ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES IN THE STATE OF NEW YORK
PHASE I INVESTIGATIONS

OLD HALFMOON LANDFILL
HALFMOON, SARATOGA COUNTY, NEW YORK
Site Code:546013

JANUARY 1987

Prepared for:

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
50 WOLF ROAD, ALBANY, NEW YORK 12233
HENRY G. WILLIAMS, COMMISSIONER

Division of Solid and Hazardous Waste
NORMAN H. NOSENCHUCK, P.E. DIRECTOR

WEHRAN ENGINEERING, P.C.
Middletown & Grand Island, New York

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50 WOLF ROAD
ALBANY, NEW YORK 12233-0001

Prepared by

WEHRAN ENGINEERING, P.C.
666 EAST MAIN STREET
MIDDLETOWN, NEW YORK 10940

WE Project No. 01424339

January 1987

OLD HALFMOON LANDFILL

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1.0 EXECUTIVE SUMMARY

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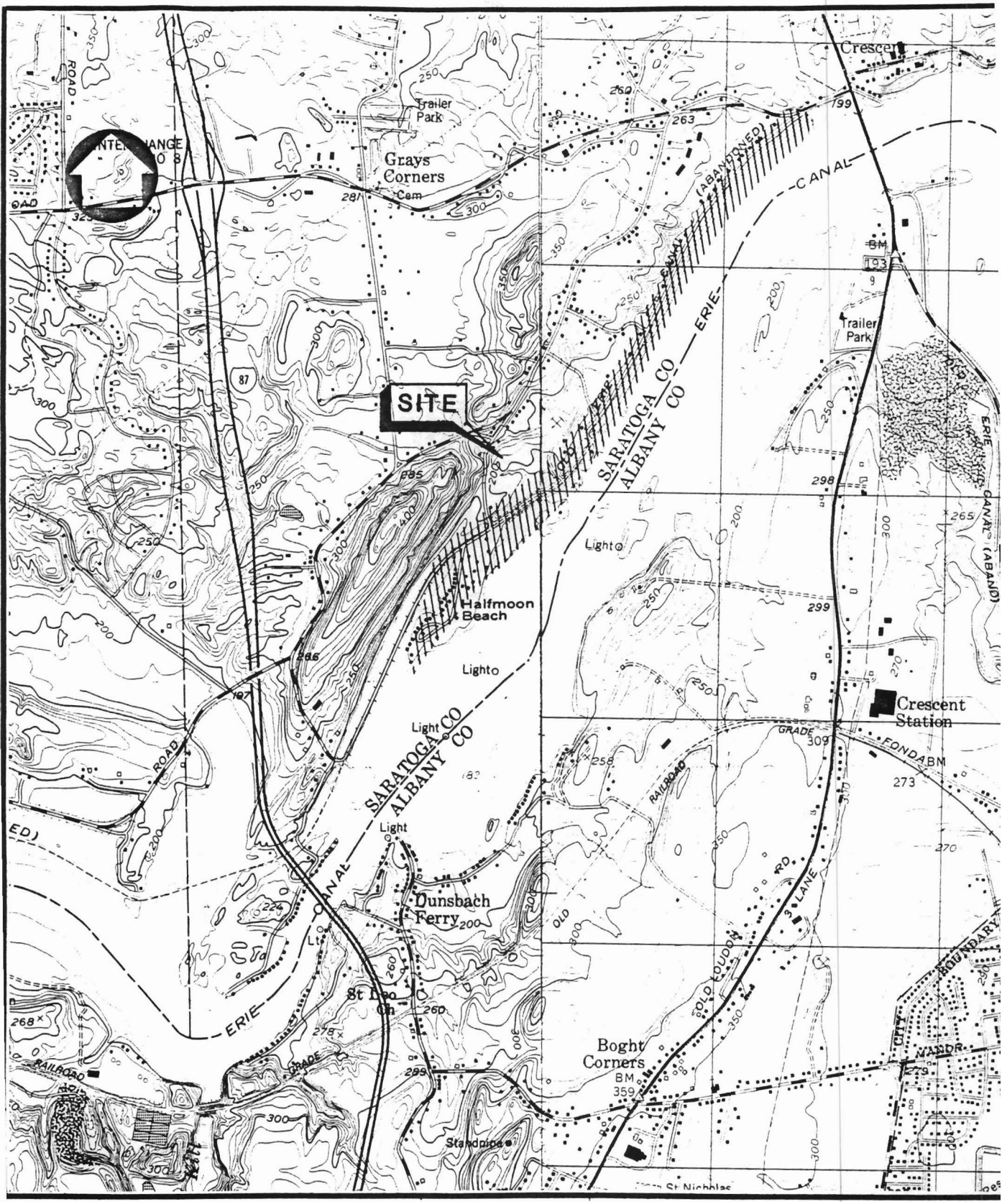
Old Halfmoon Landfill, which is located in the southeastern section of Saratoga County, is a portion of the old Erie Canal which was filled in by the Town of Halfmoon to avoid accidental drownings. The site is approximately 1-1/2 miles long by 100 feet wide and is adjacent to the Mohawk River. The site was closed in 1969 and filled four to eight feet above the level of the river.

Approximately 50 homes are located within 1/4 mile of this site and all these homes use groundwater from private wells for drinking water. Surface water usage in the area consists of recreational boating, swimming and sport fishing in the Mohawk River.

Problems associated with this site include visible leachate flows into the Mohawk River, surface ponding, inadequate cover with protruding refuse, and methane production. There has been one explosion at this site in 1970.

A preliminary Hazard Ranking Score of $S_M = 28.78$ has been assigned.



SCALE: 1" = 2000'

TOPOGRAPHY TAKEN FROM

1954

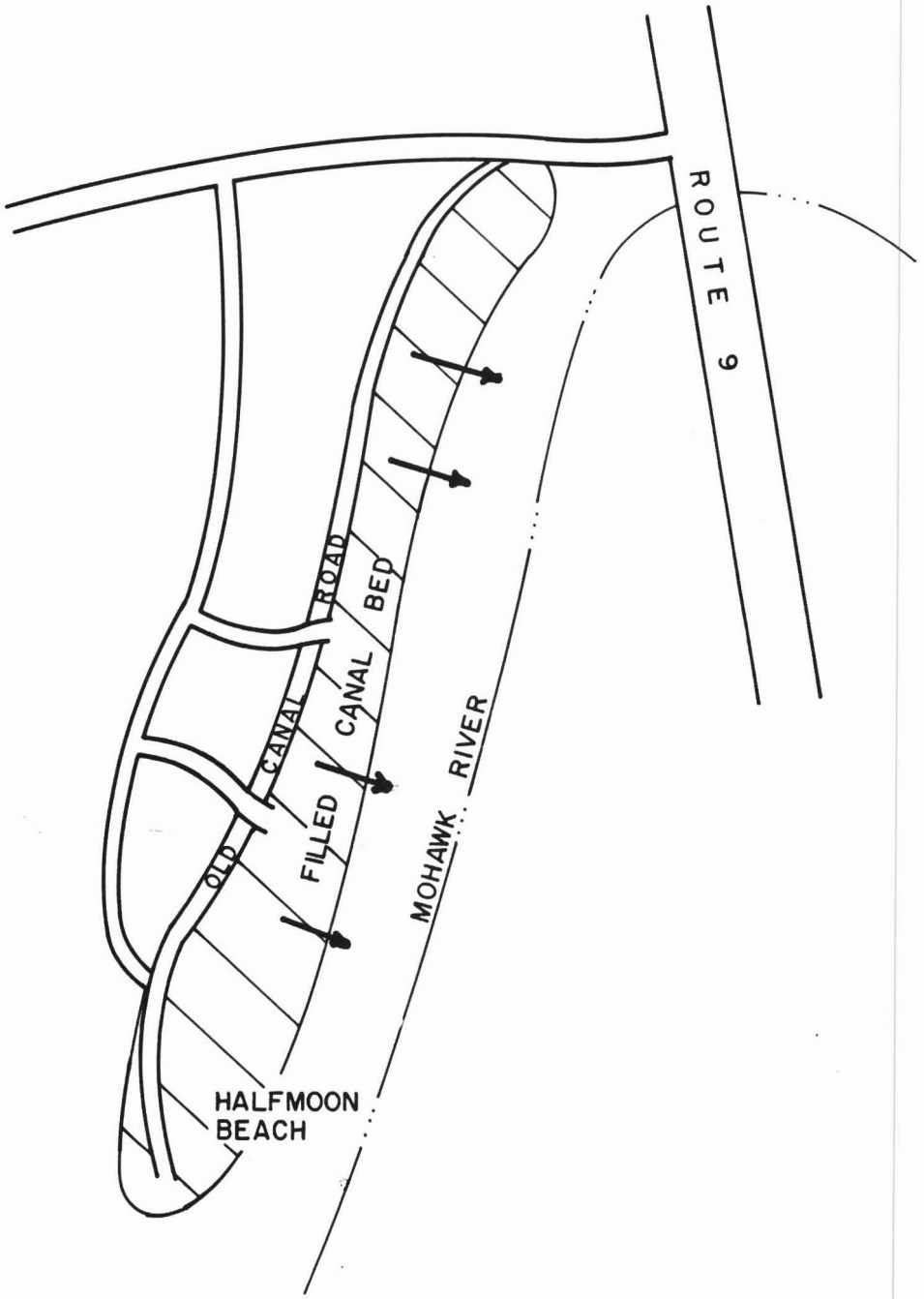
TROY NORTH, N.Y.

NISKAYUNA, N.Y.

FIGURE 1

SITE LOCATION MAP

OLD HALFMOON LANDFIL



LEGEND

→ INDICATES MINOR LEACHATE SEEPS OBSERVED

FIGURE 2

SITE SKETCH

OLD HALFMOON LANDFI

2.0 PURPOSE

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This Phase I investigation was conducted under contract to the New York State Department of Environmental Conservation Superfund Program to evaluate the potential environmental or public health hazard associated with past disposal activities at the Old Halfmoon Landfill site. Divided into two parts, this initial investigation consisted of a detailed file review of available information and an initial site investigation. The culmination of this phase is the development of a preliminary Hazard Ranking System (HRS) score.

Where information is lacking and a final score cannot be computed, recommendations will be made for a Phase II investigation designed to verify the assumptions made in the preliminary scoring and to collect the additional data needed to complete the site assessment.

3.0 SCOPE OF WORK

3.0 SCOPE OF WORK

To complete the preliminary HRS score for the Old Halfmoon Landfill, the following scope of work was completed:

- A review of the following:
  - Available information from federal, state, and municipal agencies
  - Published documents from the U.S. Geological Survey, Soil Conservation Service and state agencies for geological, hydrological and topographical data
  - Available files, reports and court cases
- Interviews with individuals having knowledge of the site

Information gathered included well logs, land use data, water usage patterns, critical habitats and endangered species data, meteorological data, hydrological, geological and topographical data, waste characteristics and demographic information.

Following an initial file review a site inspection was conducted. The intent of the inspection was to verify existing file information and to conduct an HNU survey to screen for potential air releases. Items of specific interest in the site investigation were:

- Overall site environmental conditions
- The presence of disturbed areas
- Visual signs of waste materials (drums, sludges, etc.)
- The occurrence of leachate
- Site topography

A detailed analysis was performed on all data collected in preparation of a preliminary HRS score. Where information was lacking and a final HRS

score could not be computed, recommendations were made for a Phase II investigation. This investigation was designed to verify the assumptions made in the preliminary scoring and to collect the additional data needed to complete the site assessment. A summary of agencies contacted, contact person, address and information obtained follows.

SOURCES -- OLD HALFMOON LANDFILL
(Page 1)

Name/Address/Phone	Type of Contact	Date	Information Provided
Mr. Robert Abrams, Attorney General New York State Attorney General Department of Law State Capitol, Room 221 Albany, New York 12224 (581) 474-7330	Letter	8-24-84	None available
Dr. David Axelrod, Commissioner New York State Department of Health Tower Building, Empire State Plaza Albany, New York 12237 (518) 474-8427	Letter	8-24-84	None available
Mr. Geoff Bornemann Principal Planner Capital District Regional Planning Commission 251 River Street Monument Square Troy, New York 12180 (518) 272-1414	Letter	8-24-84	Historical data
Mr. John Czapor, Environmental Engineer USEPA, Region II 26 Federal Plaza New York, New York 10278 (212) 264-1573	Letter	8-24-84	None available
Mr. William Davison, Director Lake Champlain-Lake George Regional Planning Board Lake George Institute Lake George, New York 12845 (518) 668-5773	Letter	8-24-84	None available
Mr. Robert J. Dineen Senior Scientist NYS Geological Survey State Education Department Division of Museum Services Albany, New York 12230 (518) 474-5816	Letter	8-24-84	Hydrogeological information

SOURCES -- OLD HALFMOON LANDFILL
(Page 2)

Name/Address/Phone	Type of Contact	Date	Information Provided
Mr. Bud Colden NYSDEC, Region 5 Hudson Street Extension Box 220 Warrensburg, New York 12885 (518) 623-3671	Personal Commun.	10-17-84	Site history; regional files
Mr. Paul Dodd, State Conservationist U.S. Department of Agriculture Soil Conservation Service James M. Hanley Federal Building 100 South Clinton Street Syracuse, New York 13260 (315) 423-5521	Letter	8-24-84	Name and address of lo representative
Mr. John F. Dudek, Supervisor Town of Halfmoon 191 Harris Road Waterford, New York 12188 (518) 371-7410	Letter Interview	8-24-85 2-13-85	Background informatio Background informatio
Dr. Robert H. Fakundiny, State Geologist Geological Survey of New York State State Education Department Division of Museum Services Albany, New York 12230 (518) 474-5816	Letter	8-24-84	None available
Mr. Brian Fear District Sanitary Engineer Glens Falls District Office 21 Bay Street, Quaker Village Glens Falls, New York 12801 (518) 793-3893	Letter	8-24-84	EPA reports Department reports
Ms. Fil Fina, Chairperson Saratoga County Environmental Management Council County Municipal Center Ballston Spa, New York 12020 (518) 885-5381	Letter	8-24-84	EPA reports Background informatio
Mr. George Hodgson, Jr. Saratoga County Environmental Coordinator Saratoga County Municipal Center Ballston Spa, New York 12020 (518) 885-5381	Letter	8-24-84	EPA reports, historical data

SOURCES -- OLD HALFMOON LANDFILL
(Page 3)

