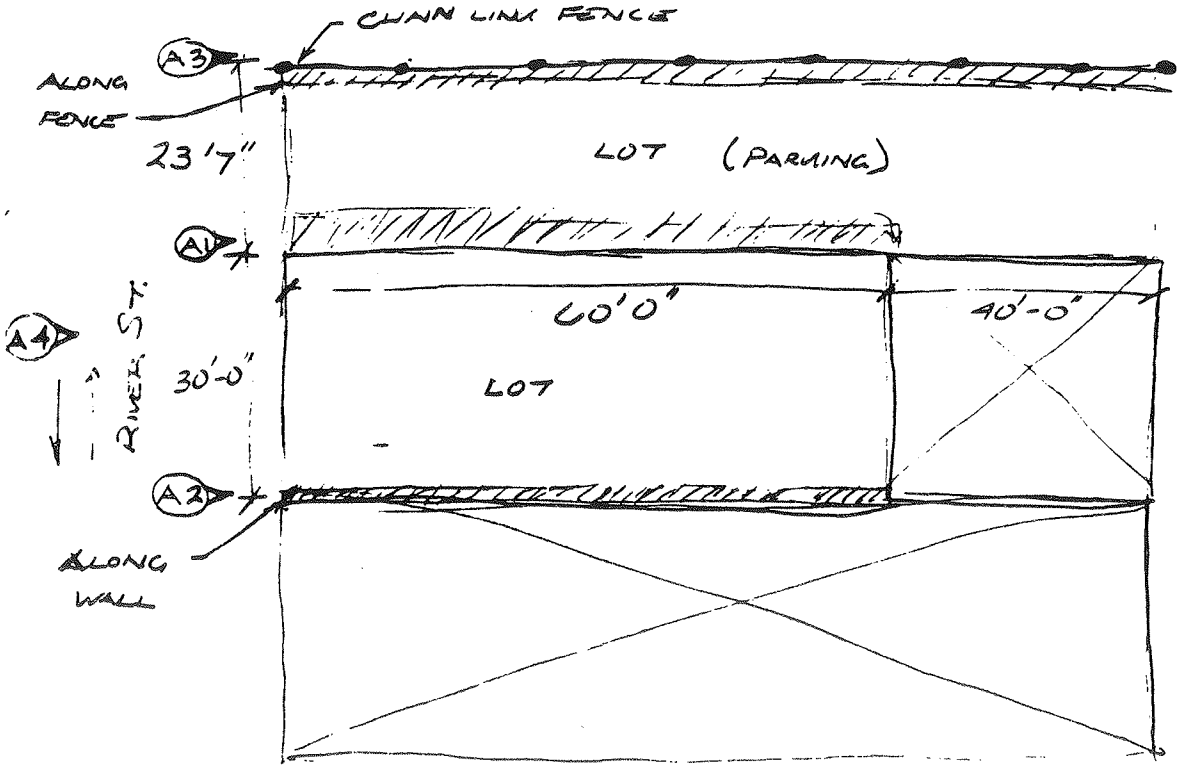
- MAT'L HIGHLY VOLATILE

- ACTIONS:
  - ACCUMULATED WASTE (STORED IN CANS) CARTED AWAY BY LICENSED HANDLERS. (WEST CENTRAL ENVIR.) (SEE MANIFEST)
  - DECREASE IN AMT. OF GENERATED WASTE (NOW USE SAFETY-CLEAN) DRUM CHANGED ≈ EVERY 3 MOS.
  - NO STATE-MANDATED ACTIONS.

- HISTORY
  - G&B FROM '50 →. PREVIOUSLY SINGER SEWING MACHINE + SHIRT (PROPERTY) FACTORY
  - STATE ENCOURAGED G&B TO STAY ON LIST + GO THRU PROPER PROCEDURE IN ORDER TO GET OFF LIST. (TESTING)

- G & B REQUESTED ADVICE FROM STATE ON WHAT TO DO W/ ACCUMULATED WASTE (STORAGE). (185) LETTER STATE DIDN'T RESPOND, SO LICENSED WASTE HANDLERS WERE HIRED
- DEPT. OF HEALTH CONDUCTED A VISUAL INSPECTION (12/30/86) G & B REQUESTED A COPY OF REPORT, BUT DEPT OF HEALTH SAID IT WAS NOT COMPLETE. D.O.H. INFORMALLY SAID NO THREAT TO HEALTH SEEMED TO EXIST.

- MSDS (MAT'L SAFETY DATA SHEET) COLLECTED (OBTAINED).
- MAT'L CLASSIFICATION LIST OBTAINED.

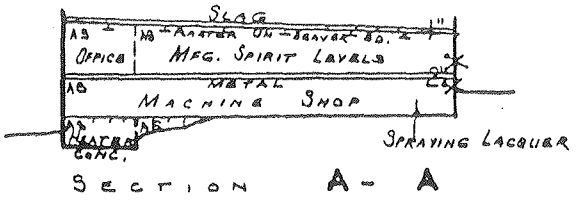


▨ - AREAS OF DUMPING

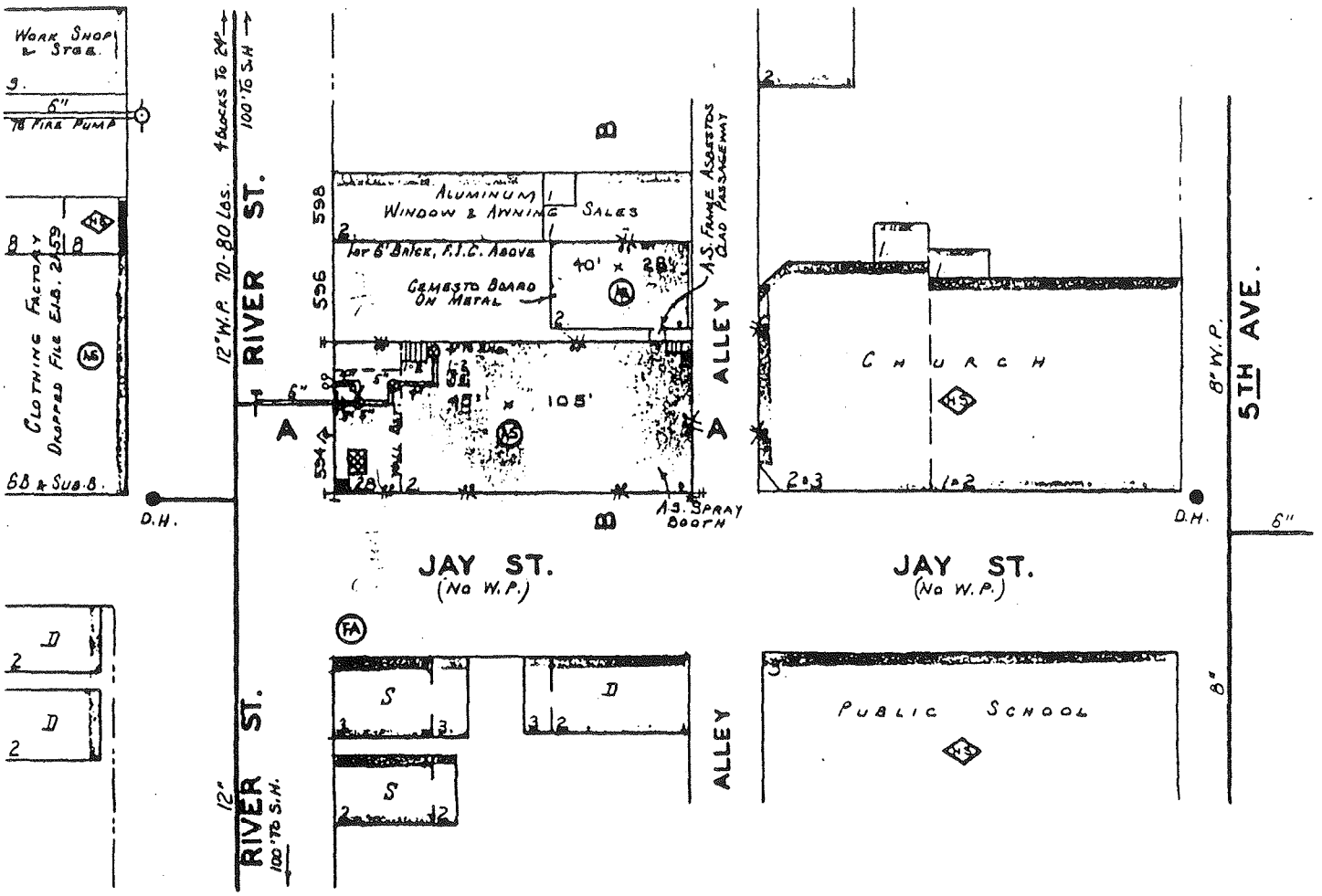
CONFIDENTIAL

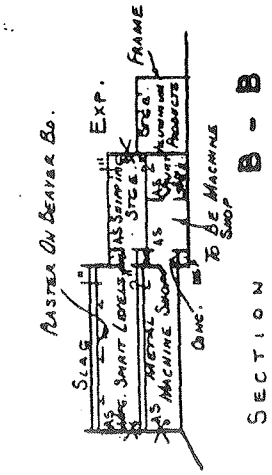
E.I.B. 17912
R.O. 2183

NEW YORK FIRE INSURANCE RATING ORGANIZATION
85 JOHN ST. N.Y.C.



SECTION A - A





SECTION B - B

GEIER AND BLUHM

TROY RENSSELAER CO. N.Y.