Name/Address/Phone	Type of Contact	Date	Information Provided
Mr. James L. Larocca, Commissioner NYSDOT 1220 Washington Avenue Albany, New York 12232 (518) 457-4422	Letter	8-24-84	Name and address of local branch
Mr. Dan Steenberg NYSDEC, Region 5 Route 86 Raybrook, New York 12977 (518) 891-1370	Telephone Call	3-11-86	Sampling data
Dr. Ian Loudon, Regional Health Director New York State Northern Regional Office New York State Department of Health 9 Market Street Amsterdam, New York 12010 (518) 843-3520	Letter	8-24-84	None available
Mr. Lawrence A. Martens, District Chief U.S. Department of the Interior U.S. Geological Survey Albany District Office P.O. Box 1350 U.S. Post Office and Court House Albany, New York 12201 (518) 472-3107	Letter	8-24-84	None available
Mr. Carl B. Sciple, Division Engineer Army Corps of Engineers New England Division 424 Trapelo Road Waltham, Massachusetts 02154 (617) 894-2400	Letter	8-24-84	None available
Mr. Richard D. Spear, Chief Surveillance & Monitoring Branch USEPA, Region II Woodbridge Avenue Edison, New Jersey 08817 (201) 321-6685	Letter	8-24-84	None available
Mr. Marc Usher Soil Conservation Service 50 West High Street Ballston Spa, New York 12020 (518) 885-6900	Letter Telephone Call	8-24-85 9-12-85	Soil types, irrigation practices, surface wate uses

SOURCES -- OLD HALFMOON LANDFILL
(Page 4)

Name/Address/Phone	Type of Contact	Date	Information Provided
Mr. Roger M. Waller District Groundwater Specialist USDI, Geological Survey P.O. Box 1669 Albany, New York 12201 (518) 472-3107	Letter	8-24-84	Hydrogeological data
Mr. David Wood Cooperative Extension Service Satratoga County Municipal Center Ballston Spa, New York 12020 (518) 885-5381	Telephone Call	9-12-85	Irrigation practices, surface water use
Mr. Lou DiGuardia USEPA, Region II Environmental Services Division Surveillance and Monitoring Branch Woodbridge Avenue Edison, New Jersey 08837 (201) 321-6790	Telephone Call Letter	4-1-86 4-4-86	USEPA sample matrix identification

4.0 SITE ASSESSMENT

4.0 SITE ASSESSMENT

4.1 SITE HISTORY

This site is the Old Erie Canal which the Town decided to fill in to avoid accidental drownings. The Town contracted an Arizona firm, Aetra Corporation, to operate the site. Aetra obtained garbage hauling contracts from the surrounding municipal areas and began dumping operations in 1962. Supposedly only municipal wastes were accepted, but local residents claimed trucks were on the site at night. Aetra was relieved of its duty in May 1967, and the Town transferred operating responsibility to Chiarello Landfill and Disposal Inc. at this time. Chiarello was taken over by Capitol Division Disposal Company around July 1967.

Supreme Court Justice M. Sweeney ordered the Capital Division to close and cover the site by the end of 1968. Capital Division never completed this task. The Town was advised by the Glens Falls District Office of the U.S. Department of Health to close out the site on January 10, 1969.

Since then leachate has been seen leaving the site at numerous locations along the Mohawk River and methane gas has been generated. According to a memorandum dated February 9, 1976 from Mr. Brian Fear of the Department of Health, "large sink holes have appeared in the site and large quantities of methane gas are being produced." There is documentation of a methane gas explosion in 1970.

According to a DEC Hazardous Waste Disposal Sites report, dated February 1980, the canal was filled four to eight feet above the original grade and leachate is visible at many locations along the site. A USEPA Site Investigation Report was submitted by David J. Cesareo of USEPA on June 4, 1980 which reported only minor problems of escaping methane gas and points of ground cracks.

4.2 SITE TOPOGRAPHY

The Old Halfmoon Landfill is located in the southeastern portion of Saratoga County in the Mohawk Valley. The site is 1.5 miles long and

approximately 100 feet wide. The site is a portion of the Erie Canal located on the north side of the Mohawk River's flood plain and is less than 10 feet from the bank of the Mohawk River.

The site is primarily bounded on the south by the Mohawk River and on the north by Clam Stream Road. In most cases, the nearest residences are on the opposite side of Clam Stream Road from the fill area. The distance of these homes from the old canal ranges from 100 to 250 feet. There are approximately 50 homes within 1/4 mile of the site. The majority of these homes have private wells with depths ranging from 40 feet to 200 feet. Municipal water could be provided; however, most residents have shown little interest in connecting to a public supply system.

4.3 SITE HYDROGEOLOGY

The Old Halfmoon Landfill is located in the flood plain of the Mohawk River. The landfill is a portion of the Erie Canal which was excavated in fine-grained stratified deposits of clay with some silt. The surrounding soils are also of clay nature. The general drainage pattern is southerly from the highlands to the Mohawk River. Drainage and groundwater both move into the canal bed which flows into the Mohawk River. Underlying the clay deposits is a thick sequence of consolidated rocks consisting largely of shale interbedded with thin layers of sandstone.

4.4 SITE CONTAMINATION

Waste types accepted at the Old Halfmoon Landfill were primarily solid municipal waste. No documentation on hazardous or chemical wastes can be found. USEPA estimates that the volume of waste disposed of at this site is 176,000 cubic yards.

Site investigation on February 13, 1985 by Wehran Engineering revealed two problems: ponding on the surface of the landfill and leachate entering the Mohawk River. USEPA site inspections in June 1980 indicated problems of refuse protruding through cover material and methane gas production. There is documentation of a methane gas explosion in 1970.

Data analysis of samples taken on May 22, 1980 by USEPA indicates that possible contamination from heavy metals is occurring at the site. Excessive levels of lead (390 ug/l), chromium (130 ug/l), cadmium (59 ug/l), antimony (50 ug/l) and zinc (1,100 ug/l) have been detected and are attributable to leachate originating from the site. USEPA samples were obtained from the following locations:

Sample Number	Matrix Type	Location
56462	Leachate	Obtained from drainage ditch across from Cresent Boat Club
56443	Mohawk River surface water	Semi-stagnant water adjacent to Krause Beach
56464	Groundwater	Obtained from sink behind bar at Clamstream Tavern

Analysis of samples 56463 and 56464 indicate that levels of antimony in surface water and groundwater are above NYS acceptable standards. However, no background data is available for comparison and indication of a release.

5.0 PRELIMINARY APPLICATION OF THE HAZARD RANKING SYSTEM

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5.1 NARRATIVE SUMMARY

Old Halfmoon Landfill is part of the old Erie Canal adjacent to the Mohawk River. The site is owned by the Town of Halfmoon which used it as a municipal landfill. The area used as a landfill is 1-1/2 miles long by 100 feet wide. Exact quantity and composition of waste is unknown. USEPA estimates that the volume of material disposed of is approximately 176,000 cubic yards. NYSDEC and USEPA have no documentation of hazardous wastes being disposed of at this site.

The Mohawk River borders the site to the south with Clam Stream Road bordering to the north. The nearest residences are on the opposite side of Clam Stream Road from the fill area. The distance of these homes from the old canal ranges from 100 to 250 feet. There are approximately 50 homes within 1/4 mile of the site. These homes have private wells with well depths ranging from 40 to 200 feet.

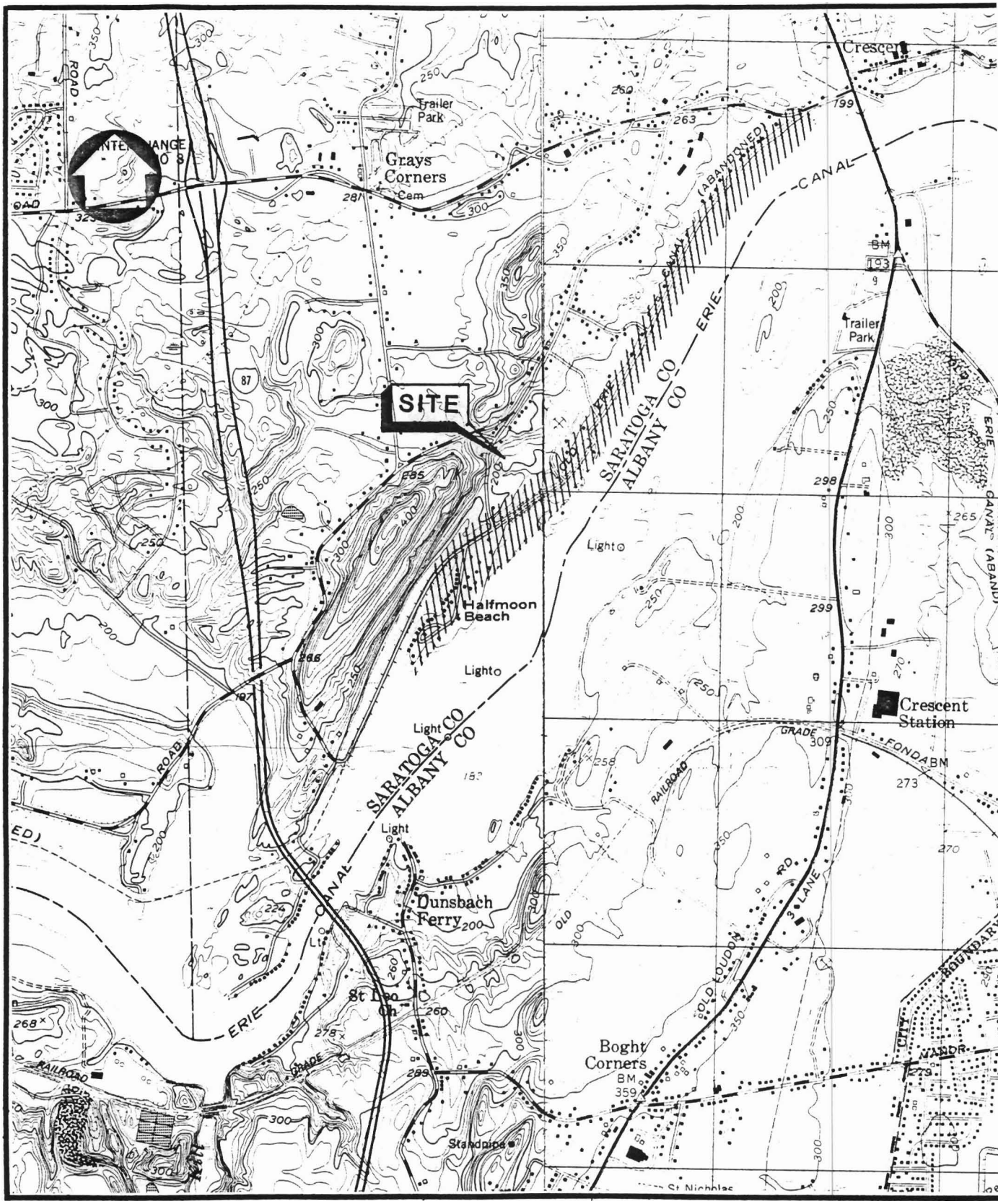
Site investigations on February 13, 1985 by Wehran Engineering revealed two problems: ponding on the surface of the landfill and leachate entering the Mohwawk River. USEPA site inspections in June 1980 indicated problems of refuse protruding through cover material and methane gas production. A report from the Public Health office in Glens Falls states that there was an explosion at this site in 1970 due to methane gas production.

Data on the impact of this site on the surrounding environment are inadequate. Additional information is needed on the extent and composition of leachate entering the Mohawk River and on the direction and flow of groundwater in the area of the site.

USEPA sampling data indicate the presence of several heavy metals in concentrations above groundwater (Class GA) and surface water (Class A) standards. This data was not used to score a release due to the lack of background data.

A preliminary HRS score (S_m) of 39.38 has been assigned to this site.

LOCATION



SCALE: 1" = 2000'

TOPOGRAPHY TAKEN FROM 1954

TROY NORTH, N.Y.
NISKAYUNA, N.Y.

FIGURE 1

SITE LOCATION MAP

OLD HALFMOON LANDFI

HRS WORKSHEETS

Facility Name: Old Halfmoon Landfill

Location: Clam Stream Road, Town of Halfmoon, Saratoga Co.

EPA Region: II

Person(s) in Charge of the Facility: John Dudeck
Town Supervisor
(518) 237-5830

Name of Reviewer: David B. Tompkins **Date:** October 2, 1985

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.)

Old Halfmoon Landfill is a portion of the Erie Canal which was filled in with municipal wastes. The site is approximately 1-1/2 miles long and 100 feet wide. The Town of Halfmoon is the owner of this inactive site. Areas of concern include leaching and surface runoff, ponding of surface water, and methane gas production. One explosion has occurred at this site.

Scores: $S_M = 28.78$ ($S_{gw} = 48.12$ $S_{sw} = 12.76$ $S_a = 0$)

$S_{FE} = 0$

$S_{DC} = 25.00$

GROUND WATER ROUTE WORK SHEET

	Rating Factor	Assigned Value (Circle One)	Multiplier	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	4	6	
	Net Precipitation	0 1 2 (3)	1	3	3	
	Permeability of the Unsaturated Zone	0 1 2 (3)	1	3	3	
	Physical State	0 (1) 2 3	1	1	3	
	Total Route Characteristics Score			11	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	18	18	
	Hazardous Waste Quantity	0 (1) 2 3 4 5 6 7 8	1	1	8	
	Total Waste Characteristics Score			19	26	
5	Targets					3.5
	Ground Water Use	0 1 2 (3)	3	9	9	
	Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 (35) 40	1	35	40	
	Total Targets Score			44	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			27,588	57.330	
7	Divide line 6 by 57,330 and multiply by 100	S_{gw} =		48.12		

SURFACE WATER ROUTE WORK SHEET

	Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	(S
1	Observed Release	(0) 45	1	0	45	

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				
	Facility Slope and Intervening Terrain	0 1 2 (3)	1	3	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	1	3
	Total Route Characteristics Score			12	15
3	Containment	0 1 2 (3)	1	3	3
4	Waste Characteristics				
	Toxicity/Persistence	(0) 3 6 9 12 15 (18)	1	18	18
	Hazardous Waste Quantity	0 (1) 2 3 4 5 6 7 8	1	1	8
	Total Waste Characteristics Score			19	26
5	Targets				
	Surface Water Use	0 1 (2) 3	3	6	9
	Distance to a Sensitive Environment	0 1 2 (3)	2	6	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			12	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			8,208	64,350
7	Divide line 6 by 64,350 and multiply by 100	S_{sw} =		12.76	

AIR ROUTE WORK SHEET

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

	S	S^2
Groundwater Route Score (S_{gw})	48.12	2315.53
Surface Water Route Score (S_{sw}	12.76	162.82
Air Route Score (S_a	0	0
$S_{gw}^2 + S_{sw}^2 + S_a^2$		2478.35
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		49.78
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73$		S_M = 28.