L.J.O'DEA SCALE 1"=50' APRIL 20, 1960

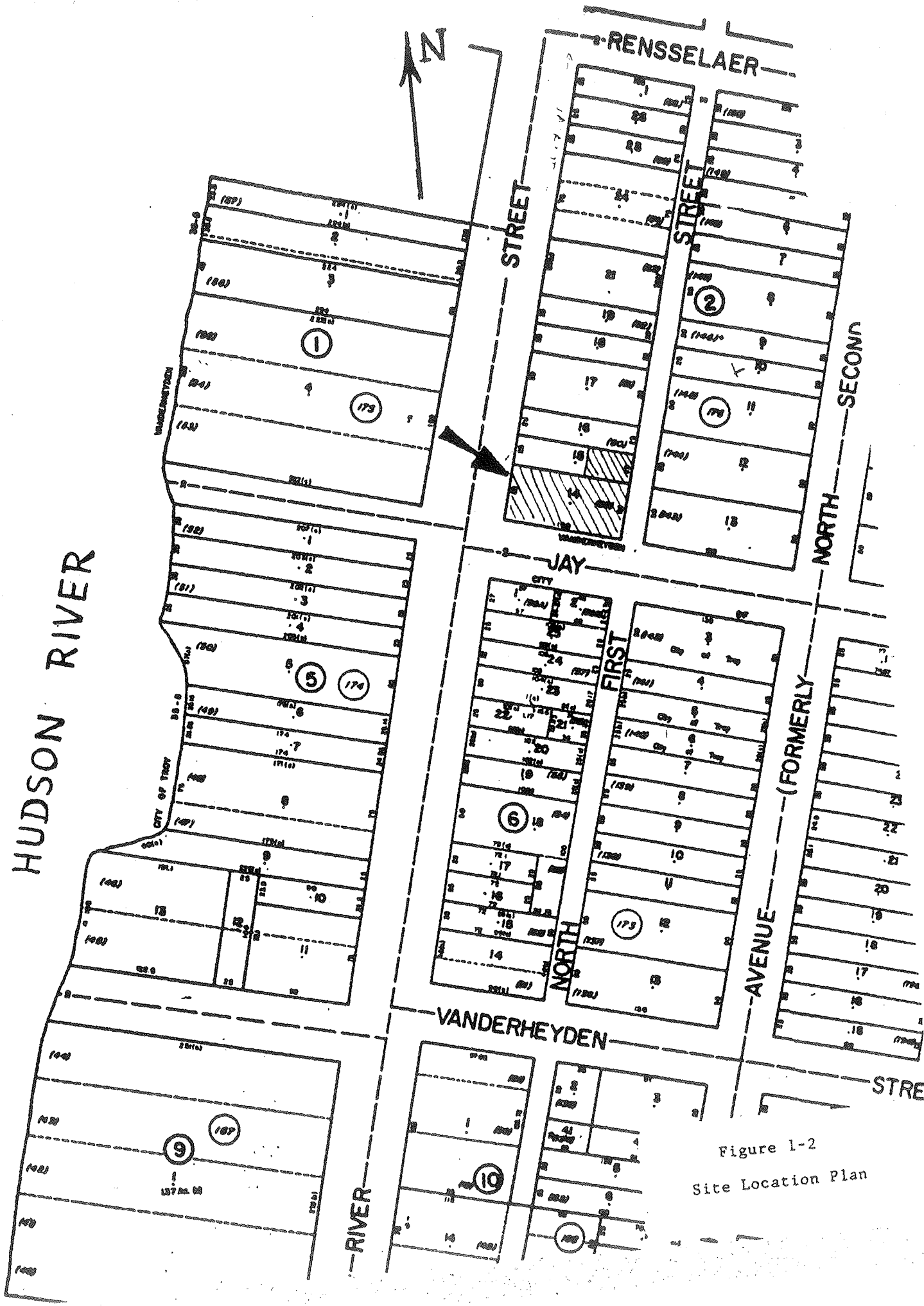


Figure 1-2

Site Location Plan

Site Coordinates

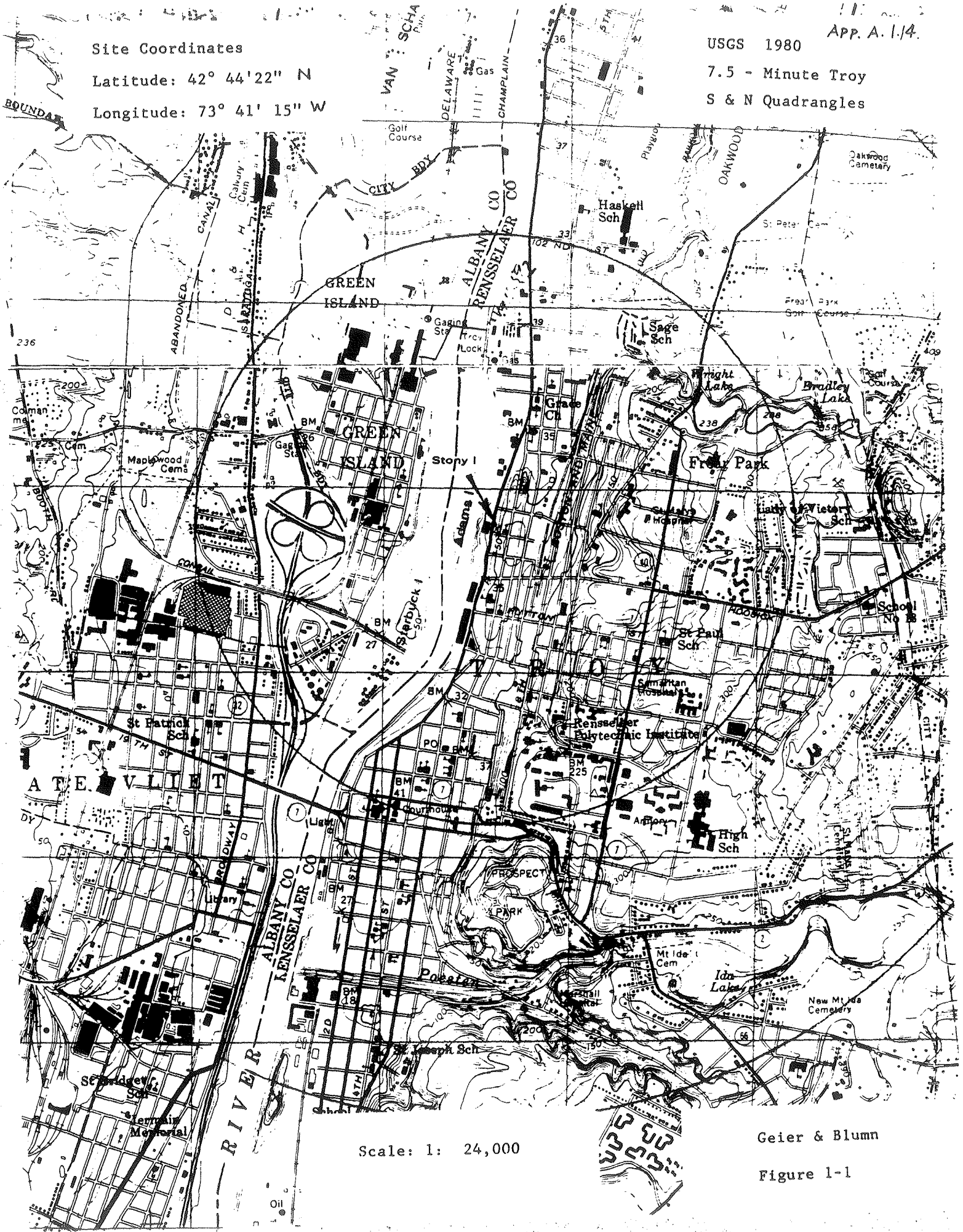
Latitude: 42° 44'22" N

Longitude: 73° 41' 15" W

USGS 1980

7.5 - Minute Troy

S & N Quadrangles



Geier & Blumn

Figure 1-1

THR: MOD orl. A skn irr. See also aldehydes.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

G&B

* TOLUENE

CAS RN: 108883 NIOSH #: XS 5250000
mf: C_7H_8; mw: 92.15

Colorless liquid, benzol-like odor. Flammable. mp: −95° to −94.5°, bp: 110.4°, flash p: 40°F (CC), ulc: 75-80, lel = 1.27%, uel = 7%, d: 0.866 @ 20°/4°, autoign. temp.: 896°F, vap. press: 36.7 mm @ 30°, vap. d: 3.14. Insol in water; sol in acetone; misc in absolute alc, ether, chloroform.

SYNS:

METHYLBENZENE	TOLUEEN (DUTCH)
METHYLBENZOL	TOLUEN (CZECH)
NCI-C07272	TOLUOL
PHENYLMETHANE	TOLUOLO (ITALIAN)

TOXICITY DATA: 3	CODEN:
cyt-rat-scu 12 gm/kg/12D-I	GTPZAB 17(3),24,73
ihl-rat TCLo:1500 mg/m3/24H (1-8D preg)	TXCYAC 11,55,78
ihl-rat TCLo:1000 mg/m3/24H (7-14D preg)	FMORAO 28,286,80
orl-mus TDLo:9 gm/kg (6-15D preg)	TJADAB 19,41A,79
orl-mus TDLo:15 gm/kg (6-15D preg)	TJADAB 19,41A,79
orl-mus TDLo:30 gm/kg (6-15D preg)	TJADAB 19,41A,79
ihl-mus TCLo:500 mg/m3/24H (6-13D preg)	TXCYAC 11,55,78
unk-rat LD50:6900 mg/kg	GISAAA 45(12),64,80
unk-mus LD50:2000 mg/kg	GISAAA 45(12),64,80
eye-hmn 300 ppm	JIHTAB 25,282,43
skn-rbt 435 mg MLD	UCDS** 7/23/70
eye-rbt 870 ug MLD	UCDS** 7/23/70
eye-rbt 2 mg/24H SEV	28ZPAK -,23,72
cyt-rat-ihl 610 mg/m3/16W-I	GISAAA 42(1),32,77
ihl-hmn TCLo:200 ppm:CNS	JAMAAP 123,1106,43
ihl-man TCLo:100 ppm:PSY	WEHSAL 9,131,72
orl-rat LD50:5000 mg/kg	AMIHAB 19,403,59
ihl-rat LCLo:4000 ppm/4H	AIHAAP 30,470,69
ipr-rat LDLo:800 mg/kg	TXAPA9 1,156,59
ihl-mus LC50:5320 ppm/8H	JIHTAB 25,366,43
ipr-mus LD50:1120 ug/kg	AGGHAR 18,109,60
skn-rbt LD50:14 gm/kg	UCDS** 7/23/70
scu-frg LDLo:920 mg/kg	AEPPAE 130,250,28

Aquatic Toxicity Rating: TLm96: 100-10 ppm WQCHM* 4,-,74.

TLV: Air: 100 ppm DTLVS* 4,400,80. *Toxicology Review:* AEHLAU 22,373,71; CTOXAO 11(5),549,77; FNSCA6 2,67,73; MUREAV 47(2),75,78; CTOXAO 11(5),549,77; 27ZTAP 3,144,69. OSHA Standard: Air: TWA 200 ppm; CL 300; Pk 500/10M (SCP-V) FEREAC 39,23540,74. DOT: Flammable Liquid, Label: Flammable Liquid FEREAC 41,57018,76. Occupational Exposure to Toluene recm std: Air: TWA 100 ppm; CL 200 ppm/10M NTIS**. Currently Tested by NTP for Carcinogenesis by Standard Bioassay Protocol as of December 1980. Reselected by NTP Carcinogenesis Bioassay as of December 1980. "NIOSH Manual of Analytical Methods" VOL 1 127, VOL 3 S343. Reported in EPA TSCA Inventory, 1980. EPA TSCA 8(a) Preliminary Assessment Information Proposed Rule FERREAC 45,13646,80. EPA TSCA 8E No. 02780079P-Followup Sent as of April, 1979.

THR: MUT data. A skn, eye irr. A hmn CNS, PSY. MOD ihl, ipr, scu; HIGH ipr; LOW orl, skn. Toluene is derived from coal tar, and commercial grades usually contain small amounts of benzene as an impurity. Acute poisoning, resulting from exposures to high conc of the vapors, are rare with toluene. Inhal of 200 ppm of toluene for 8 hrs may cause impairment of coordination and reaction time; with higher conc (up to 800 ppm) these effects are increased and are observed in a shorter time. In the few cases of acute toluene poisoning reported, the effect has been that of a narcotic, the workman passing through a stage of intoxication into one of coma. Recovery following removal from exposure has been the rule. An occasional report of chronic poisoning describes an anemia and leucopenia, with biopsy showing a bone marrow hypoplasia. These effects, however, are less common in people working with toluene, and they are not as severe.

Exposure to conc up to 200 ppm produces few symptoms. At 200-500 ppm, headache, nausea, eye irr, loss of appetite, a bad taste, lassitude, impairment of coordination and reaction time are reported, but are not usually accompanied by any laboratory or physical findings of significance. With higher conc, the above complaints are increased and in addition, anemia, leucopenia and enlarged liver may be found in rare cases.

A common air contaminant.

Fire Hazard: Slight, when exposed to heat, flame or oxidizers.

Explosion Hazard: Mod, when exposed to flame or reacted with (H_2SO_4 + HNO_3), N_2O_4, $AgClO_4$, BrF_3, UF_6.

Disaster Hazard: Mod dangerous; when heated it emits irr fumes; can react vigorously with oxidizing materials.

To Fight Fire: Foam, CO_2, dry chemical.

For further information see Vol. 2, No. 1 of *DPIM Report.*

p-TOLUENEBORONIC ACID, CYCLIC-2-METHYL-2-PROPYLTRIMETHYLENE ESTER

CAS RN: 2430468 NIOSH #: XS 7875000
mf: $C_{14}H_{21}BO_2$; mw: 232.16

SYNS:

DIOSSOBORONO 2-METHYL-2-PROPYL-1,3-PROPANEDIOL-P-METHYLBENZENEBORONATE	5-METHYL-5-PROPYL-2-(P-TOLYL)-1,3,2-DIOXABORINANE

TOXICITY DATA: 2	CODEN:
ipr-rat LD50:1600 mg/kg	27ZQAG -,319,72
ipr-mus LD50:3350 mg/kg	27ZQAG -,319,72

THR: MOD ipr. See also boron compounds and esters.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

TOLUENEBORONIC ACID, CYCLIC NEOPENTANETETRYL ESTER

CAS RN: 7091410 NIOSH #: XS 7950000
mf: $C_{19}H_{22}B_2O_4$; mw: 336.03

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID AND HAZARDOUS WASTE
INACTIVE HAZARDOUS WASTE DISPOSAL REPORT

CLASSIFICATION CODE: 2a | REGION: 4 | SITE CODE: 442019
EPA ID:

NAME OF SITE : Geier & Bluhm
STREET ADDRESS: 594 River St.