WORKSHEET FOR COMPUTING S_M

FIRE AND EXPLOSION WORK SHEET

N/A

	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 5 by 1,440 and multiply by 100	S_{FE} =	0			

DIRECT CONTACT WORK SHEET

	Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	R (Se
1	Observed Incident	(0) 45 No documentation	1	0	45	8
	If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2					
2	Accessibility	0 1 2 (3) No restrictions	1	3	3	8
3	Containment	0 (15) None present	1	15	15	8
4	Waste Characteristics Toxicity	0 1 2 (3) Heavy metals	5	15	15	8
	Targets	USGS House count				8
	Population Within a 1-Mile Radius	0 1 (2) 3 4 5	4	8	20	
	Distance to a Critical Habitat	(0) 1 2 3 N/A	4	0	12	
	Total Targets Score			8	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			5400	21,600	
7	Divide line 6 by 21,600 and multiply by 100	S_{DC} = 0		25.00		

HRS DOCUMENTATION RECORDS

June 28, 1982

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: Old Halfmoon Landfill

LOCATION: Clam Stream Road, Town of Halfmoon, Saratoga County

GROUND WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected (5 maximum):

Only one known groundwater sample has been taken. This sample was collected during a May 22, 1980 USEPA site inspection. A copy of the analytical results was obtained. No other documentation on groundwater contamination has been obtained.

Score = 0

Source: NYSDEC file documents
USEPA site inspection reports

Rationale for attributing the contaminants to the facility:

Not applicable

2 ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifer(s) of concern:

No site-specific hydrogeological information is available. However, the superficial unconsolidated material (delta sand and gravel) is the most productive source of groundwater.

Source: Groundwater Studies in Saratoga County, USGA, GW-49, 1963.

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

Well depths are reported to range from 40 to 200 feet in the area of the site. Shallowest water level = 40 feet.

Source: Report submitted by Public Health Office, Glens Falls, December 1979

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

Canal depth has been documented as 6 feet. Assume waste deposited at bottom of canal.

Source: Report submitted by Public Health Office, Glens Falls, December 1979

Water level	40	ft.
Depth of waste	-6	ft.
	32	ft. = distance from waste to water table

Score = 2

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

No methods of containment were observed during site inspection.

Source: Wehran Engineering site investigation, February 13, 1985

Method with highest score:

Landfill with no liner present

Score = 3

Source: HRS User's Manual, 1984

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

USEPA sampling results from May 22, 1980 indicate that potential contamination from heavy metals may be occurring. Reported elements included:

Cadmium = 18
Chromium = 18
Lead = 18
Antimony = unknown
Zinc = 18

Source: USEPA sampling data taken on May 22, 1980

Compound with highest score:

Cadmium = 18
Chromium = 18
Lead = 18
Zinc = 18

Source: NYS Waste Characteristics Values (Draft)

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):

Total waste quantity is estimated at approximately 176,000 cubic yards; however, percentage of hazardous waste is unknown. Therefore, for scoring purposes, a minimum quantity is assumed.

Score = 1

Source: USEPA site inspection report, June 1980

Bases of estimating and/or computing waste quantity:

5 TARGETS

Ground Water Use

Use(s) of aquifer(s) of concern within a 3-mile radius of the facility:

Drinking water - availability of other sources unknown
Score = 3
Source: Report submitted by Public Health Office, Glens Falls, December 1979

Distance to Nearest Well

Location of nearest well drawing from aquifer of concern or occupied building not served by a public water supply:

Clam Stream Road runs parallel to and borders the site to the north. Across from Clam Stream Road there are private residences
Source: Report submitted by Public Health Office, Glens Falls, December 1979

Distance to above well or building:

Less than 100 feet
Value = 4
Source: Report submitted by Public Health Office, Glens Falls, December 1979

Population Served by Ground Water Wells Within a 3-Mile Radius

Identified water-supply well(s) drawing from aquifer(s) of concern within a 3-mile radius and populations served by each:

Approximately 50 private wells are located within 1/4 mile of this site
Source: Report submitted by Public Health Office, Glens Falls, December 1979

Approximately 13 municipal or community wells are located within 3 miles of this site; at this time well logs are unavailable from the Public Health Office and local Building Depts
Source: NYS Atlas of Community Water Systems Sources 1982 (see Appendix)

Computation of land area irrigated by supply well(s) drawing from aquifer(s) of concern within a 3-mile radius, and conversion to population (1.5 people per acre):

There are no known uses of groundwater for irrigation
Source: Personal communication, Marc Usher, SCS, Ballston Spa Office
Personal communication, David Wood, Cooperative Extension, Ballston Spa Office

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

50 Private wells		
50 x 3.8 (people/house)	190	people
Community wells	**7,450**	**people**
	7,640	

Source: HRS User's Manual 1984
NYS Inventory of Community Water Systems, Vols. I and II, 1984
Value = 4
Score = 35

SURFACE WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected in surface water at the facility or downhill from it (5 maximum):

File documents contain reference to two sampling dates, on which samples were collected by NYSDEC and USEPA, respectively. However, the information available is inadequate to determine if surface water contamination is occurring. Conclusion, no observed release has occurred.

Score = 0

Source: Wehran Engineering, file data interpretation, September 1985
USEPA, Site Inspection Report and sample analysis

Rationale for attributing the contaminants to the facility:

Not applicable

2 ROUTE CHARACTERISTICS

Facility Slope and Intervening Terrain

Average slope of facility in percent:

Site is relatively flat. On-site variations estimated at 0-5%. Lower areas are causing ponding of surface water.

Source: Wehran Engineering site inspection, February 13, 1985

Name/description of nearest downslope surface water:

The Mohawk River parallels the site to the southeast

Source: USGS Topographic Map, Troy North and Niskayuna Quad

Average slope of terrain between facility and above-cited surface water body in percent:

Estimated at 10-30%

Source: Wehran Engineering site inspection, February 13, 1985

Is the facility located either totally or partially in surface water?

Leachate from site is entering river. Distance = 0

Score = 3

Source: Wehran Engineering site inspection, February 13, 1985

Is the facility completely surrounded by areas of higher elevation?

Higher elevations parallel the site to the northwest

Source: USGS Topographic Map, Troy North and Niskayuna Quad

1-Year 24-Hour Rainfall in Inches

2.5 inches

Score = 2

Source: Rainfall Frequency Atlas of the United States, Tech. Report 40, 1963

Distance to Nearest Downslope Surface Water

Site is adjacent to, but not in direct contact with, the Mohawk River
Shortest distance estimated at 10 feet to 20 feet

Score = 3

Source: Wehran Engineering site inspection, February 13, 1985

Physical State of Waste

Only solid municipal wastes have been documented as being disposed of at this site

Score = 1

Source: USEPA site inspection report, June 1980

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

No methods of containment were observed during site inspection

Source: Wehran Engineering site inspection, February 13, 1985

Method with highest score:

No leachate control system or liner
Surface encourages ponding

Score = 3

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated

USEPA sampling results from May 22, 1980 indicate that potential contamination from heavy metals may be occurring. Reported elements included:

Cadmium = 18
Chromium = 18
Lead = 18
Antimony = unknown
Zinc = 18

Source: USEPA sampling data taken on May 22, 1980

Compound with highest score:

Cadmium = 18
Chromium = 18
Lead = 18
Zinc = 18

Source: NYS Waste Characteristics Values (Draft)

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum);

Total waste quantity is estimated at approximately 176,000 cubic yards; however, percentage of hazardous waste is unknown. Therefore, for scoring purposes, a minimum quantity is assumed.

Score = 1

Source: USEPA site inspection report, June 1980

Basis of estimating and/or computing waste quantity:

Not applicable

5 TARGETS

Surface Water Use

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

The only detected use within 3 miles is for recreational boating, swimming, and fishing.

Source: NYS Codes, Rules and Regulations, Title 6, Vol. F, 1983

Score = 2

No drinking water intakes within 3 miles of the site

Source: NYS Atlas of Community Water Systems Sources 1982

Is there tidal influence?

Not applicable

Distance to a Sensitive Environment

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

Not applicable

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

This site is adjacent to the Mohawk River; approximate distance is 10 feet

Score = 3

Source: USGS Topographic Map, Troy North and Niskayuna Quad

Distance to critical habitat of an endangered species or national wildlife refuge, if 1 mile or less:

No federally designated critical habitat is within one mile

Score = 0

Source: NYSDEC Endangered Species Unit

Population Served by Surface Water

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

No surface water intakes are within 3 miles of site

Score = 0

Source: NYS Atlas of Community Water Systems Sources 1982

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

No known intakes for irrigation purposes have been identified

Source: NYS Atlas of Community Water Systems Sources 1982
Personal communication, Marc Usher, SCS, Ballston Spa Office

Total population served:

Not applicable

Name/description of nearest of above water bodies:

Not applicable

Distance to above-cited intakes, measured in stream miles.

Not applicable

AIR ROUTE

1 OBSERVED RELEASE

Contaminants detected:

Site investigations using an HNU found no detectable levels of air contamination

Source: Wehran Engineering site investigation, February 13, 1985

Date and location of detection of contaminants

Not applicable

Methods used to detect the contaminants:

Not applicable

Rationale for attributing the contaminants to the site:

Not applicable

2 WASTE CHARACTERISTICS

Reactivity and Incompatibility

Most Reactive compound:

Not applicable

Most incompatible pair of compounds:

Not applicable

Toxicity

Most toxic compound:

Not applicable

Hazardous Waste Quantity

Total quantity of hazardous waste:

Not applicable

Basis of estimating and/or computing waste quantity:

Not applicable

3 TARGETS

Population Within 4-Mile Radius

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

0 to 4 mi **0 to 1 mi** **0 to 1/2 mi** **0 to 1/4 mi**

Not applicable

Distance to a Sensitive Environment

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

Not applicable

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

Not applicable

Distance to critical habitat of an endangered species, if 1 mile or less:

Not applicable

Land Use

Distance to commerical/industrial area, if 1 mile or less:

Not applicable

Distance to national or state park, forest, or wildlife reserve, if 2 miles or less:

Not applicable

Distance to residential area, if 2 miles or less:

Not applicable

Distance to agricultural land in production within past 5 years, if 1 mile or less:

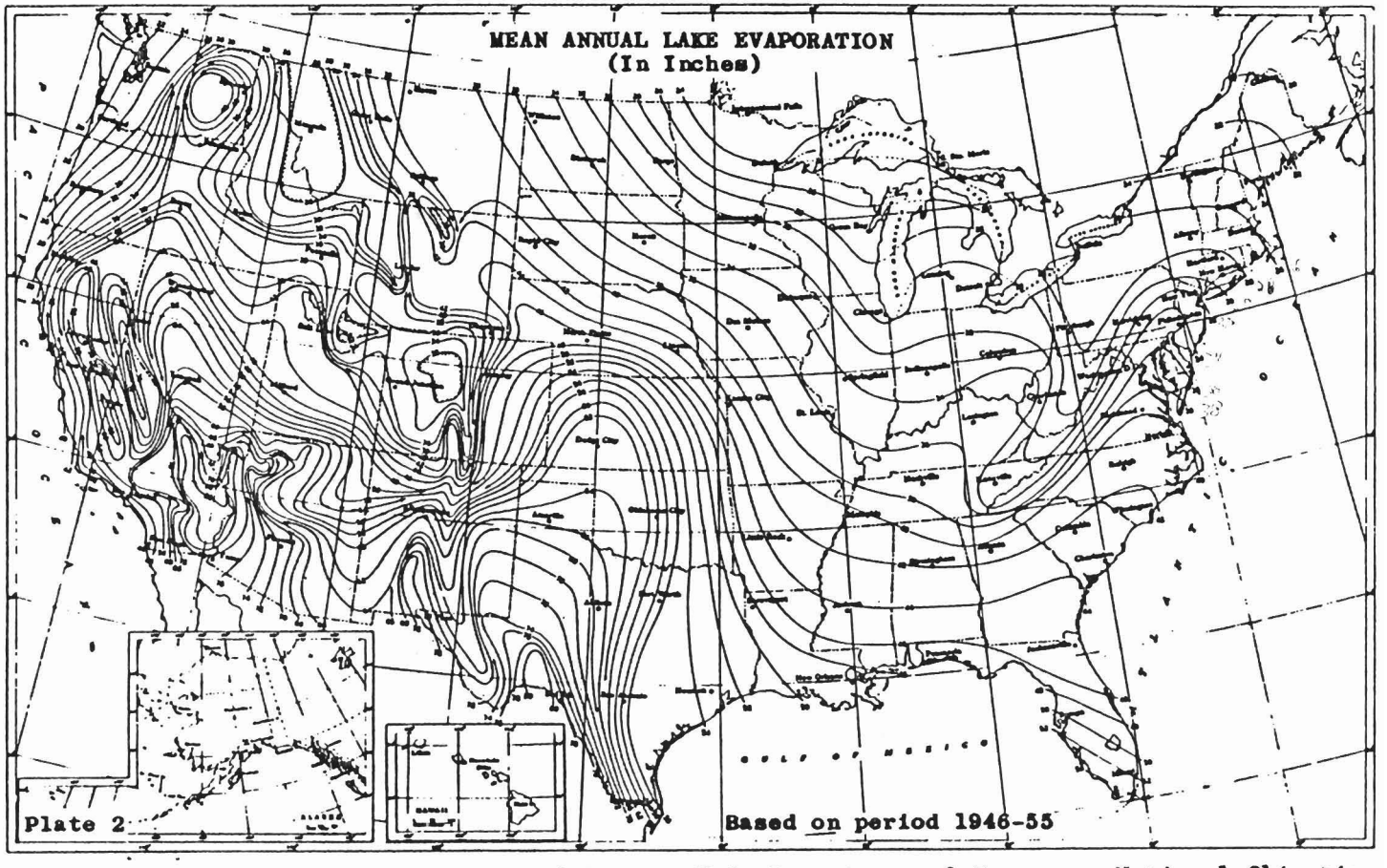
Not applicable

Distance to prime agricultural land in production within past 5 years, if 2 miles or less:

Not applicable

Is a historic or landmark site (National Register of Historic Places and National Natural Landmarks) within the view of the site?

Not applicable



Source: Climatic Atlas of the United States, U.S. Department of Commerce, National Climatic Center, Ashville, N.C., 1979.

FIGURE 4
MEAN ANNUAL LAKE EVAPORATION
(IN INCHES)

STATE OF NEW YORK
DEPARTMENT OF HEALTH

MEMORANDUM

February 9, 1976

To: Mr. Robert Davis, DEC, Warrensburg

From: Mr. Brian Fear, Glens Falls District Office

Subject: Potential Hazard, Halfmoon Town Landfill, Saratoga County

Attached is a copy of a letter from an Attorney Kelly containing some serious allocations relative to the former Halfmoon Landfill. It is my understanding that the site he is referring to is no longer active. It was a portion of the old canal adjacent to the Mohawk River, which the Town operated and/or leased to a private contractor in the late 60's. The site also apparently fell in lifts of 20' to 25'.

It is alleged that due to the method of operation, large sink holes have appeared in the site and large quantities of methane gas are being produced. It is alleged that the gases have caused one explosion in a residence. I am told that under certain atmospheric conditions, the concentration of gas is sufficient to make one nauseous. The attorney states in his letter that there is concern that another explosion could occur with fatal results. Although he makes reference to a public health hazard, the matter is best investigated by your office since you have responsibility for regulation of landfills. I would be happy to assist you in this investigation, if you feel I can be of assistance.