TOWN/CITY:	COUNTY:	ZIP:
Troy	Rensselaer	12180

SITE TYPE: Open Dump- Structure- Lagoon- Landfill- Treatment Pond-
ESTIMATED SIZE: .25 Acres

SITE OWNER/OPERATOR INFORMATION:
CURRENT OWNER NAME....: Geier + Bluhm Inc.
CURRENT OWNER ADDRESS.: 594 River St. Troy, NY 12180
OWNER(S) DURING USE...: Same
OPERATOR DURING USE...: Same
OPERATOR ADDRESS.....: See Above
PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From 1960 To 1983

SITE DESCRIPTION:
Small manufacturing facility producing spirit levels. Disposed of waste laquer by pouring on vegetation along the edges of the parking lot. Although the quantities disposed of at any one time were small (1 pint-1 quart) the total quantity may have been as high as 3-400 gals. Much of the waste would be expected to evaporate, however some soil contamination is probably present and the possibility of groundwater contamination exists. No groundwater users are in the vicinity of site. Phase I is planned.

HAZARDOUS WASTE DISPOSED: TYPE	Confirmed-X	Suspected- QUANTITY (units)
Laquer Thinner		Up tc 400 Gallons

SITE CODE: 442019

ANALYTICAL DATA AVAILABLE:
Air- Surface Water- Groundwater- Soil- Sediment- None-X

2/2

CONTRAVENTION OF STANDARDS:
Groundwater- Drinking Water- Surface Water- Air-

LEGAL ACTION:

TYPE..: State- Federal-
STATUS: Negotiation in Progress- Order Signed-

REMEDIAL ACTION:

Proposed- Under design- In Progress- Completed-
NATURE OF ACTION:

GEOTECHNICAL INFORMATION:
SOIL TYPE: Fill
GROUNDWATER DEPTH: Unknown

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Possible soil and groundwater contamination. No groundwater users in the vicinity. Site has open access to the public.

ASSESSMENT OF HEALTH PROBLEMS:

Medium	Contaminants Available	Migration Potential	Potentially Exposed Population	Need for Investigation
Air				
Surface Soil				
Groundwater				
Surface Water				

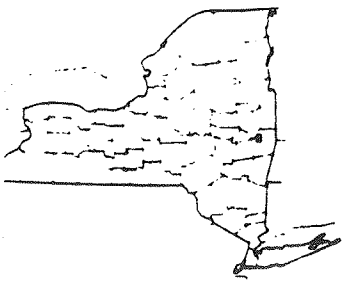
Health Department Site Inspection Date :

MUNICIPAL WASTE ID:

Appendix A1.17.

1/2

SCALE 1 : 9000



QUADRANGLE LOCATION

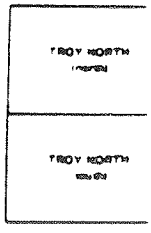
Polyconic projection. 1927 North American datum

1000-meter ticks based on the New York Transverse Mercator grid

Between 72° and 78° West Longitude, this grid is identical to Zone 18 of the Universal Transverse Mercator grid. Areas east of 72° and west of 78° are direct mathematical extensions of Zone 18

10,000-foot ticks based on the New York Plane Coordinate grid, East Zone

INDEX TO
1:9600 (1" = 80
MAP COVERA




TROY NORTH
610000m. E.
Wright Lake
Golf Course
Bradley Lake
TN-
GREEN ISLAND
Substation
Stony I
Adams I
Frear Park
Lady of Victory Sch
Center
TROY
Water
Rensselaer Polytechnic Institute
High Sch
PROSPECT PARK
WATERVLIET ARSENAL
ALBANY CO
RENSSELAER CO
RIVER
Poesten
St Joseph Sch
Emma Willard Sch
Burdens Pond
TS-102

Bureau of Toxic Substance Assessment
Surveillance and investigation section
Hazardous Waste Site Inspection Report

Geier & Bluhm #442019

- Residential Targets:

  Nearest Homes, Trailer Parks, etc.

  Number 2-4
  Dist. 30 m Behind Plant
  Dir. East

- Surface Runoff:

  Known discharge location: 100m- Hudson River

  Avg. facility Scope 4%

  Avg. slope intervening terrain - 3%

- Sensitive Targets

  Schools - Several within 1/2 mile RPI 3/4 Mi. SE
  Hospital.
  Churches - Nearby in surrounding area of city.

- Pop. Within 1 mile = 15,000

- A quifer - alluvium design depth ≈ 5 meters

  permeability 10 -6 cm/s

- Pop. figures

Dist.	#	Dir.
60 meters	200	E
300-	1000	NE
300	1000	SE
1000	2000	N
1000	2000	E
1000	3000	S

- 1 - year 24 - hr rainfall = 2.4,in.

- mean annual #days w/ snow cover or more than 0.01 In. of precip.

W = 198 Days.

APPENDIX A.1.

New York State Department of Environmental Conservation
Wildlife Resources Center
Delmar, NY 12054

Thomas C. Jorling
Commissioner

July 27, 1987

We have reviewed the Significant Habitat Program and the Natural Heritage Program files with respect to the Superfund "Troy" site in the Town of Green Island and the Cities of Watervliet and Troy, Albany and Rensselaer Counties, NY.

We have identified the following potential concern:

SW 01-013 Troy Dam Waterfowl Wintering Area occurs partially within the one-mile radius of this site. The open water areas above and below the Troy Dam are especially important to mallard and black ducks during the winter months. More information regarding the significance of this area may be available from our regional wildlife office at the address below.

Regional Wildlife Manager
N.Y.S. D.E.C.
Route 10, Jefferson Road
Stamford, NY 12167
(607) 652-7364

Our files are continually growing as new habitats and occurrences of rare species and communities are discovered. In most cases, site-specific or comprehensive surveys for plant and animal occurrences have not been conducted. For these reasons, we can only provide data which have been assembled from our files. We cannot provide a definitive statement on the presence or absence of species, habitats or natural communities. This information should not be substituted for on-site surveys that may be required for environmental assessment.

If this project is still active one year from now we recommend that you contact us again so that we may update this response.

New York Natural Heritage Program is supported in part
by The Nature Conservancy

App. A.1.20

STATE OF NEW YORK
DEPARTMENT OF CONSERVATION
WATER POWER AND CONTROL COMMISSION

THE GROUND-WATER RESOURCES OF RENSSELAER COUNTY, NEW YORK

By

R. V. CUSHMAN

Prepared by the

U. S. GEOLOGICAL SURVEY IN COOPERATION WITH THE

WATER POWER AND CONTROL COMMISSION

BULLETIN GW-21
ALBANY, N. Y.
1950

TOPOGRAPHY AND DRAINAGE

The western part of Rensselaer County is in the Hudson-Champlain section of the Ridge and Valley physiographic province, whereas the eastern part is in the Taconic section of the New England Upland. In Rensselaer County these two provinces consist of three major topographic divisions: (1) on the west a gently-sloping lowland underlain by folded beds of metamorphosed shale and sandstone, (2) on the east a succession of more or less parallel north-northeast-trending ranges composed of shale and schist, and (3) a broad, high plateau area which separates the others and is underlain by a coarse grit or graywacke (pl. 3).

The lowland area consists of a low plain bordering the Hudson River separated from a westward sloping hilly area of low relief by a well-defined escarpment ranging from 100 to 200 feet in height. The plain ranges in width from ¼ to 2½ miles, and consists of beds of sand, silt, and clay deposited in Pleistocene time in glacial Lake Albany. A trench about a mile wide and 200 feet deep has been carved out of the lake deposits by the Hudson River. Tributaries of the Hudson occupy postglacial channels and reach the Hudson over a series of waterfalls and narrow valleys cut in the surface of the old lake plain.

The altitude of the lake plain at its western edge is about 250 feet. From there, the land surface slopes gradually upward to an altitude of about 600 feet at the foot of the Rensselaer Plateau. The area is underlain by beds of folded shale and sandstone. It is mantled thinly by moraine and till, and dotted with numerous drumlins. Several larger hills composed of hard and more competent rocks rise above the lowland. The northernmost are Rice Mountain near Grant Hollow and Mt. Rafinesque east of Troy, which rise to altitudes of 900 feet and 1200 feet, respectively. Farther south is Rysedorph Hill near Rensselaer, which owes its prominence to beds of a tough conglomerate (pl. 1).

The Rensselaer Plateau has an oval shape, and covers an area of about 175 square miles extending from the Berlin-Stephentown valley west to Poestenkill and from Boyntonville and Pittstown south to East Nassau. It rises abruptly from the lowland on the west and north, and from the Berlin-Stephentown valley on the east and south. It reaches a maximum altitude in the hilly area near Bowman Pond of about 1900 feet above sea level. The plateau is characterized by a steep escarpment along its eastern edge, by low hillocks, by nearly uniform levels, and by many ponds and extensive poorly drained areas. It is entirely underlain by a coarse grit or graywacke, with intercalated beds of red and green shale. Owing to the hardness of the graywacke, the land surface has suffered little from erosion except around the outer edges where streams have cut back into the plateau.

The Taconic ranges in the eastern part of the County consist of a succession of parallel ridges with unaccordant summits, much higher than the land forms to the west, which are flanked by valleys that are generally narrow and without flood plains. The rocks underlying the Taconic area are schist, slate, and limestone of Cambrian and Ordovician age which have been intensely folded and metamorphosed. The limestones underlie the slates and crop out only in the valley areas.

Rensselaer County lies entirely within the Hudson River drainage basin. The northern part of the County is drained by the Hoosic River, and by a number of lateral streams, the more important of which are the Poesten Kill, Wynants Kill, Moordner Kill, and Kinderhook Creek. Numerous smaller streams enter the Hudson directly, having cut deep ravines in the clay terraces flanking the river. The main tributaries flow through hanging valleys into deep ravines cut into the terrace-capped shale adjacent to the escarpment. Below Schaghticoke the Hoosic River has cut a canyon nearly 200 feet deep in the bedrock. The Poesten Kill, which drains a large part of the Rensselaer Plateau, has cut a small gorge at Troy and another 2½ miles to the east. All the tributaries have low gradients, except where they pass over the escarpment onto the Hudson River plain or from the high plateau to the lowlands. A large part of the drainage of the high plateau is by southward-flowing streams such as the Black River, Roaring Brook, Black Brook, and Tackawasick Creek, all of which empty into Kinderhook Creek. The remainder of the high plateau is drained by the westward flowing Poesten Kill and Quacken Kill, which have cut deep gorges at the edge of the plateau.

CLIMATE

There is considerable variation in climate throughout Rensselaer County, owing to marked differences in altitude which ranges from sea level, at the Hudson River near Troy, to about 1,900 feet above sea level on the Rensselaer Plateau, and to about 2,800 feet above sea level in the Taconic area. In general, the county has a humid, modified continental type of

of ground-water recharge are most favorable. The greatest recorded annual precipitation at Troy, 49.16 inches, fell in 1878, and the lowest, 18.32 inches, fell in 1939. The rather long term record at Troy shows that periods of about 20 days during which the rainfall has been very slight have often occurred between March 1 and September 16. The annual snowfall at the Troy station ranges from 40 to 60 inches.

GEOLOGY

GENERAL RELATIONS OF STRATIGRAPHY AND STRUCTURE

Both unconsolidated and consolidated rocks crop out at the land surface in Rensselaer County. The unconsolidated rocks consist chiefly of stratified and unstratified deposits of Pleistocene age along with some local deposits of stream-bed and stream-terrace materials of Recent age. The consolidated sediments are chiefly shale and grit, with some beds of limestone and a few beds of quartzite. Those exposed range in age from Lower Cambrian to Middle Ordovician. The consolidated rocks, with possibly the exception of the Snake Hill formation, are not indigenous to the County, but belong to a series of formations deposited in a trough farther to the east and moved into their present position by folding and faulting along a multiple of thrust-fault planes (pl. 3). The folding and faulting greatly compressed and strengthened the sediments, and created a multitude of fractures and cracks, some of which now serve as channels for the movement of underground waters.

The stratigraphic sequence and general lithologic and hydrologic characteristics of the rocks are summarized in table 2. The major lithologic units are described in greater detail in the succeeding pages. The areas in which the various rocks crop out at the land surface are shown on plate 2 and a cross-section of the rocks in the County is given in plate 3. The four divisions of the Schodack formation of Lower Cambrian age which have been termed by Ruedemann[1] the Schodack shales and limestones, Troy shales and limestones, Diamond Rock quartzite, and Bomoseen grit, are shown as one unit, the Schodack formation, because they are closely infolded with each other and because they have similar lithology, and hydrologic characteristics. For similar reasons the Deepkill shale, in this report, is included with the Normanskill shale.

CONSOLIDATED ROCKS

For convenience the consolidated rocks are described in two geologic sequences, a western sequence and an eastern sequence, based upon the extent of the metamorphism that the rock has undergone.

Western sequence

The rocks included by the writer in this sequence are the Nassau formation and the Schodack formation of Lower Cambrian age, and the Normanskill shale and the Snake Hill formation of Middle Ordovican age. They comprise most of a broad belt of closely related rocks extending the full length of the western part of the County, north and west of the Rensselaer Plateau, from Eagle Bridge and Buskirk on the north to East Nassau and South Schodack on the south. They were formerly known as the "Georgian" or "Taconian" beds and have been described in detail by Reudemann[2]. All of these rocks are considered by geologists to be part of the great detached sheet of rocks that have been moved from their original position somewhere to the east, and thrust westward by mountain-building forces upon younger rocks native to the Hudson River Valley.

Because the formations in the western sequence consist mostly of a closely folded belt of green to black shale and have few lithologic properties that can be used to distinguish easily one formation from the other, they are here discussed as a unit. The general lithologic and hydrologic properties of each formation are summarized in table 2.

The calcareous sandstone of the Schodack formation merits individual discussion as it is of special concern to well drillers in the area. It usually consists of subrounded quartz grains cemented together by calcite, and in many places grades into a hard quartzite, the Diamond Rock quartzite of Ruedemann, in which the cement is mostly silica. The sandstone

1. Ruedemann, Rudolf, Geology of the Capital District, New York: New York State Mus. Bull. 285, pp. 25, 73, 79, and map, 1930.
2. Ruedemann, Rudolf, Geology of the Capital District, New York: op. cit. pp. 73-95.

Table 2.—Geologic formations in Rensselaer County and their water-bearing

Table 2.—Geologic formations in Rensselaer County and their water-bearing properties.