Brian S Fear

BSF/ds
Attachment

cc: Mr. Decker, ARO
Mr. Corliss

47-15-11(2/80

HAZARDOUS WASTE DISPOSAL SITES REPORT
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Code: A
Site Code: 546013
Name of Site: Old Halfmoon Landfill Region: 5
County: Saratoga Town/City Halfmoon
Street Address: Along Mohawk R. between Route 9 and Northway, Abandoned Er Can

Status of Site Narrative: This site is now town-owned but was once operated by a private contractor, Arizona Chemicals, reputed to have underworld connections The site consisted of an abandoned canal bed running on the north side of the Mohawk River, roughly from the Interstate 87 crossing of the river to the Route 9 crossing. The site was operated for a number of years. Closure was some time between 1968 and 1970. Refuse was collected throughout the tri-city area.

The canal was excavated in clay and the surrounding soils are of a clay nature General drainage pattern would be from the high lands in a southerly direction to the Mohawk River. Thus, drainage and groundwater both move into the canal bed and displace leachate which then flows into the river. Leachate is visibl at many locations along the site. From viewing the area, it seems that not only was the canal filled, but an additional four to eight feet of material was placed above original grade.

It is unknown if industrial chemicals were disposed of at this site. However, with the areas served and the nature of the operation, it is suspected that the site did receive industrial waste. Sampling to determine what the problems are is going to be very difficult, since leachate is exiting at a number of locations and the length of canal filled is approximately three miles. There are about 100 homes along this stretch, all of which are served by individual wells. Many of these are seasonal-type places.

Type of Site: Open Dump XX Treatment Pond(s) ☐ Number of Ponds
Landfill ☐ Lagoon(s) ☐ Number of Lagoons
Structure ☐

Estimated Size 4 Acres

Hazardous Wastes Disposed? Confirmed ☐ Suspected XX

*Type and Quantity of Hazardous Wastes:

TYPE	QUANTITY (Pounds, drums, tons, gallons)
Unknown	

*Use additional sheets if more space is needed.

SITE INSPECTION FORM

SITE NAME: OLD MADISON LF (CAM) PERMIT #: _____

LOCATION: _____

OWNER/REPRESENTATIVE: _____

DISPOSAL METHODS: ☐ OPEN DUMP ☐ PIT/LAGOON
☒ LANDFILL ☐ OTHER

DESCRIBE: OLD DUMP FILLED

ENVIRONMENTAL CONTROLS:

LINER ?
COVER GOOD
LEACHATE COLLECTION NO
FENCING NO
CUT-OFF WALL NO
OTHER NO

WASTE TYPES: ☐ SOLID ☐ INDUSTRIAL
☐ LIQUID ☐ MUNICIPAL
☐ SLUDGES

DESCRIBE: UNKNOWN

DESCRIPTION OF SITE VICINITY:

SOIL TYPE: _____ SITE SLOPE: _____ FLORA STRESS: _____

FAUNA STRESS: _____

NEAREST WELL: ☐ INDUSTRIAL ☐ MUNICIPAL
☐ PRIVATE ☐ OTHER

DESCRIBE: UNKNOWN

NEAREST SURFACE WATER:

☐ LAKE ☐ ONSITE
☒ STREAM

Mohawk River

DESCRIBE: WHIPPLE CREEK

OTHER INFORMATION: ~1-1½ miles old Canal [illegible]

Community Water System Sources

- estimated to be within 3 mile radius of Old Halfmoon landfill

	NAME	Population
#9	Crescent Estates	5400
32	Village Green	350
6	Colonial Green Water Supply	80
15	Halfmoon Water District #2	40
143	Springbrook Mobile Home Park	343
114	Mohawk Terrace Apt	450
122	Parkwood Village	350
61	Crescent City Mobile Park	200
54	County Acre Apt	80
112	Midway Mobile Village	100
115	Mooncrest Manor	45
161	West Crescent Trailer Park	20
		7458

Sources: NYS Atlas of Community Water Systems, 1982.
NYS Inventory of Community Water System, Vol I & II, 1984

SCALE 1:250,000

PAGE 55

UNTY

SYSTEM	PIPULA ION	SOURCE
Montgomery		
		Steele & Ireland Vly Reservoirs, Hans Creek
er Supply.	5000.	Upper and Lower Ballston Spa Reservoirs, Well
Woodland Hills.	440.	Wells
Water Supply.	NA.	Wells
ubdivision.	3200.	Wells
ter Supply.	80.	Wells
ter Supply.	3500.	Wells
tates Water		
	8200.	Wells
	5400.	Wells
Company.	440.	Wells
ge (Washington		
		Christie, Dority, New and Sarderburg Reservoirs, Wells
eritage Knolls.	4800.	Wells
r Works.	NA.	Wells
	50.	Wells
istrict #2.	40.	Wells
	620.	Wells
rict		
ge 56).		Stony Creek Reservoir
	152.	Wells
y.	7600.	Plum & Bake Brooks, Mechanicville Reservoir
rict #2.	1440.	Wells
	8.	Wells
vision.	181.	Wells
n.	1000.	Reservoir
Subdivision.	488.	Wells
City.	23906.	Loughberry Lake, Big Meadow Brook
llage (See		
on Co, Page 52).	1400	
	100.	Wells, Well (Infiltration Gallery)
s Village.	3700.	Wells, Spring
er District.	250.	Wells
ge.	1200.	Wells
	30.	Wells
	500.	Wells
	350.	Wells
	3000.	Hudson River
College.	NA.	Wells
Park.	NA.	Wells
rk.	NA.	Wells
	NA.	Wells
ourt.	NA.	Wells
er Park.	NA.	Wells
	50.	Wells (Infiltration Gallery)
	15.	Wells
ge.	40.	Wells
ile Estates.	175.	Wells
	NA.	Wells
Mobile Home Park.	65.	Wells
ler Park.	NA.	Wells
Park.	17.	Wells
e Apartments.	250.	Wells
Home Park.	125.	Wells
Court.	80.	Wells
artments.	32.	Wells
rtments.	600.	Wells
Park.	60.	Wells
artments.	NA.	Wells
ile Home Park.	NA.	Wells
ile Home Court.	25.	Wells
iler Court.	NA.	Wells
le Home Court.	35.	Wells
	NA.	Wells
Mobile Home Park.	NA.	Wells
ile Home Park.	NA.	Wells
urt.	NA.	Wells
me Park.	NA.	Wells
e Park.	28.	Wells
Mobile Park.	NA.	Wells

ID NO	COMMUNITY WATER SYSTEM	POPUL	SOURCE
	Non-Municipal Community		
66	Della Mobile Estates.	24.	Wells
67	DiDonna's Trailer Park.	NA.	Wells
68	Dons Trailer Court.	NA.	Wells
69	Eberts Trailer Town.	NA.	Wells
70	Elizabeth Gardens Apartments.	36.	Wells
71	English Village Apartments.	200.	Wells
72	Evergreen Apartments.	0.	Wells
73	Fay's Mobile Home Park.	NA.	Wells
74	Fishkill Mobile Home Park.	NA.	Wells
75	Fonda Heights Trailer Park.	NA.	Wells
76	Fortsville Acres.	NA.	Wells
77	Friendly Neighborhood Mobile Park.	NA.	Wells
78	Gailor Mobile Home Park.	200.	Wells
79	Glowegge Mobile Estates.	NA.	Wells
80	Grange Road Mobile Estates.	60.	Wells
81	Grant Park Mobile Estates.	NA.	Wells
82	Halfmoon Trailer Court.	NA.	Wells
83	Hallum Trailer Court.	NA.	Wells
84	Hammond Trailer Park.	NA.	Wells
85	Hidden Acres Trailer Park.	NA.	Wells
86	Howe Road Trailer Park.	NA.	Wells
87	Hudson View Trailer Court.	NA.	Wells
88	Hyspot Mobile Development One.	66.	Wells
89	Hyspot Mobile Development Two.	20.	Wells
90	Kay's Trailer Park.	NA.	Wells
91	Keator's Trailer Park.	NA.	Wells
92	L & R Mobile Acres.	NA.	Wells
93	Lake Lonely Trailer Court.	NA.	Wells
94	Lakeside Market Trailer Park.	NA.	Wells
95	Lakeside Mobile Home Park.	88.	Wells
96	Lamplighter Mobile Home Park.	NA.	Wells
97	Lanewood Terrace.	NA.	Wells
98	LaValley Mobile Home Park.	12.	Wells
99	Locust Hill Trailer Park.	NA.	Wells
100	London Square Apartments.	550.	Wells
101	Lorendale Mobile Home Park.	12.	Wells
102	Loughberry Mobile Home Park.	NA.	Wells
103	Malta Gardens Apartments.	200.	Wells
104	Malta Mobile Acres.	300.	Wells
105	Malta Trailer Park.	NA.	Wells
106	Mansard Apartments.	100.	Wells
107	Manz Trailer Park.	12.	Wells
108	Martindale Court Inc.	288.	Wells
109	McGinns Trailer Park.	34.	Wells
110	McGregor Apartments.	80.	Wells
111	McGregor Apartments.	55.	Wells
112	Midway Mobile Village.	NA.	Wells
113	Milton Knolls Mobile Home Park.	NA.	Wells
114	Mohawk Terrace Apartments.	450.	Wells
115	Mooncrest Manor.	NA.	Wells
116	Morris Apartments.	NA.	Wells
117	Moskos Court.	NA.	Wells
118	North Creek Mobile Village.	NA.	Wells
119	Northern Pines.	NA.	Wells
120	Paisley Village Mobile Home Park.	NA.	Wells
121	Park Dantoine.	29.	Wells
122	Parkwood Village.	350.	Wells
123	Pettits Mobile Home Park.	14.	Wells
124	Pine Crest Trailer Court.	NA.	Wells
125	Pine View Trailer Park.	NA.	Wells
126	Pines Mobile Home Park.	NA.	Wells
127	Pleasant Valley Park.	NA.	Wells
128	Quaker Springs Mobile Home Park.	20.	Wells
129	Ray-Mar Village.	688.	Wells
130	Riverside Mobile Home Park.	NA.	Wells
131	Robinsons Trailer Park.	NA.	Wells
132	Rock City Falls Trailer Park.	55.	Wells
133	Round Lake Mobile Court.	NA.	Wells
134	Sandy's Mobile Acres.	NA.	Wells
135	Scena Manor Trailer Park.	NA.	Wells
136	Selbys Trailer Park.	NA.	Wells
137	Shady Acres Mobile Park.	NA.	Wells
138	Shady Knolls Trailer Park.	NA.	Wells
139	Shady Pines Mobile Home Park.	120.	Wells
140	Shelly Park.	NA.	Wells
141	Sitterly Park Apartments.	60.	Wells
142	Sleepy Hollow Trailer Park.	15.	Wells
143	Springbrook Mobile Home Park.	NA.	Wells

ID NO	COMMUNITY WATER SYSTEM	POPULATION	SOURCE
	Non-Municipal Community		
144	Spruce Grove Trailer Park.	NA.	Wells
145	Squire Park Apartments.	NA.	Wells
146	Stillmeadows Mobile Homes.	NA.	Wells
147	Stockade Mobile Park Inc.	25.	Wells
148	Sunshine Mobile Home Park.	14.	Wells
149	Sweets Trailer Park.	NA.	Wells
150	Tall Pines Mobile Court.	NA.	Wells
151	The Charlton School.	NA.	Wells
152	The Diplomat Mobile Home Court.	10.	Wells
153	The Riverside.	NA.	Wells
154	Three RS Trailer Court.	NA.	Wells
155	Tuckaway Mobile Home Park.	NA.	Wells
156	Turf Mobile Home Park.	950.	Wells
157	Twin Lakes Apartments Inc.	2000.	Wells
158	Vansleet Garden Apartments.	24.	Wells
159	Villa Rosato Apartments.	NA.	Wells
160	Vosburg Road Mobile Home Park.	NA.	Wells
161	West Crescent Trailer Park.	NA.	Wells
162	West Milton Trailer Park.	30.	Wells
163	White Birth Estates.	NA.	Wells
164	White Birches Park.	NA.	Wells
165	Wilson's Mobile Home Park.	NA.	Wells
166	Wilton Developmental Center.	2268.	Wells
167	Wilton Estates.	NA.	Wells
168	Wilton Mobile Park.	25.	Wells
169	Wilton Mobile Village.	NA.	Wells
170	Ye Olde Gick Mobile Home Park.	25.	Wells
171	Youngs Trailer Park.	NA.	Wells

	SITE NAME	SITE CODE	PAGE NO.
1.	GE-MOREAU ✓	546001	2
2.	DYER LANDFILL	546002	2A
3.	GENERAL ELECTRIC HOUSING ✓	546003	2
4.	HALFMOON LANDFILL	546004	2A
5.	ST ANNE SAND & GRAVEL CO	546005	3
6.	MOREAU LANDFILL	546007	2A
7.	SARATOGA SPRINGS LANDFILL	546008	2A
8.	PEMRICK DUMP SITE ✓	546009	2
9.	LOWES SITE ✓	546010	3
10.	KAIN CORPORATION	546011	3
11.	TOWN OF MECHANICVILLE LF	546012	2A
12.	OLD HALFMOON LF	546013	2A
13.	SILL, PHILLIPS, WILLIAMS & DOUGLAS	546014	2A
14.	NIAGARA MOHAWK	546015	3
15.	CONSOLIDATED (JOHN & JON)	546016	2A
16.	DONOVAN LF	546017	2A
17.	PEARLES ISLAND SITE ✓	546018	5
18.	GOTTA GICK STORAGE FACILITY	546020	2A
19.	OLD ALBANY STONE ✓	546021	4
20.	ROCK [illegible] SITE	546022	4
21.	WAITE ROAD SITE ✓	546023	2
22.	RTE 146A BOARD SITE	546024	2A
23.	SOUTHGATE FARMS LF ✓	546025	2

NUS CORPORATION
RARITAN PLAZA III
KING GEORGE ROAD
EDISON, NEW JERSEY 08837
(201) 225-6160

April 13, 1983

C-584-4-83-30

Dr. Richard Spear
Environmental Services Division
U.S.E.P.A.
Raritan Arsenal, Woodbridge Ave.
Edison, NJ 08837

Subject: Old Half Moon Landfill TDD #02-8303-63

Dear Dr. Spear:

Investigation of the Old Half Moon Landfill (NYD980506729) has revealed the following information:

1. A 10 page site inspection report has been completed and was submitted by David J. Cesareo of EPA on June 4, 1980.

2. The report was filed under the name; Old Halfmoon Landfill, EPA Site Number unknown.

Sincerely,

Alan G. Woodard
Project Manager

Approved:
Peter Franconeri

AGW:PF:jda

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

ed by HQ

GENERAL INSTRUCTIONS: Complete Sections I and III through XV of this form as completely as possible. Then use the
tion on this form to develop a Tentative Disposition (*Section II*). File this form in its entirety in the regional Hazardous Wa
File. Be sure to include all appropriate Supplemental Reports in the file. Submit a copy of the forms to: U.S. Environment
tection Agency; Site Tracking System; Hazardous Waste Enforcement Task Force (*EN-335*); 401 M St., SW; Washington, DC

I. SITE IDENTIFICATION

A. SITE NAME	B. STREET (or other identifier)		
Old Half Moon Landfill	Clam Steam Road		
C. CITY	**D. STATE**	**E. ZIP CODE**	**F. COUNTY NAME**
Half Moon New York			Saratoga

G. SITE OPERATOR INFORMATION

1. NAME		2. TELEPHONE NUMBER	
3. STREET	4. CITY	5. STATE	6. ZIP CO

H. REALTY OWNER INFORMATION (*if different from operator of site*)

1. NAME		2. TELEPHONE NUMBER	
3. CITY		4. STATE	5. ZIP C

I. SITE DESCRIPTION

INACTIVE SANITARY L.F. = portion of old Erie Canal

J. TYPE OF OWNERSHIP

☐ 1. FEDERAL ☐ 2. STATE ☐ 3. COUNTY ☒ 4. MUNICIPAL ☐ 5. PRIVATE

II. TENTATIVE DISPOSITION (*complete this section last*)

A. ESTIMATE DATE OF TENTATIVE DISPOSITION (*mo., day, & yr.*)	B. APPARENT SERIOUSNESS OF PROBLEM			
6/9/80	☐ 1. HIGH	☐ 2. MEDIUM	☒ 3. LOW	☐ 4. NONE

C. PREPARER INFORMATION

1. NAME	2. TELEPHONE NUMBER	3. DATE (*mo., day, & yr.*)
David J. Cesareo	201-321-6695	6/4/80

III. INSPECTION INFORMATION

A. PRINCIPAL INSPECTOR INFORMATION

1. NAME	2. TITLE	
David J. Cesareo	Environmental Engineer	
3. ORGANIZATION		**4. TELEPHONE NO. (area**
USEPA Region II, S+A Div.		340-6695

B. INSPECTION PARTICIPANTS

1. NAME	2. ORGANIZATION	3. TELEPHONE N
D.J. Cesareo	USEPA	
S. Hale	USEPA	
George Morris	Old Half Moon	

C. SITE REPRESENTATIVES INTERVIEWED (*corporate officials, workers, residents*)

1. NAME	2. TITLE & TELEPHONE NO.	3. ADDRESS	
John Dudek	Town Supervisor	Half Moon.	518 - 237 - 58 235 - 61

III. INSPECTION INFORMATION

GENERATOR INFORMATION (sources of waste)

1. NAME	2. TELEPHONE NO.	3. ADDRESS	4. WASTE TYPE G
Neighboring towns incl		Schenectady + Troy	Domestic

E. TRANSPORTER/HAULER INFORMATION

1. NAME	2. TELEPHONE NO.	3. ADDRESS	4. WASTE TYPE TR
Aetna Contracting - 1962 - May 1967			
Chiarello Landfill + devel. Corp - May 1967 - July 1968			
Capital Division Disposal Co - July 1968 - Oct 1968			

F. IF WASTE IS PROCESSED ON SITE AND ALSO SHIPPED TO OTHER SITES, IDENTIFY OFF-SITE FACILITIES USED FOR DISPO

1. NAME	2. TELEPHONE NO.	3. ADDRESS

G. DATE OF INSPECTION (mo., day, & yr.)	H. TIME OF INSPECTION	I. ACCESS GAINED BY: (credentials must be shown in all cases)
5/22/80	9am - 11:30 am	☒ 1. PERMISSION ☐ 2. WARRANT

J. WEATHER (describe)

IV. SAMPLING INFORMATION

A. Mark 'X' for the types of samples taken and indicate where they have been sent e.g., regional lab, other EPA lab, cont etc. and estimate when the results will be available.

1. SAMPLE TYPE	2. SAMPLE TAKEN (mark 'X')	3. SAMPLE SENT TO:	4. R AV
a. GROUNDWATER well	X	MEAD TECH. LABS RTP	
b. SURFACE WATER Mohawk R	X	" " " "	
c. WASTE			
d. AIR			
e. RUNOFF			
f. SPILL			
g. SOIL			
h. VEGETATION			
i. OTHER (specify) Ponded water/leachate	X	" " " "	

B. FIELD MEASUREMENTS TAKEN (e.g., radioactivity, explosivity, PH, etc.)

1. TYPE	2. LOCATION OF MEASUREMENTS	3. RESULTS

...nued From Page 2

IV. SAMPLING INFORMATION (continued)

C. PHOTOS

1. TYPE OF PHOTOS: [ ] a. GROUND [ ] b. AERIAL

2. PHOTOS IN CUSTODY OF: D.J. Cesarco

D. SITE MAPPED?

[ ] YES. SPECIFY LOCATION OF MAPS: sketch avail.

E. COORDINATES

1. LATITUDE (deg.-min.-sec.)

2. LONGITUDE (deg.-min.-sec.)

V. SITE INFORMATION

A. SITE STATUS

[ ] 1. ACTIVE (Those industrial or municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if intrequently.)

[X] 2. INACTIVE (Those sites which no longer receive wastes.)

[ ] 3. OTHER (specify): (Those sites that include such incidents like "midnight du where no regular or continuing use of the site for waste dis has occurred.)

B. IS GENERATOR ON SITE?

[X] 1. NO [ ] 2. YES (specify generator's four-digit SIC Code): ____

C. AREA OF SITE (in acres)

100' wide x 1½ miles long

D. ARE THERE BUILDINGS ON THE SITE?

[X] 1. NO [ ] 2. YES (specify):

VI. CHARACTERIZATION OF SITE ACTIVITY

Indicate the major site activity(ies) and details relating to each activity by marking 'X' in the appropriate boxes.

X	A. TRANSPORTER	X	B. STORER	X	C. TREATER	X	D. DISPOS
	1. RAIL		1. PILE		1. FILTRATION	X	1. LANDFILL
	2. SHIP		2. SURFACE IMPOUNDMENT		2. INCINERATION		2. LANDFARM
	3. BARGE		3. DRUMS		3. VOLUME REDUCTION		3. OPEN DUMP
	4. TRUCK		4. TANK, ABOVE GROUND		4. RECYCLING/RECOVERY		4. SURFACE IMPOU
	5. PIPELINE		5. TANK, BELOW GROUND		5. CHEM./PHYS./TREATMENT		5. MIDNIGHT DUMP
	6. OTHER (specify):		6. OTHER (specify):		6. BIOLOGICAL TREATMENT		6. INCINERATION
					7. WASTE OIL REPROCESSING		7. UNDERGROUND
					8. SOLVENT RECOVERY		8. OTHER (specify):
					9. OTHER (specify):		

E. SUPPLEMENTAL REPORTS: If the site falls within any of the categories listed below, Supplemental Reports must be completed. which Supplemental Reports you have filled out and attached to this for..

[ ] 1. STORAGE [ ] 2. INCINERATION [ ] 3. LANDFILL [ ] 4. SURFACE IMPOUNDMENT [ ] 5. DEEP WELL

[ ] 6. CHEM/BIO/PHYS TREATMENT [ ] 7. LANDFARM [ ] 8. OPEN DUMP [ ] 9. TRANSPORTER [ ] 10. RECYCLOR/REC

VII. WASTE RELATED INFORMATION

A. WASTE TYPE

[ ] 1. LIQUID [X] 2. SOLID [ ] 3. SLUDGE [ ] 4. GAS

mun. Refuse incl. tires, wood, grass =>

B. WASTE CHARACTERISTICS

[ ] 1. CORROSIVE [ ] 2. IGNITABLE [ ] 3. RADIOACTIVE [ ] 4. HIGHLY VOLATILE

[ ] 5. TOXIC [ ] 6. REACTIVE [X] 7. INERT [ ] 8. FLAMMABLE

[ ] 9. OTHER (specify):

C. WASTE CATEGORIES

1. Are records of wastes available? Specify items such as manifests, inventories, etc. below.

No

imate the amount *(specify unit of measure)* of waste by category; mark 'X' to indicate which wastes are present.

a. SLUDGE	b. OIL	c. SOLVENTS	d. CHEMICALS	e. SOLIDS	f. OTH
OUNT	AMOUNT	AMOUNT	AMOUNT	AMOUNT	AMOUNT ≈ 176,0
UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF ME
X (1) PAINT, PIGMENTS	X (1) OILY WASTES	X (1) HALOGENATED SOLVENTS	X (1) ACIDS	X (1) FLYASH	X (1)
METALS SLUDGES	(2) OTHER *(specify)*:	(2) NON-HALOGNTD. SOLVENTS	(2) PICKLING LIQUORS	(2) ASBESTOS	(2) HOSPI
(3) POTW		(3) OTHER *(specify)*:		MILLING/MINE TAILINGS	(3) RADIO
(4) ALUMINUM SLUDGE			(4) PESTICIDES	(4) FERROUS SMELTING WASTES	X (4) MUNIC
(5) OTHER *(specify)*:			(5) DYES/INKS	(5) NON-FERROUS SMLTG. WASTES	(5) OTHE
			(6) CYANIDE	(6) OTHER *(specify)*:	Municip Refase
			(7) PHENOLS		
			(8) HALOGENS		
			(9) PCB		
			(10) METALS		
			(11) OTHER *(specify)*		

D. LIST SUBSTANCES OF GREATEST CONCERN WHICH ARE ON THE SITE *(place in descending order of hazard)*

1. SUBSTANCE	2. FORM *(mark 'X')*			3. TOXICITY *(mark 'X')*				4. CAS NUMBER	5. AMOUNT
	a. SOLID	b. LIQ.	c. VAPOR	a. HIGH	b. MED.	c. LOW	d. NONE		
only observed problem w/o escape of methane gas, at pts. of ground "cracks" problem is minor									

VIII. HAZARD DESCRIPTION

FIELD EVALUATION HAZARD DESCRIPTION: Place an 'X' in the box to indicate that the listed hazard exists. Describ hazard in the space provided.

A. HUMAN HEALTH HAZARDS

slight

B. NON-WORKER INJURY/EXPOSURE

slight if any at all

☐ C. WORKER INJURY/EXPOSURE

N/A

☐ D. CONTAMINATION OF WATER SUPPLY

depth of canal was 6', it is located less that 50' from Bank of Mohawk, it is down gradient of most if not all wells. Most private wells are considerably deeper 90-100 ft.

☐ E. CONTAMINATION OF FOOD CHAIN

NONE

☐ F. CONTAMINATION OF GROUND WATER

Near surface, slight possibility

☐ G. CONTAMINATION OF SURFACE WATER

slight if any

H. DAMAGE TO FLORA, FAUNA

NONE observed

☐ I. FISH KILL

NONE Known

☐ J. CONTAMINATION OF AIR

NONE, some minor methane production

☐ K. NOTICEABLE ODORS

NONE

☐ L. CONTAMINATION OF SOIL

N/A

☐ M. PROPERTY DAMAGE

NONE

P. FIRE OR EXPLOSION

Past history reveals possible link between fill site + explosion of house septic tank Town supervisor feels problem was in design + const. + not due to old fill site House + Septic system now gone.

☐ O. SPILLS/LEAKING CONTAINERS/RUNOFF/STANDING LIQUID

N/A

☐ [redacted]

[redacted]

☐ Q. EROSION PROBLEMS

NONE

☐ R. INADEQUATE SECURITY

N

S. INCOMPATIBLE WASTES

N/A

VIII. HAZARD DESCRIPTION (continued)

☐ T. MIDNIGHT DUMPING

Some unconfirmed reports

☐ U. OTHER (specify):

IX. POPULATION DIRECTLY AFFECTED BY SITE

A. LOCATION OF POPULATION	B. APPROX. NO. OF PEOPLE AFFECTED	C. APPROX. NO. OF PEOPLE AFFECTED WITHIN UNIT AREA	D. APPROX. NO. OF BUILDINGS AFFECTED	E. O T (spec
1. IN RESIDENTIAL AREAS				
2. IN COMMERCIAL OR INDUSTRIAL AREAS				
3. IN PUBLICLY TRAVELLED AREAS				
4. PUBLIC USE AREAS (parks, schools, etc.)				

X. WATER AND HYDROLOGICAL DATA

A. DEPTH TO GROUNDWATER (specify unit)	B. DIRECTION OF FLOW	C. GROUNDWATER USE IN VICINI
	South towards Mohawk Riv.	ea private drinking w
D. POTENTIAL YIELD OF AQUIFER	E. DISTANCE TO DRINKING WATER SUPPLY (specify unit of measure)	F. DIRECTION TO DRINKING WAT

G. TYPE OF DRINKING WATER SUPPLY

☒ 1. NON-COMMUNITY < 15 CONNECTIONS ☐ 2. COMMUNITY (specify town): > 15 CONNECTIONS

☐ 3. SURFACE WATER ☒ 4. WELL private

Continued From Page 8

X. WATER AND HYDROLOGICAL DATA (continued)

H. LIST ALL DRINKING WATER WELLS WITHIN A 1/4 MILE RADIUS OF SITE

1. WELL	2. DEPTH (specify unit)	3. LOCATION (proximity to population/buildings)	4. NON-COMMUNITY (mark 'X')	CO (ma
		Numerous 10-35 ≈		

I. RECEIVING WATER

1. NAME

☐ 2. SEWERS ☐ 3. STREAMS/RIVERS

☐ 4. LAKES/RESERVOIRS ☐ 5. OTHER (specify):

6. SPECIFY USE AND CLASSIFICATION OF RECEIVING WATERS

XI. SOIL AND VEGITATION DATA

LOCATION OF SITE IS IN:

☐ A. KNOWN FAULT ZONE ☐ B. KARST ZONE ☐ C. 100 YEAR FLOOD PLAIN ☐ D. WETLAND

☐ E. A REGULATED FLOODWAY ☐ F. CRITICAL HABITAT ☐ G. RECHARGE ZONE OR SOLE SOURCE AQUIFER

XII. TYPE OF GEOLOGICAL MATERIAL OBSERVED

Mark 'X' to indicate the type(s) of geological material observed and specify where necessary, the component parts.

'X'	A. OVERBURDEN	X	B. BEDROCK (specify below)	X'	C. OTHER (specify below)
	1. SAND				
	2. CLAY				
	3. GRAVEL				

XIII. SOIL PERMEABILITY

☒ A. UNKNOWN ☐ B. VERY HIGH (100,000 to 1000 cm/sec.) ☐ C. HIGH (1000 to 10 cm/sec.)

☐ D. MODERATE (10 to .1 cm/sec.) ☐ E. LOW (.1 to .001 cm/sec.) ☐ F. VERY LOW (.001 to .00001 cm/sec.)

G. RECHARGE AREA

☐ 1. YES ☐ 2. NO 3. COMMENTS:

H. DISCHARGE AREA

☒ 1. YES ☐ 2. NO 3. COMMENTS:

I. SLOPE

1. ESTIMATE % OF SLOPE

2. SPECIFY DIRECTION OF SLOPE, CONDITION OF SLOPE, ETC.

J. OTHER GEOLOGICAL DATA

A. PERMIT TYPE (e.g., RCRA, State, NPDES, etc.)	B. ISSUING AGENCY	C. PERMIT NUMBER	D. DATE ISSUED (mo., day, & yr.)	E. EXPIRATION DATE (mo., day, & yr.)	F. IN COMPLIANCE (mark 'X') 1. YES	2. NO

XV. PAST REGULATORY OR ENFORCEMENT ACTIONS

☐ NONE ☐ YES *(summarize in this space)*

NONE

NOTE: Based on the information in Sections III through XV, fill out the Tentative Disposition *(Section II)* informa on the first page of this form.

WEHRAN ENGINEERING

CONFERENCE/TELEPHONE MEMORANDUM

OJECT: NYSDEC Phase I — PROJECT NO. ____

BJECT: Old Hallmoon Landfill — DATE: Sept 20th

CATION: Saratoga Co New York — TIME: 11:35 Am

SSAGE/DISCUSSION WITH: ____

Spoke to Hank Usher - SCS - Ballston Spa Office
- he knew of no irrigation in the area of site
- he suggested contacted Dave Woods - Cooperative Ext.

Spoke to Dave Woods - he also knew of no irrigation. He would check his files and get back to me

OLD HALFMOON CF

BACKGROUND

This site was brought to the attention of the Environmental Protection Agency during a visit by the Hazardous Waste Site staff to the Warrensburg Office (Region V) of the New York Department of Environmental Conservation. The site is not currently shown on the New York State list of sites.

DESCRIPTION OF SITE

The site, which is now inactive, is a section of the old Erie Canal. The area filled was approximately 100 feet wide, 6 feet deep and 1 1/2 miles long and is directly adjacent to the Mohawk River. The filled elevation is slightly above that of the bank of the River. The actual filling of the canal took place between the years 1962 and 1968. The Town of Half Moon, who are the owners of the site, contracted with outside individuals to operate the site (New York State permitted) as a municipal landfill. The contract specifically did not allow the disposal of chemical or hazardous wastes. There are some indications of late night/early morning dumping of wastes, but there is no real evidence of illegal chemical waste disposal. Excavations into the fill have revealed primarily domestic type refuse including tires, wood, grass and household garbage. In areas with inadequate cover, material of this nature are visible. No leachate streams were observed during the inspections, however, voids or cracks in the surface were observed, indicating the venting of internally generated gases (methane probably). No specific abnormal odors were detected.

DESCRIPTION OF SURROUNDING AREA

The site is primarily bounded on the south by the Mohawk River and on the north by Clam Stream Road. In most cases, the nearest residences are on the opposite side of Clam Stream Road from the fill area. The distance of these homes from the old canal range from 100 to 250 feet. There are approximately 50 homes within 1/4 mile of the site. The majority of these homes have private wells, with depths ranging from 40 feet to 200 feet. Municipal water could be provided, however, most residents have shown little interest in switching.


Crescent
Grays Corners
MOHAWK
RIVER
ALBANY CO
RENSSELAER CO
Saltmoon Beach
Crescent Station
Dunsbach Ferry
Boght Corners
Mohawk View
COHOES
Ports Ferry Sch
Whitney Estates
Latham
42°45'
73°45'
ROAD CLASSIFICATION
Heavy-duty
Light-duty
Medium-duty
Unimproved dirt
U. S. Route
State Route
NEW YORK
NISKAYUNA, N.Y.

GEOLOGY AND GROUNDWATER

Surface water flow is towards the old canal and river (surrounding area to the north is uphill) as is the upper groundwater flow. Direction of the deep groundwater flow and the area geology is not known at this time. Several brickyards did exist along the river in this area, which might indicate areas of soil with high clay content.

SAMPLING AND ANALYSIS

Samples of leachate were taken by New York State about five years ago. The results of the analysis on the three samples taken did not indicate the existance of chemicals or hazardous type wastes.

During the EPA site inspection of May 22, 1980, water samples were collected at three locations:

1. Klamstream Tavern - private well 48 feet deep.

2. Mohawk River - stagnant water adjacent to Krouse Beach.

3. Drainage ditch - possible leachate, across from Cresent Boat Club.

These samples were sent to the Mead Technology Laboratory in Research Triangle Park, North Carolina, for analysis.

STATUS OF LOCAL, STATE INVOLVEMENT

Neither the Department of Environmental Conservation Regional Office nor the local officials consider this site a problem. No action of any type is pending at this time.

IMMINENT HAZARD ASPECTS OF THE SITE

There does not appear at this time any imminent hazards related to this disposal site.

12/18/79

I. Site Name

Old Halfmoon Landfill
Clam Steam Road
Old Halfmoon, New York (Saratoga County)

II. Background and Source of Initial Referral

This inactive site was brought to EPA's attention during a visit to the DEC regional office in Warrensburg, New York. The site is not listed on the New York State list of sites. The site is of local concern because it is a filled in canal, has leachate streams, had a gas explosion in the past, is close to summer bungalow wells

III. Site Description

This municipal landfill was started in the early 60's and continued until the end of 1968. The site is approximately 1 1/2 miles long and approximately 100 ft wide. The site is a portion of the Erie Canal which was filled since the town could not police the area and there were several drownings. The town of Halfmoon is the owner of the inactive site.

The town contracted with an Arizona outfit to operate the site. They obtained garbage hauling contracts from several neighboring town, including Schenectady and Troy. The contract did not permit chemical or hazardous waste, but there was little supervision. Local residents claimed that trucks were on the site at night, not the usual time to empty trucks. The contractor was involved in legal problems unrelated to this site. He did not cover or close the site properly and the town was awarded damages for that. They have been unsuccessful in locating the firm or the individuals.

There are more than 100 small summer bungalows and campsites with individual wells along the canal bank. These wells are less than 100 feet from the site.

There were visible streams of leachate this spring, as well as in previous years. The leachate enters the Mohawk river.

There was a methane gas explosion in 1970 when a homeowners septic system was laid very close, or actually into the site.

There have been no explosions or fires since that time.

IV. Allegations of "Imminent Hazard" Pollution

According to the region 5 DEC engineer, only 3 locations were sampled, about 5 years ago. The results did not disclose any chemicals or hazardous material. However, the engineer strongly believes that 3 samples along a 1 1/2 mile site are not indicative of the entire area. Based on the contractors reputation and performance, and upon unconfirmed allegations, he feels there is a strong possibility that chemicals were buried with the refuse.

The town "government" said they do not have funds to correct leaching from the site. They have not yet performed any substantial studies to establish the best method of correcting the problem. DEC was not aware of any drinking water samples taken along the site.

V. Current Involvement

There is no organized state or local effort at the present time.

Citizen interest is aroused and fear that the canal is another potential Love Ca

The Hazardous Waste Task Force recommends a site visit, followed b sampling of leachate areas.

In the interim, we will contact the local Health Department about any sample results from nearby private wells. These homes are usually used from May throug the fall.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

REGION | SITE NUMBER (To be assigned by HQ)

GENERAL INSTRUCTIONS: Complete Sections I and III through XV of this form as completely as possible. Then use the information on this form to develop a Tentative Disposition *(Section II)*. File this form in its entirety in the regional Hazardous Waste Log File. Be sure to include all appropriate Supplemental Reports in the file. Submit a copy of the forms to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Tack Force *(EN-335)*; 401 M St., SW; Washington, DC 20460.

I. SITE IDENTIFICATION

A. SITE NAME: Old Half Moon Landfill
B. STREET *(or other identifier)*: Clam Steam Road
C. CITY: Half Moon New York
D. STATE:
E. ZIP CODE:
F. COUNTY NAME: Saratoga

G. SITE OPERATOR INFORMATION
1. NAME:
2. TELEPHONE NUMBER:
3. STREET:
4. CITY:
TE:
6. ZIP CODE:

H. REALTY OWNER INFORMATION *(if different from operator of site)*
1. NAME:
2. TELEPHONE NUMBER:
3. CITY:
4. STATE:
5. ZIP CODE:

I. SITE DESCRIPTION: INACTIVE SANITARY L.F. = portion of old Erie Canal

J. TYPE OF OWNERSHIP
☐ 1. FEDERAL ☐ 2. STATE ☐ 3. COUNTY ☒ 4. MUNICIPAL ☐ 5. PRIVATE

II. TENTATIVE DISPOSITION *(complete this section last)*

A. ESTIMATE DATE OF TENTATIVE DISPOSITION *(mo., day, & yr.)*: 6/9/80
B. APPARENT SERIOUSNESS OF PROBLEM
☐ 1. HIGH ☐ 2. MEDIUM ☒ 3. LOW ☐ 4. NONE

C. PREPARER INFORMATION
1. NAME: David J. Cesareo
2. TELEPHONE NUMBER: 201-321-6695
3. DATE *(mo., day, & yr.)*: 6/9/80

III. INSPECTION INFORMATION

A. PRINCIPAL INSPECTOR INFORMATION
1. NAME: David J. Cesareo
2. TITLE: Environmental Engineer
3. ORGANIZATION: USEPA Region II, S+A Div.
4. TELEPHONE NO. *(area code & no.)*: 340-6695

B. INSPECTION PARTICIPANTS

1. NAME	2. ORGANIZATION	3. TELEPHONE NO.
D.J. Cesareo	USEPA	
S. Hale	USEPA	
George Morris	Old Half Moon	

C. SITE REPRESENTATIVES INTERVIEWED *(corporate officials, workers, residents)*

1. NAME	2. TITLE & TELEPHONE NO.	3. ADDRESS
John Dudek	Town Supervisor	Half Moon. 518-237-5830 235-6188 ho

Continued From Page 2

IV. SAMPLING INFORMATION (continued)

C. PHOTOS

1. TYPE OF PHOTOS: [X] a. GROUND [ ] b. AERIAL

2. PHOTOS IN CUSTODY OF: D.J. Cesarco

D. SITE MAPPED?

[ ] YES. SPECIFY LOCATION OF MAPS: sketch avail.

E. COORDINATES

1. LATITUDE (deg.-min.-sec.)

2. LONGITUDE (deg.-min.-sec.)

V. SITE INFORMATION

A. SITE STATUS

[ ] 1. ACTIVE *(Those inductrial or municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if infrequently.)*

[X] 2. INACTIVE *(Those sites which no longer receive wastes.)*

[ ] 3. OTHER *(specify):* _____ *(Those sites that include such incidents like "midnight dumping" where no regular or continuing use of the site for waste disposal has occurred.)*

B. IS GENERATOR ON SITE?

[X] 1. NO [ ] 2. YES *(specify generator's four-digit SIC Code):* _____

C. AREA OF SITE *(in acres)*

100' wide x 1½ miles long

D. ARE THERE BUILDINGS ON THE SITE?

[X] 1. NO [ ] 2. YES *(specify):*

VI. CHARACTERIZATION OF SITE ACTIVITY

Indicate the major site activity*(ies)* and details relating to each activity by marking 'X' in the appropriate boxes.

X	A. TRANSPORTER	X	B. STORER	X	C. TREATER	X	D. DISPOSER
	1. RAIL		1. PILE		1. FILTRATION	X	1. LANDFILL
	2. SHIP		2. SURFACE IMPOUNDMENT		2. INCINERATION		2. LANDFARM
	3. BARGE		3. DRUMS		3. VOLUME REDUCTION		3. OPEN DUMP
	4. TRUCK		4. TANK, ABOVE GROUND		4. RECYCLING/RECOVERY		4. SURFACE IMPOUNDMEN
	5. PIPELINE		5. TANK, BELOW GROUND		5. CHEM./PHYS./TREATMENT		5. MIDNIGHT DUMPING
	6. OTHER *(specify):*		6. OTHER *(specify):*		6. BIOLOGICAL TREATMENT		6. INCINERATION
					7. WASTE OIL REPROCESSING		7. UNDERGROUND INJECT
					8. SOLVENT RECOVERY		8. OTHER *(specify):*
					9. OTHER *(specify):*		

E. SUPPLEMENTAL REPORTS: If the site falls within any of the categories listed below, Supplemental Reports must be completed. Indicate which Supplemental Reports you have filled out and attached to this for..