Age		Geologic formations		Thickness (feet)	Character of material	Water-bearing properties
Quaternary	Recent	Alluvium		1 to 30	Clay and silt with some sand and gravel.	Relatively unimportant owing to small size of deposits.
	Pleistocene	Stratified sand and gravel		Up to 120	Interbedded and interlensing sands and gravels formed by sorting action of glacial meltwaters. Frequently show crossbedding.	Important potential source of ground water. Yields moderately large supplies to properly constructed wells.
		Lacustrine deposits		Up to 150	Fine clay and silt deposited in glacial lake beds. Some sand.	Yields small supplies, but is relatively unimportant as a source of ground water.
		Till		1 to 50	Heterogeneous mixture of gravel, sand, clay, and boulders, with a predominance of clay.	Yields small supplies of water to many dug wells and for domestic and farm purposes.
		Western Rensselaer County	Eastern Rensselaer County			
Ordovician	Middle Ordovician	Snake Hill formation		3,000	Dark, gray to black, bluish and greenish shales with thin sandy and black carbonaceous bands. Beds are severely crumpled and present a "glazed" appearance along cleavage and slip planes.	Yields small supplies to drilled wells averaging 140 feet in depth; average yield 2 to 3 gallons per minute. Water is hard and often is cloudy, frequently contains hydrogen sulfide.
		Normanskill shale		1,300	Dark-green to black argillaceous shale containing white-weathering calcareous and chert beds. Highly folded.	Same as Lower Cambrian shales. Water may contain hydrogen sulfide.
	Lower Ordovician		Walloomsac slate	Unknown	Dark-green, fine-grained smoothed slate broken by many joints and cleavage planes.	Yields small supplies to drilled wells averaging 180 feet in depth; wide range in yield but averages 7 gallons per minute.
Cambrian and Ordovician			Stockbridge limestone	Unknown	Massive, fine-grained, dolomitic limestone ranging from white to blue in color. Veins of calcite and quartz common. Joints well developed and some slightly enlarged by solution.	Yields moderate supplies to drilled wells which encounter fractures; 17 to 18 gallons per minute average yield. Water has moderately large concentration of mineral matter and is usually hard.
Cambrian	Lower Cambrian	Schodack formation		1,000	Greenish-gray, fine-grained, siliceous shale presenting a highly folded appearance; locally includes a brick-red weathering grit, a calcareous sandstone, a thin-bedded limestone, and red and purple shale.	Yields small but reliable supplies of ground water to many drilled wells averaging 125 feet in depth; average yield 4 to 5 gallons per minute with large range. Water moderately hard and contains some iron, but generally satisfactory.
		Nassau formation		400	Dark-red and green, soft shale alternating with thin beds of dark quartzite and sandstone.	
	Lower Cambrian (?)		Rowe schist	Unknown	Grayish, greenish, or purplish chlorite schist having a squeezed and altered appearance. Well-developed cleavage and schistosity.	Unimportant as a source of ground water owing to location in county. Probable yield similar to that of Lower Cambrian shales.
			Rensselaer graywacke	1,400	Dark-green, exceedingly tough, thick-bedded, granular grit or graywacke, in which quartz and feldspar grains are clearly visible; sometimes interbedded with thin strata of purplish, reddish or greenish slate.	Yields small but reliable supplies to drilled wells averaging 120 feet in depth; average yield 5 gallons per minute. Small range in yields.

two tracts is now occupied by the waters of the Tomhannock Reservoir, a part of the public-water supply of the city of Troy. The southern tract is drained by Quacken Kill. Stoller[12] believes that a barrier of glacial material was deposited in the valley and that water was ponded north of this barrier. Only the upper part of the lacustrine deposits has been penetrated by wells. Logs of these indicate that the lake deposits consist of beds of sand, about 15 to 20 feet thick, underlain by layers of clay.

There is some evidence that a Pleistocene lake existed for a time in the Hoosic River Valley, between North Hoosick and North Petersburg. It is believed that the dam for this lake was created by stagnant ice in the vicinity of the junction of the Hoosick and Wallomsac Rivers, and that the altitude of the surface of the lake was about 550 feet above sea level. The terraces on both sides of the river south of Hoosick Falls are underlain by stratified clay and silt.

Recent alluvium

The larger streams in Rensselaer County, such as the Lower Hudson and the Hoosic and Little Hoosic Rivers, Kinderhook Creek, and Poesten Kill, and the lower courses of their tributaries are bordered by flood plains comprising a veneer of silt, clay, sand, and some gravel that were laid down by these streams in comparatively recent time. These deposits were derived from the disintegration of the bedrock and the reworking of the glacial materials, and have been spread out in flat tranverse plains or bottomlands adjacent to the parent streams. The coarser particles of the alluvium are, in general, rounded fragments of the rocks native to the region, namely, shale, slate, and grit. These deposits generally range in thickness from 10 to 50 feet and their areal extent is small.

Extensive fine-grained materials form a filling in the channel of the Hudson River from Troy southward to beyond the boundary between Rensselaer and Columbia Counties. These materials are believed to consist of fine detritus brought down by the river system above [illegible]y and deposited in the Hudson River. These materials consist chiefly of clay and silt containing, locally, lenses of fine sand or gravel.

GROUND WATER

SOURCE

Ground water has been defined by Meinzer[13] as "that part of the subsurface water which is in the zone of saturation", but it is popularly regarded by the layman as the water that is obtained from wells and springs. Although it is pumped or issues from the ground, its source lies in the atmosphere, and essentially all ground water is derived from rain and snow. In almost all parts of the County, the underground reservoirs are replenished directly from precipitation over the immediate area, but in some of the hilly areas there is considerable underground movement before the water is returned to the surface.

That the precipitation is sufficient to meet all demands is shown by the fact that an inch of rain will yield more than 17 million gallons of water per square mile. Thus, each inch of precipitation which falls on the land surface contributes about 11 billion gallons of water to Rensselaer County. Of this, part runs off directly in the streams, a part evaporates or is transpired by plants, and the remainder seeps into the ground and recharges the water table. Although the supply of ground water generally varies directly with the amount of precipitation, other factors also control the rate of recharge. If the temperature is very high, the rate of evaporation materially decreases the potential supply of ground water. If, on the other hand, the temperature is so low that the ground is frozen, an unusually high percentage of water, finding its descent blocked, runs off directly in the streams. During the growing season the demands of vegetation, both natural and cultivated, make heavy inroads into the ground-water supply.

OCCURRENCE

All rocks, regardless of density, contain some pore spaces. Only those pores which [illegible]e large enough, however, can release water to springs and wells tapping the rock. The

12. Stoller, J. H., Glacial Geology of the Cohoes Quadrangle: N. Y. State Mus. Bull. 215-216, p. 16, 1918.
13. Meinzer, O. E., The occurrence of ground water in the United States: U. S. Geol. Survey Water-Supply Paper 489, p. 38, 1923.

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amount and size of the openings vary with the character of the rock, and the yields of wells are therefore directly related to the type of rock tapped. The percentage of total rock volume that is occupied by open spaces is a measure of the porosity of a rock. According to Meinzer[1] the porosity of a sedimentary deposit depends chiefly on (1) the shape and arrangement of its contituent particles, (2) the degree of assortment of its particles, (3) the cementation and compaction to which it has been subjected since its deposition, (4) the removal of minerals through solution by percolating waters, and (5) the fracturing of the rock, resulting in joints and other openings.

Although the porosity of a rock indicates the total volume of pore space available for storing water, it is necessary to use a term, called specific yield, that indicates the amount of water that will drain out of a rock because of the action of gravity. The specific yield of a rock or soil, with respect to water, is the ratio, expressed as a percentage, of (1) the volume of water which, after being saturated, it will yield to gravity, to (2) its own volume. It is a measure of the water that is free to drain out of a material under natural conditions. The value for the specific yield of a rock or soil will be less than the value for porosity since capillary forces will prevent the draining by gravity, of all the interstices or pore spaces. In addition to specific yield, the term hydraulic permeability must be introduced to indicate the capacity of the rock or soil for transmitting water under pressure. This term, however, is useful primarily when dealing with uniform unconsolidated deposits, and should be used cautiously (if at all) when the aquifer is an indurated rock which transmits water only through fractures or solution channels. In general, the smaller the interstices of a material the lower will be its specific yield and hydraulic permeability. Thus, clay and silt, which ususally have higher porosities than sand or gravel, will yield considerably less water.

The water table is an irregular surface immediately below which all rocks are saturated with water. The source of this water is rainfall which percolates down from the surface. The water table is influenced by but does not exactly reproduce the configuration of the surface topography. Depth to the water table, below the land surface, varies seasonally and annually with variations in precipitation, runoff, withdrawals by wells, temperature, and other related factors.

Under normal water-table conditions water will rise in a well to a height corresponding to that of the water table. When a water-bearing bed is overlain by impermeable beds which serve to confine the water under pressure, an artesian system is created and water will rise in the well to a level other than that of the water table, and in some cases will flow out of the well.