[ ] 1. STORAGE [ ] 2. INCINERATION [ ] 3. LANDFILL [ ] 4. SURFACE IMPOUNDMENT [ ] 5. DEEP WELL

[ ] 6. CHEM/BIO/PHYS TREATMENT [ ] 7. LANDFARM [ ] 8. OPEN DUMP [ ] 9. TRANSPORTER [ ] 10. RECYCLOR/RECLAIMER

VII. WASTE RELATED INFORMATION

A. WASTE TYPE

[ ] 1. LIQUID [X] 2. SOLID [ ] 3. SLUDGE [ ] 4. GAS

mun. Refuse incl. tires, wood, grass =>

B. WASTE CHARACTERISTICS

[ ] 1. CORROSIVE [ ] 2. IGNITABLE [ ] 3. RADIOACTIVE [ ] 4. HIGHLY VOLATILE

[ ] 5. TOXIC [ ] 6. REACTIVE [X] 7. INERT [ ] 8. FLAMMABLE

[ ] 9. OTHER *(specify):*

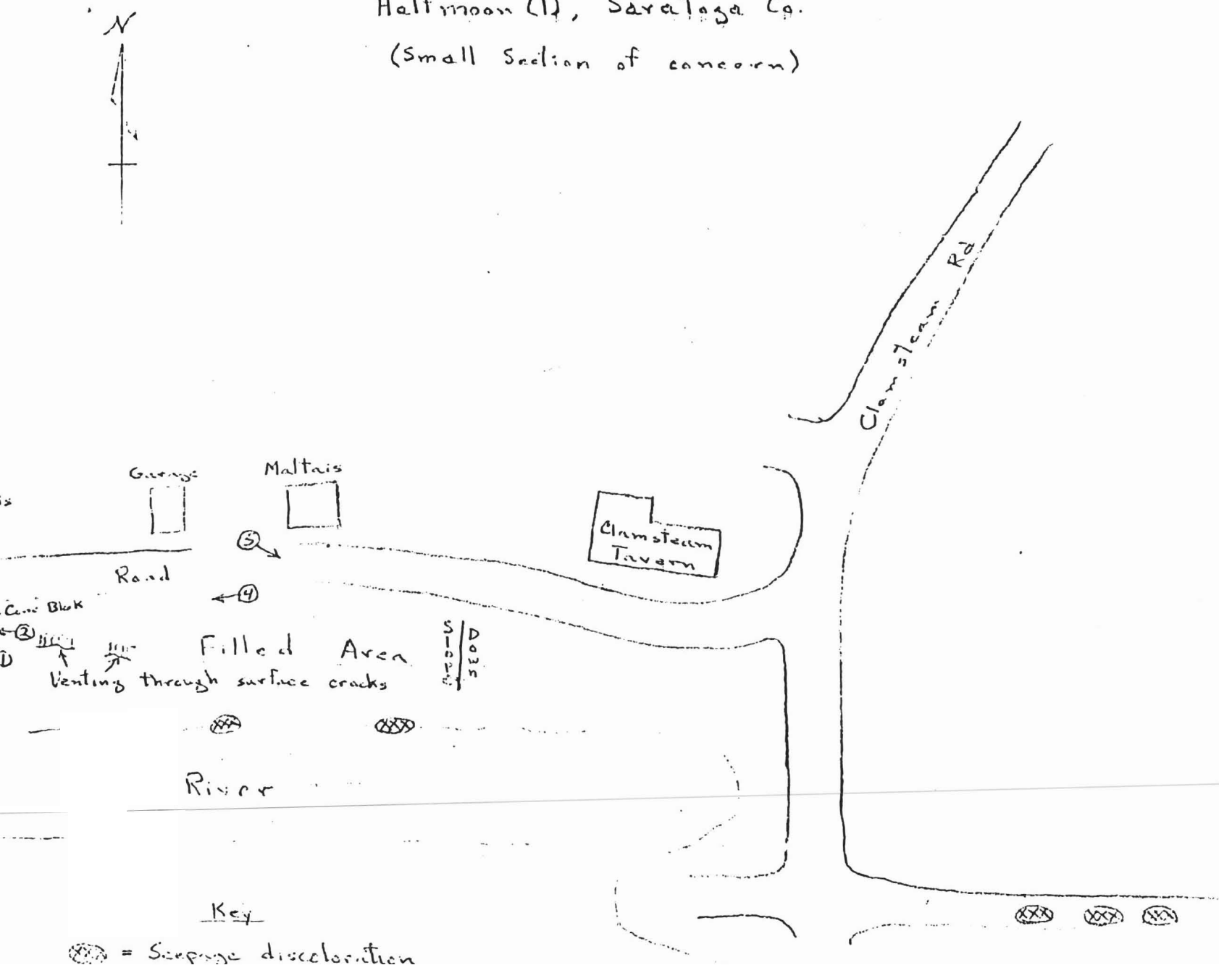
C. WASTE CATEGORIES

1. Are records of wastes available? Specify items such as manifests, inventories, etc. below.

No

Halfmoon (T), Saratoga Co.

(Small Section of concern)



New York State Department of Environmental Conservation

MEMORANDUM

Mr. Goddard

Mr. Knowles and Mr. Johnson

ECT: Field Inspection to Halfmoon Landfill to Determine Construction of "Q"

July 8, 1974

Visit Halfmoon landfill on July 2, 1974, and found the land under full growth of vegetation. I will assume that due to this growth the cracks on the landfill are now fully closed up and restrict the flow of storm water from penetrating through the fill, thus restricting the flow of leachate.

Many of the leachate flows are dried up leaving three main flows about 1/2 to 3/4 gals. per minute, with a few outbreaks along the water edge.

The color of the water in the Mohawk River seems to have improved.

From this inspection one can see if the landfill had a two foot cover and well graded the movement of leachate could have been restricted.

CJ:dn

TO: Mr. Mead

FROM: Mr. Goddard

SUBJECT: Half Moon Landfill Leachate Problem
OLD Half Moon

DATE: December 15, 1970

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATIO

MEMORANDUM

On December 11th I spoke with Dan Cotter to determine whether anything had been done toward minimizing the leachate problem which exists at the Half Moon landfill. Our whole conversation can be summarized in one short statement - Not much has been done.

He has been in contact with the Town to try to get them to do something and has since learned that they could have obtained a clay material for cover for the cost of hauling it away. **They never got the material.**

He claimed that he would be seeing the Town Supervisor in the near future on another matter and said that he would discuss this situation with him again. **He promised to keep us advised of any developments.**

CNG/pm
cc: Mr. Baskous

FILE: OLD HALFMOON
LF. SITE,
SHIP CANAL,

EPA FORMS 2070-12 AND 2070-13

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

EPA

I. IDENTIFICATIO

01 STATE	02 SITE NU
NY	54601

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER			
Old Halfmoon	Clamstream Road			
03 CITY	**04 STATE**	**05 ZIP CODE**	**06 COUNTY**	**07 C**
Halfmoon	NY		Saratoga	
09 COORDINATES LATITUDE: 42° 48' 21" N	LONGITUDE: 73° 45' 13" W			

10 DIRECTIONS TO SITE (Starting from nearest public road)

From Northway (Rt.87) heading North: Exit at interchange #8, make right onto Cresent Ro
Proceed heading east approximately 1.75 miles and turn right onto Old Canal Road. As you
proceed on Old Canal Road, site is located on left for about 1.5 miles.

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)			
Town of Halfmoon				
03 CITY	**04 STATE**	**05 ZIP CODE**	**06 TELEPHONE NUMBER**	
Halfmoon	NY		(518) 371-7410	
07 OPERATOR (If known and different from owner)	**08 STREET** (Business, mailing, residential)			
Aetna Contracting				
09 CITY	**10 STATE**	**11 ZIP CODE**	**12 TELEPHONE NUMBER**	
			( )	

13 TYPE OF OWNERSHIP (Check one)

☐ 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 103 c) DATE RECEIVED: ___/___/___ (MONTH DAY YEAR)

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION

☒ YES ☐ NO DATE 2, 13, 85 (MONTH DAY YEAR)

BY (Check all that apply)

☐ A. EPA ☐ B. EPA CONTRACTOR ☐ C. STATE ☐ D. OTHER CONTRA
☐ E. LOCAL HEALTH OFFICIAL ☒ F. OTHER: Wehran Engineering (Specify)

CONTRACTOR NAME(S): _____

02 SITE STATUS (Check one)	03 YEARS OF OPERATION		
☐ A. ACTIVE ☒ B. INACTIVE ☐ C. UNKNOWN	unknown (BEGINNING YEAR)	1968 (ENDING YEAR)	☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Approximately 176,000 cubic yards of solid municipal waste

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

Leachate is visible on surface and has been observed entering river. Drink water wells are
within ¼ mile of site and have not been tested. Methane production poses threat of explosi

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) ☐ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)			03 TELEP
Dennis G. Fenn	Wehran Engineering			(914)
04 PERSON RESPONSIBLE FOR ASSESSMENT	**05 AGENCY**	**06 ORGANIZATION**	**07 TELEPHONE NUMBER**	**08 DATE**
David B. Tompkins		Wehran Eng.	(914) 343-0660	1 (MONT

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATIO

01 STATE	02 SITE NU
NY	54601

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- [X] A. SOLID
- [ ] B. POWDER, FINES
- [ ] C. SLUDGE
- [ ] D. OTHER _____ (Specify)
- [ ] E. SLURRY
- [ ] F. LIQUID
- [ ] G. GAS

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

- TONS _____
- CUBIC YARDS 176,000
- NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

- [ ] A. TOXIC
- [ ] B. CORROSIVE
- [ ] C. RADIOACTIVE
- [ ] D. PERSISTENT
- [ ] E. SOLUBLE
- [ ] F. INFECTIOUS
- [ ] G. FLAMMABLE
- [ ] H. IGNITABLE
- [ ] I. HIGHLY VO
- [ ] J. EXPLOSIV
- [ ] K. REACTIVE
- [ ] L. INCOMPAT
- [ ] M. NOT APPL

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

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

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	A

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	0
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

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

Wehran Engineering Site Inspection, February 13, 1985.
EPA Site Inspection Report, June 1980.

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUM: 546013

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION | 02 ☐ OBSERVED (DATE: _____) | ☒ POTENTIAL | ☐ ALL
03 POPULATION POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION

Leachate has been observed on site surface.

01 ☐ B. SURFACE WATER CONTAMINATION | 02 ☐ OBSERVED (DATE: _____) | ☒ POTENTIAL | ☐ ALL
03 POPULATION POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION

Leachate has been observed on site surface; low areas on site are causing ponding.

01 ☒ C. CONTAMINATION OF AIR | 02 ☐ OBSERVED (DATE: _____) | ☒ POTENTIAL | ☐ ALL
03 POPULATION POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION

Methane production at the site has been documented

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS | 02 ☐ OBSERVED (DATE: _____) | ☒ POTENTIAL | ☐ ALL
03 POPULATION POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION

Area has past history due to methane explosion.

01 ☐ E. DIRECT CONTACT | 02 ☐ OBSERVED (DATE: _____) | ☐ POTENTIAL | ☐ ALL
03 POPULATION POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION

Unknown

01 ☐ F. CONTAMINATION OF SOIL | 02 ☐ OBSERVED (DATE: _____) | ☐ POTENTIAL | ☐ ALL
03 AREA POTENTIALLY AFFECTED: _____ (Acres) | 04 NARRATIVE DESCRIPTION

Unknown

01 ☐ G. DRINKING WATER CONTAMINATION | 02 ☐ OBSERVED (DATE: _____) | ☒ POTENTIAL | ☐ ALL
03 POPULATION POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION

Drinking water wells are within ¼ mile of site and are located in the shallow aquifer.

01 ☐ H. WORKER EXPOSURE/INJURY | 02 ☐ OBSERVED (DATE: _____) | ☐ POTENTIAL | ☐ ALL
03 WORKERS POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION

Unknown

01 ☐ I. POPULATION EXPOSURE/INJURY | 02 ☐ OBSERVED (DATE: _____) | ☐ POTENTIAL | ☐ ALL
03 POPULATION POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION

Unknown

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	54601

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLE
04 NARRATIVE DESCRIPTION

Unknown

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLE
04 NARRATIVE DESCRIPTION (include names(s) of species)

Unknown

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLE
04 NARRATIVE DESCRIPTION

Unknown

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLE
(Spills/runoff/standing liquids/leaking drums)
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

Unknown

01 ☒ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLE
04 NARRATIVE DESCRIPTION

Leachate and methane gas generated on-site may migrate off-site and pose a threat to local population

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLE
04 NARRATIVE DESCRIPTION

Unknown

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLE
04 NARRATIVE DESCRIPTION

Unknown

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

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

Wehran Engineering Site Inspection, February 13, 1985
EPA Site Inspection, June 1980

EPA

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

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUM: 54601

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER			
Old Halfmoon Landfill	Clamstream Road			
03 CITY	**04 STATE**	**05 ZIP CODE**	**06 COUNTY**	**07 CO**
Halfmoon	NY		Saratoga	

09 COORDINATES — LATITUDE: 42° 48' 21" N | LONGITUDE: 73° 45' 13" W

10 TYPE OF OWNERSHIP (Check one)
☐ A. PRIVATE ☐ B. FEDERAL _____ ☐ C. STATE ☐ D. COUNTY ☒ E. MUN
☐ F. OTHER _____ ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION: 2 / 13 / 85 (MONTH DAY YEAR)

02 SITE STATUS
☐ ACTIVE
☒ INACTIVE

03 YEARS OF OPERATION: Unknown (BEGINNING YEAR) | 1968 (ENDING YEAR) ___ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR _____ (Name of firm) ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR _____ (Name of firm)
☐ E. STATE ☒ F. STATE CONTRACTOR Wehran Engineering (Name of firm) ☐ G. OTHER _____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEP
Michael F. Richter	Environmental Scientist	Wehran Eng.	(914)

09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEP
			( )
			( )
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEP
			( )
			( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☒ PERMISSION ☐ WARRANT		Cool, clear

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHO
Dennis G. Fenn	Wehran Engineering	(914) 3

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
David B. Tompkins		Wehran Eng.	914-343-0660	10 (MONTH)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	546013

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- [X] A. SOLID
- [ ] B. POWDER, FINES
- [ ] C. SLUDGE
- [ ] D. OTHER _____ (Specify)
- [ ] E. SLURRY
- [ ] F. LIQUID
- [ ] G. GAS

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

TONS _____
CUBIC YARDS 176,000
NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

- [ ] A. TOXIC
- [ ] B. CORROSIVE
- [ ] C. RADIOACTIVE
- [ ] D. PERSISTENT
- [ ] E. SOLUBLE
- [ ] F. INFECTIOUS
- [ ] G. FLAMMABLE
- [ ] H. IGNITABLE
- [ ] I. HIGHLY VOLAT
- [ ] J. EXPLOSIVE
- [ ] K. REACTIVE
- [ ] L. INCOMPATIBL
- [ ] M. NOT APPLICA

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
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 CON

V. FEEDSTOCKS (See Appendix for CAS Numbers)

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

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

Wehran Engineering Site Inspection, February 13, 1985.
EPA Site Inspection Report, June 1980.

EPA

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

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: 546013

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION | 02 ☐ OBSERVED (DATE: _____) | ☒ POTENTIAL | ☐ ALL
03 POPULATION POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION

Leachate has been observed on site surface.

01 ☐ B. SURFACE WATER CONTAMINATION | 02 ☐ OBSERVED (DATE: _____) | ☒ POTENTIAL | ☐ ALL
03 POPULATION POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION

Leachate has been observed on site surface; low areas on site are causing ponding.

01 ☒ C. CONTAMINATION OF AIR | 02 ☐ OBSERVED (DATE: _____) | ☒ POTENTIAL | ☐ ALL
03 POPULATION POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION

Methane production at the site has been documented

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS | 02 ☐ OBSERVED (DATE: _____) | ☒ POTENTIAL | ☐ ALL
03 POPULATION POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION

Area has past history due to methane explosion.

01 ☐ E. DIRECT CONTACT | 02 ☐ OBSERVED (DATE: _____) | ☐ POTENTIAL | ☐ ALL
03 POPULATION POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION

Unknown

01 ☐ F. CONTAMINATION OF SOIL | 02 ☐ OBSERVED (DATE: _____) | ☐ POTENTIAL | ☐ ALL
03 AREA POTENTIALLY AFFECTED: _____ (Acres) | 04 NARRATIVE DESCRIPTION

Unknown

01 ☐ G. DRINKING WATER CONTAMINATION | 02 ☐ OBSERVED (DATE: _____) | ☒ POTENTIAL | ☐ ALL
03 POPULATION POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION

Drinking water wells are within $\frac{1}{4}$ mile of site and are located in the shallow aquifer.