Shale and slate

The shale and slate of Rensselaer County have a porosity of less than one percent and the only opening capable of transmitting water are the joints and fractures in the rock. The amount of water yielded by wells in these rocks depends chiefly upon the number and size of the water-bearing fractures intersected in drilling. Because of the erratic distribution and nature of the fractures in the shales of Rensselaer County, it is extremenly difficult to predict the success or failure of a well. It is often the case that of two wells sunk within 100 feet or so of each other in the same rock, one will yield an ample supply of water, and the other will yield only a fraction of that amount. One well may be sunk in a part of the rock in which the fractures are numerous and closely spaced or it may intersect a large open fracture. On the other hand, the second well may penetrate an area of widely spread fractures or it may intersect only very narrow fractures. However, it is very seldom that a well is drilled in shale without obtaining some water. Of 306 shale wells in Rensselaer County for which complete records are available only four, or less than two percent, are recorded as yielding no water. Fourteen wells, or less than five percent were reported as yielding less than ½ gallon per minute.

A study of the records of wells which tap shales in the County reveals that most of the failures are situated west of a line formed by the break from the low plateau of the Hudson River Valley to the Hudson plain. This line follows approximately the 300-foot contour and extends from Schaghticoke on the north to Kinderhook Lake on the south. The rocks in this locality are chiefly the Normanskill shale and the Snake Hill formation, and are overlain by a thick blanket of fine lacustrine deposits. These deposits evidently have a low

[1] Meinzer, O. E., The occurrence of ground water in the United States: op. cit., p. 3.

permeability and permit the percolation of only a small amount of water into the underlying rocks. Records for wells tapping rocks overlain by the lacustrine deposits indicate very low yields (table 8). For example, well Re 623, situated between Castleton-on-Hudson and Schodack Landing was drilled 232 feet below the land surface, or nearly 200 feet below the level of the bed of the Hudson River, without obtaining enough water to keep the drillings wet.

The well records in table 8 indicate the range in depth and yield of wells that tap shale and slate. The average depth of 328 wells, including overburden, is 127 feet. Depths range from 18 to 639 feet and the average penetration of bedrock is 88 feet. About 95 percent of the wells are less than 300 feet deep and 88 percent are less than 200 feet deep. The average yield of the 328 wells is 4.7 gallons per minute and ranges from 0 to 40 gallons per minute. Most of the records of yield are those reported by the driller, and are based on bailing tests made at the time the wells were drilled. About 92 percent of the wells yield less than 10 gallons per minute, and 73 percent less than 5 gallons per minute. Of the total number of wells, 219 or 60 percent, yield less than the average.

A summary of average depth and yield by specific formations shows very little difference between the various types of shale and slate in Rensselaer County. The average yield from the Walloomsac slate is somewhat more than 2 gallons per minute higher than the overall average, and that from the Snake Hill formation about 2 gallons per minute lower. This variation in yield can probably be explained by the difference in size of the openings or fractures in the two types of rock. The Snake Hill formation is a relatively weak rock, and, therefore, cannot be expected to maintain large open fractures, whereas the slates are hard and dense, and are thus capable of maintaining open joints and fractures.

The records show that there is a general increase in yield with increasing depths to about 300 feet. At depths greater than this there is little or no increase in yield as the number and size of the joints diminish with depth. If water is not found in a particular well within 300 feet of the surface the prospect of obtaining a supply at greater depths is poor. When drilling in shale the best sites for wells are in depressions, even minor ones, in the surface, as these generally indicate that the rock underlying them is weaker and hence more likely to be highly fractured and water-bearing than that forming the adjacent hills.

Graywacke

This rock is massive and extremely dense and hard, and has a tendency to fracture under pressure rather than to crumple or fold. Thus joints are numerous and well developed. Owing to the difficulties encountered in drilling this hard rock, only a few wells have been drilled into it. The average yield of 13 wells, known to penetrate the Rensselaer graywacke, is 5.1 gallons per minute, their average depth being 120 feet. They yield water of good quality. Before drilling into the graywacke, it is advisable to inspect the area to locate, if possible, one of the many layers of shale interbedded with the graywacke. These beds quite often stand nearly vertical and afford much easier drilling owing to their comparative softness. For example, well Re 347, situated in the graywacke area, is reported to have passed through 60 feet of green shale below about 60 feet of hardpan and boulders. This well is reported to yield 15 gallons per minute. All wells known to have penetrated the Rensselaer graywacke have yielded at least a small supply of water.

Schist

Owing to the ruggedness of the land surface in the areas underlain by the Rowe schist, there are few habitations. The steep slopes, thinly covered by till, give rise to many small springs and seeps which are utilized to a small degree for domestic and farm use. No wells are known to penetrate the schist, and little is known of its water-bearing properties. The Rowe schist is a relatively impervious rock, but it is broken by many joints and cleavage fractures, indicating hydrologic properties similar to shale and slate in Rensselaer County.

Limestone

The Stockbridge limestone is a hard compact rock, that has been subjected to considerable metamorphism and it contains very few voids. For this reason, circulation and storage of water are confined mainly to joints and fractures. Wells penetrating large fractures or solution channels can be expected to yield considerable water but will yield only small

charge from wells, from seeps and springs, and through evaporation and transpiration are the principal factors that cause a water table to decline. The fluctuation of the water table can be readily observed in wells, and may furnish valuable information in connection with studies of the amount of ground water available, the relation of precipitation to the recharge of ground water reservoirs, the determination of whether a permanent and progressive decline of the water table is taking place, the effects of land drainage projects on the water table, and the effects of soil-erosion control methods on the water table. In Rensselaer County, the U. S. Geological Survey is obtaining periodic measurements of the fluctuation of the water table at an observation well, Re 660, situated about 3 miles east of Defreestville. Well Re 660 is a relatively shallow dug well of large diameter that taps Pleistocene till.

Observations of water level in this well were begun in April 1946. A hydrograph showing the fluctuation of the water level in well Re 660 is given in figure 3, along with a graph of the monthly precipitation at Albany, New York. Very little ground water is withdrawn in the vicinity of this well and the fluctuation of water level in it results chiefly from changes in the rate of precipitation, plant use, and natural discharge into nearby streams.

RECOVERY

Types of wells[15].

Meinzer[16] has defined a well as "an artificial excavation" that derives some fluid from the interstices of the rocks or soil that it penetrates, except that the term is not applied to ditches or tunnels that lead ground water to the surface by gravity.

Well construction is probably one of the oldest trades or arts known to man. The history of its development may be traced from the primitive activities of the Egyptians, 5,000 years ago, up through the developments and improvements introduced by early Chinese engineers to the early well-construction work performed in Europe and the United States. The majority of wells constructed in the United States, up to and for some years after the Civil War, were dug wells cased with brick or stone or any other material that would prevent the excavation from caving in. Settlement of the Middle West, however, created an early need for additional water supplies as the creeks and ponds that were first used by the pioneers became overtaxed. The drilled well thus came into common use as a relatively inexpensive means of obtaining water in a short length of time.

Wells are commonly classified by types according to the particular method of construction that is used. Thus five general types are recognized; namely, *dug, bored, jetted, driven,* and *drilled.* Each has particular advantages that make it more desirable than the others under certain local conditions. The type names themselves suggest the type of construction used to build the wells. The first four types of wells are usually put down to relatively shallow depths (less than 50 feet) and are often constructed with hand tools. The fifth type, covering drilled wells, is probably the most important type of well in use today.

Briefly, a dug well, as the name implies, is usually excavated with hand tools and lined with brick, stone, steel, wood cribbing, tile, or other suitable material. The diameter is seldom less than 3 feet and may be as great as 80 feet or more depending upon the yield that is desired and the rate at which the water-bearing strata will yield water.

A bored well is constructed with an earth auger, of either the hand or power operated type, and cased with standard well casing. It is used where speed of construction and economy of material are essential and where relatively small quantities of water are available at shallow depths in such unconsolidated formations as glacial till or alluvial valley deposits. The diameter of a bored well is not great, since it is limited by the diameter of the auger that can be used.

A jetted well is constructed where no rocks or boulders are present. It is particularly adapted to localities where water occurs in sand at shallow depths. It is a simple and dependable type of well that can be constructed rapidly with hand tools without recourse to bulky power tools. The basic method of construction involves "washing" a casing vertically into the ground until it has reached a point below the water table. The well pipe, with a

[15]. In assembling data for this section frequent reference was made to War Department Technical Manual TM 5-297, Well Drilling, Nov. 29, 1943.
[16]. Meinzer, O. E., Outline of Ground-Water Hydrology: Water Supply Paper 494, p. 60, 1923.

Table 6.—Chemical analyses of natural waters from Rensselaer County, New York. (Concluded)

(Analyses by New York State Department of Health unless indicated otherwise. Dissolved constituents given in parts per million)

Well or spring number	Depth (feet)	Geological subdivision of surface source	Date of collection	Dissolved solids	Iron (Fe)	Manganese (Mn)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Hardness (as $CaCO_3$)			Total alkalinity (as $CaCO_3$)	pH
										Total	Carbonate	Noncarbonate		
Re 426	62	Walloomsac slate	4/23/46	417	2.0	.08	279	69	2.2	30	30	0	229	9.3
Re 433[a]	340	Schodack formation	5/13/46	..	.2	..	180	..	5.0	48	48	0	148	7.5
Re 434	174	Schodack formation	4/20/46	165	.05	.03	140	20	1.2	84	84	0	115	7.8
Re 459	63	Pleistocene sand	6/20/46	497	.1	1.6	289	55	17	290	237	63	237	7.0
Re 475	86	Pleistocene gravel	6/21/46	..	.03	..	134	..	5.0	144	110	34	110	7.8
Re 481	102	Normanskill shale	5/18/46	536	2.0	.2	256	131	7.4	300	210	90	210	7.1
Re 496	65	Pleistocene till	5/31/46	359	.1	.01	226	46	20	176	176	0	185	7.0
Re 537	34	Pleistocene deposits	5/18/38	..	.03	..	30	..	2.4	50	25	25	25	6.6
Re 555	46	Schodack formation	3/6/47	..	.1	..	120	..	60	128	98	30	98	6.0
Re 579	116	Rensselaer graywacke	5/12/47	261	.03	.08	236	32	.8	200	193	7	193	7.3
Re 592	85	Normanskill shale	3/15/46	238	1.5	1.0	183	13	13	80	80	0	150	7.3
Re 593	28	Pleistocene gravel	3/16/46	412	.1	.03	271	104	12	270	222	48	222	7.3
Re 599	156	Schodack formation	6/22/44	..	.1	..	117	..	16	104	96	8	96	7.7
Re 627	130	Schodack formation	6/5/47	153	.25	.02	83	21	3.2	94	68	26	68	7.1
Re 639	125	Schodack formation	6/5/47	197	.03	.08	155	30	3.6	104	104	0	127	7.8
Re 1Sp	..	Pleistocene till	3/7/46	118	.03	.01	61	25	5.8	74	50	24	50	6.7
Re 4Sp	..	Pleistocene till	3/9/46	45	.2	.02	24	6.8	.4	30	20	10	20	6.3
Re 8Sp	..	Pleistocene till	11/17/42	..	.5	..	20	..	2.0	32	16	16	16	7.0
Re 9Sp	..	Pleistocene deposits	5/13/46	90	.07	.01	49	20	3.0	54	40	14	40	6.6
Re 10Sp	..	Pleistocene deposits	6/10/46	183	.1	.01	121	28	4.2	116	99	17	99	7.2
Re 11Sp	..	Pleistocene deposits	8/3/45	..	.4	..	216	..	6.8	200	177	23	177	7.7
Re 12Sp	..	Pleistocene deposits	6/10/46	145	.2	.01	117	22	2.0	100	96	4	96	8.0
Re 13Sp	..	Pleistocene deposits	6/10/46	165	.03	.01	156	18	1.6	124	124	0	128	7.6
Re 14Sp	..	Pleistocene deposits	5/14/46	..	.03	..	95	..	3.2	82	78	4	78	7.6
	Babcock Lake, Grafton		8/8/44	..	.8	..	7	..	1.8	22	6	16	6	7.1
	Hudson River at Rensselaer		11/20/42	..	.7	..	54	..	5.0	48	44	4	44	7.3
	Hoosic River at Schaghticoke		7/18/24	..	..	..	104	..	3.8	94	85	9	85	..
	Round Pond, Berlin		9/30/40	..	.04	..	34	..	.6	34	28	6	28	6.3
	Town of Berlin, Kendall Pond		4/20/47	..	.4	..	11	..	.4	14	9	5	9	7.1
	City of Troy, Grafton Reservoir		7/27/45	..	.4	..	4	..	4.2	12	3	9	3	6.8
	City of Troy, Tomhannock Reservoir		7/27/45	..	.2	..	27	..	2.0	28	22	6	22	6.8
	City of Troy, Vanderheyden Reservoir		7/27/45	..	.4	..	49	..	8.0	40	40	0	40	7.1

[a] Fluoride, 0.05 P.P.M.
[b] Analysis by Quality of Water Branch, U. S. Geological Survey.
[c] Silica, 11 P.P.M.; Calcium, 32 P.P.M.; Magnesium, 4.9 P.P.M.; Sodium and Potassium, 7.9 P.P.M.; Fluoride, 0.1 P.P.M.; Nitrate, 0.5 P.P.M.
[d] Analysis obtained from the Permutit Company, New York, New York.

(47-15-11 (10/83)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID AND HAZARDOUS WASTE
INACTIVE HAZARDOUS WASTE DISPOSAL SITE REPORT

PRIORITY CODE: 2A SITE CODE: 442019
NAME OF SITE: Geier & Bluhm REGION: ____
STREET ADDRESS: 594 River Street
TOWN/CITY: Troy COUNTY: Rensselaer

NAME OF CURRENT OWNER OF SITE: Geier & Bluhm, Inc.
ADDRESS OF CURRENT OWNER OF SITE: 594 River Street Troy, NY 12180

TYPE OF SITE: OPEN DUMP ☒ STRUCTURE ☐ LAGOON ☐
LANDFILL ☐ TREATMENT POND ☐

ESTIMATED SIZE: 0.01 ACRES

SITE DESCRIPTION:

The site is the parking lot of a small manufacturing facility that produces spirit levels. Spent lacquer thinner was disposed of along the edges of the parking lot. An estimated maximum of 156 gallons of thinner was dumped over a period of 13 years. The area upon which it was dumped is approximately 0.01 acres. The site is located in a commercial area, and there ware no groundwater users in the area.

HAZARDOUS WASTE DISPOSED: CONFIRMED ☒ SUSPECTED ☐

TYPE AND QUANTITY OF HAZARDOUS WASTES DISPOSED:

TYPE	QUANTITY (POUNDS, TONS, DRUMS, GALLONS)
Lacquer thinner	Up to 156 gallons

TIME PERIOD SITE WAS USED FOR HAZARDOUS WASTE DISPOSAL:

_____, 19 60 TO _____, 19 83

OWNER(S) DURING PERIOD OF USE: Geier & Bluhm, Inc.

SITE OPERATOR DURING PERIOD OF USE: Geier & Bluhm, Inc.

ADDRESS OF SITE OPERATOR: 594 River Street, Troy, N.Y. 12180

ANALYTICAL DATA AVAILABLE: AIR ☐ SURFACE WATER ☐ GROUNDWATER ☐
SOIL ☐ SEDIMENT ☐ NONE ☒

CONTRAVENTION OF STANDARDS: GROUNDWATER ☐ DRINKING WATER ☐
SURFACE WATER ☐ AIR ☐

SOIL TYPE: Urban Land

DEPTH TO GROUNDWATER TABLE: 15 ± Feet

LEGAL ACTION: TYPE: _____ STATE ☐ FEDERAL ☐
STATUS: IN PROGRESS ☐ COMPLETED ☐
REMEDIAL ACTION: PROPOSED ☐ UNDER DESIGN ☐
IN PROGRESS ☐ COMPLETED ☐

NATURE OF ACTION: _____

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Possible soil and groundwater contamination. There are no groundwater users in the vicinity. The site is open to public access.

ASSESSMENT OF HEALTH PROBLEMS:

None known.

PERSON(S) COMPLETING THIS FORM:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

NAME LeRoy Callender, P.C.
TITLE _____
NAME _____
TITLE _____
DATE: 7 August 1987

NEW YORK STATE DEPARTMENT OF HEALTH

NAME _____
TITLE _____
NAME _____
TITLE _____
DATE: _____