01 ☐ H. WORKER EXPOSURE/INJURY | 02 ☐ OBSERVED (DATE: _____) | ☐ POTENTIAL | ☐ ALL
03 WORKERS POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION

Unknown

01 ☐ I. POPULATION EXPOSURE/INJURY | 02 ☐ OBSERVED (DATE: _____) | ☐ POTENTIAL | ☐ ALL
03 POPULATION POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION

Unknown

EPA

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

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: 546013

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEG
04 NARRATIVE DESCRIPTION

Unknown

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEG
04 NARRATIVE DESCRIPTION (Include names of species)

Unknown

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEG
04 NARRATIVE DESCRIPTION

Unknown

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES (Spills/runoff/standing liquids/leaking drums) — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGE
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

Unknown

01 ☒ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGE
04 NARRATIVE DESCRIPTION

Leachate and methane gas generated on-site may migrate off-site and pose a threat to local population

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGE
04 NARRATIVE DESCRIPTION

Unknown

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGE
04 NARRATIVE DESCRIPTION

Unknown

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

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

Wehran Engineering Site Inspection, February 13, 1985
EPA Site Inspection, June 1980

EPA

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

I. IDENTIFICATIO

01 STATE | 02 SITE NU
NY | 5460

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	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				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check 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		
☐ I. OTHER (Specify)		

04 TREATMENT (Check 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. BUILDING

06 AREA OF SITE

18

07 COMMENTS

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☐ A. ADEQUATE, SECURE ☐ B. MODERATE ☐ C. INADEQUATE, POOR ☐ D. INSECURE, UNSOUND, DANG

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

No methods of containment have been observed or documented at the site.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☒ YES ☐ NO

02 COMMENTS

There is no restriction of any means.

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

EPA Site Inspection Report, June 1980
Wehran Engineering Site Inspection, February 13, 1985

EPA

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

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: 546013

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as appropriate)	SURFACE	WELL	02 STATUS: ENDANGERED	AFFECTED	MONITORED	03 DISTANCE TO SITE
COMMUNITY	A. ☐	B. ☒	A. ☐	B. ☐	C. ☐	A. 1.0 (mi)
NON-COMMUNITY	C. ☐	D. ☒	D. ☐	E. ☐	F. ☐	B. 0.2 (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☒ 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) ☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER	03 DISTANCE TO NEAREST DRINKING WATER WELL
7640	(mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
40 ft (ft)	unknown	40 (ft)	(gpd)	☐ YES ☐ NO

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

There are approximately 50 homes within $\frac{1}{4}$ mile of the site. Drinking water for these homes is supplied by wells ranging in depth from 40 to 200 ft.

10 RECHARGE AREA		11 DISCHARGE AREA	
☐ YES ☐ NO	COMMENTS	☐ YES ☐ NO	COMMENTS

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

☐ 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
Mohawk River	☐	10-20 ft (ft)
	☐	(ft)
	☐	(ft)

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. ____ NO. OF PERSONS	B. ____ NO. OF PERSONS	C. est 7640 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION: 0.2 (mi)

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

04 DISTANCE TO NEAREST OFF-SITE BUILDING: 0.2 (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)

Private wells = 50
assume 3.8 people/well
50 x 3.8 = 190 people

Community wells = 7450
(population)

7450
+ 190
7640 total population within 3 miles.

Source: NYS Atlas of Community Water System Sources, 1982

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMB
NY	546013

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^{-4} – 10^{-3} cm/sec ☒ D. GREATER THAN 10^{-3} 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	
_____ (ft)	_____ (ft)	_____	

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE		
		SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERA
18 (in)	2.5 (in)	0 – 5 %	South to Southeast	

09 FLOOD POTENTIAL

SITE IS IN _____ YEAR FLOODPLAIN

10 ☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE	OTHER
A. _____ (mi)	B. _____ (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

_____ (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	AG LAND
A. _____ (mi)	B. 0.2 (mi)	C. _____ (mi)	D. _____

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

The site is bounded on the south by the Mohawk River and on the north by Clamstream Roa The nearest residences are on the opposite side of Clamstream Road. The distance of these homes from the old canal range between 100 and 250 feet. There are approximately 50 homes within ¼ mile. These homes all have private wells ranging in depth from 40 to 200 feet deep.

The area filled in was approximately 100 feet wide, 6 feet deep and 1½ miles long. The filled elevation is slightly above that of the river.

Surface water flow is towards the old canal and river (surrounding area to the north in uph as is the upper groundwater flow. Direction of the deep groundwater flow is unknown.

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

EPA Site Inspection, June 1980
Report prepared by E. Schmalz, Public Health Office, Glens Fall, Dec. 1979

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 STATE: NY | 02 SITE NUMBER: 546013

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DA RESULTS AVAI
GROUNDWATER			
SURFACE WATER			
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL			
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
HNU - Organics	Results Negative
	—

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☒ GROUND ☒ AERIAL

02 IN CUSTODY OF Wehran Engineering
(Name of organization or individual)

03 MAPS
☒ YES
☐ NO

04 LOCATION OF MAPS
Wehran Engineering

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

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

Wehran Engineering Site Inspection, February 13, 1985

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUM
NY	5460

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER
Town of Halfmoon	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
Municipal Building	

05 CITY	06 STATE	07 ZIP CODE
Halfmoon	NY	

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

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

PARENT COMPANY (If applicable)

08 NAME	09 D+B N

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SI

12 CITY	13 STATE	14 ZIP CO

08 NAME	09 D+B N

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SI

12 CITY	13 STATE	14 ZIP CO

08 NAME	09 D+B N

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SI

12 CITY	13 STATE	14 ZIP CO

08 NAME	09 D+B N

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SI

12 CITY	13 STATE	14 ZIP CO

III. PREVIOUS OWNER(S) (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

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

01 NAME	02 D+B N

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SI

05 CITY	06 STATE	07 ZIP CO

01 NAME	02 D+B N

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SI

05 CITY	06 STATE	07 ZIP CO

01 NAME	02 D+B N

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SI

05 CITY	06 STATE	07 ZIP CO

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

EPA Site Inspection Report, June 1980

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - OPERATOR INFORMATION

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: 546013

II. CURRENT OPERATOR (Provide if different from owner) | **OPERATOR'S PARENT COMPANY** (If applicable)

01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	14 CITY	15 STATE / 16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER		

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner) | **PREVIOUS OPERATORS' PARENT COMPANIES** (If applicable)

01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
Aetna Contracting		Arizona Chemicals	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	14 CITY	15 STATE / 16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD		
5 Yr.			

01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
Chiarello Landfill Corp			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	14 CITY	15 STATE / 16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD		
1 Yr.			

01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
Capital Division Disposal Co.			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	14 CITY	15 STATE / 16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD		
4 Months			

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

EPA Site Inspection Report, 1980

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATI	
01 STATE	02 SITE N
NY	546

II. ON-SITE GENERATOR

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

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	0
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP
01 NAME	02 D+B NUMBER	01 NAME	02 D+
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	0
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	0
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP
01 NAME	02 D+B NUMBER	01 NAME	02 D+
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	0
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP

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

EPA

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

I. IDENTIFICATION

01 STATE | 02 SITE NUMBER
NY | 546013

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ D. SPILLED MATERIAL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ E. CONTAMINATED SOIL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ F. WASTE REPACKAGED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ G. WASTE DISPOSED ELSEWHERE — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ H. ON SITE BURIAL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ I. IN SITU CHEMICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ J. IN SITU BIOLOGICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ K. IN SITU PHYSICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ L. ENCAPSULATION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ M. EMERGENCY WASTE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ N. CUTOFF WALLS — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ P. CUTOFF TRENCHES/SUMP — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Q. SUBSURFACE CUTOFF WALL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

EPA

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

I. IDENTIFICATIO

01 STATE	02 SITE NUM
NY	5460

II PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ S. CAPPING/COVERING — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ T. BULK TANKAGE REPAIRED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ U. GROUT CURTAIN CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ V. BOTTOM SEALED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ W. GAS CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ X. FIRE CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Y. LEACHATE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Z. AREA EVACUATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 1. ACCESS TO SITE RESTRICTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 2. POPULATION RELOCATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 3. OTHER REMEDIAL ACTIVITIES — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

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

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	546013

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☐ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

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

6.0 ASSESSMENT OF DATA ADEQUACY AND RECOMMENDATIONS

6.0 ASSESSMENT OF DATA ADEQUACY AND RECOMMENDATIONS

6.1 GROUNDWATER ROUTE

The preliminary groundwater route score ($S_{gw} = 48.12$) is impacted largely by the close proximity of private wells to the site. The potential for groundwater contamination in the area of the site is great due to the deposition of wastes directly into the canal bed. Some protection to the groundwater supply may be provided by the existence of clay/silt aquitards under the canal bed. The existence of a prevailing, southerly groundwater drainage pattern would provide additional protection by drawing contaminants away from the wells.

Quantitative documentation of groundwater movements and the existence of low-permeability zones under the canal bed must be addressed in the Phase II work plan to accurately determine the potential environmental threat.

6.2 SURFACE WATER ROUTE

During NYSDEC and Wehran Engineering site investigations, leachate from the Old Halfmoon Landfill has been observed entering the adjacent Mohawk River.

Regardless of the leachate problem, a preliminary score ($S_{sw} = 12.76$) was obtained when scoring the surface water route. The undefined use(s) of the Mohawk River and the unknown population affected are largely responsible for this low score.

Phase II work plans must include the following:

- Collect and sample visible leachate entering the surface water route.
- Determine amount of disposed material and its potential for producing leachate.
- Identify downstream uses of the Mohawk River and potential deterioration due to contamination.

6.3 AIR ROUTE

No organic vapor contaminants were detected during Phase I site inspection ($S_a = 0$). Additional monitoring will be performed during Phase II investigations, primarily to check for possible contamination resulting from disturbance of the ground surface by subsurface drilling and also as a standard safety measure for the sampling staff.

6.4 FIRE AND EXPLOSION

To score the fire and explosion hazard mode either a state or local fire marshall must have certified that the facility presents a significant fire or explosion threat to the public or to a sensitive environment, or there must be a demonstrated threat based on field observations (e.g. combustible gas indicator readings). The available records give no indication that either one of these tasks has been done. Further, the available data do not suggest any imminent threat of fire and explosion at this site. Therefore the route score cannot be completed. However, since an explosion occurred in 1970 and a methane venting system was installed, an evaluation of site hazard will also be done during Phase II work.

6.5 DIRECT CONTACT ROUTE

A direct contact score (S_{DC}) of 25.00 was assigned to Old Halfmoon Landfill. No immediate threat is posed by this site. However, during Phase II work, existing soil and vegetative cover will be evaluated to determine if capping of the site with a low-permeability type material is warranted. Restriction of access by fencing will also be considered, to eliminate the potential for human loss by future methane explosions.

7.0 PHASE II WORK PLAN

7.0 PHASE II WORK PLAN

INTRODUCTION AND OBJECTIVES

During the Phase I investigation, it was determined that the Old Halfmoon Landfill poses a potential threat to surface water and groundwater supplies. This Phase II work plan is designed to further characterize the site as follows:

- Identify the types and concentrations of allegedly disposed materials.
- Further identify subsurface hydrogeologic conditions at the site.
- Determine the presence or absence of contamination in the groundwater and surface water in the vicinity of the site.
- Evaluate whether or not contamination from the site poses any environmental or health concerns.
- Provide a final Hazard Ranking Score (HRS).
- Provide NYSDEC with a preliminary remedial cost estimate.

Procedures to be utilized for sampling and analysis, as well as health and safety, will be conducted in conformance with the consultant's generic procedures previously submitted to NYSDEC.

WORK PLAN

To accomplish the above mentioned objectives, the following tasks and subtasks are recommended:

Task 1 - Preparation of Site-Specific Work Plans

Wehran will prepare and submit for NYSDEC approval revised work plans for those sites NYSDEC recommends for Phase II investigation. These plans will include site-specific:

- Scope of work
- Health and safety plan

- Sampling and analytical plan
- Detailed cost estimate

All plans will conform with the contractor's previously submitted established procedures.

Task 2 - Identify, Obtain and Evaluate Additional Data

To consider the possible cost for future remedial investigations, it will be necessary to collect and evaluate additional information relating to the area surrounding the Old Halfmoon Landfill including but not limited to:

- Uses of local surface and groundwater
- Available regional water supply sources
- Boring logs, if available, for all wells in the immediate area

Task 3 - Hydrogeologic Investigation

Test Borings

In order to define the geology beneath the subject site, six shallow borings down to bedrock will be drilled under the continuous supervision of Wehran Engineering. Split-spoon samples will be collected at standard five-foot intervals in accordance with the procedures of the Standard Penetration Test. Soils will be visually classified in the field for grain size (according to the Unified Classification System) and lithology. Representative portions of each sample will be stored in moisture-tight jars at the office of Wehran Engineering in Middletown, New York, for future reference. In addition, it is **anticipated that three samples will be analyzed in the laboratory for grain size, Atterberg limits, and hydrometer.**

If a confining layer or other strata determined to be of particular significance to the migration of contamination is encountered, additional investigations will be conducted. These additional investigations will be performed as an extra, subject to NYSDEC approval, and may include the collection of undisturbed soil samples using Shelby tubes, continuous split-spoon sampling, and laboratory permeability testing.

Monitoring Well Installation

Monitoring wells will be installed in each of the six borings. All wells will be constructed using two-inch diameter, Schedule 40, threaded flush-joint PVC pipe and fifteen-foot long factory slotted PVC screens. The screened interval will be determined in the field according to the hydrologic conditions encountered. A sand pack will be placed around each screen to prohibit clogging of the screen openings. A bentonite pellet seal will be placed at the top of the sand to isolate it from upper soil zones. The annular space will be filled to the surface with a bentonite-cement grout using the "Tremie" method. A steel casing with a protective lock will then be cemented in place to prevent vandalism.

Survey Well Locations and Elevation

A survey will be conducted to determine the relative elevations of both ground surface and "top of casing" at each boring location. The location of each well will also be determined with sufficient accuracy for plotting on a site map.

In Situ Permeability Determinations

A variable head borehole test will be conducted in order to measure the in situ permeability of the soils at each monitoring well location. This test will involve recording the recovery of water level after bailing. Prior to the procedure, the static water level will be measured and recorded to facilitate a determination of groundwater flow direction.

Groundwater Sample Collection

Groundwater samples will be collected for analysis from each of the six wells using the following procedure.

- The static water level in each well will be measured and recorded.
- Each well will be purged of at least three well volumes of water using a separate teflon bailer for each well. Each bailer will be cleaned in the laboratory prior to use.

- Samples will be collected from each well by the use of the above-mentioned bailer. Each sample will then be placed in the appropriate container, stored on ice, and transported to the lab in accordance with standard chain-of-custody protocol.

The samples will be analyzed for the Hazardous Substances List (HSL), Priority Pollutant Heavy Metals and water quality indicator parameters including: COD, pH, conductivity, chlorides, TSS, TDS, and iron. Samples will also be collected from the private wells in the immediate vicinity of the site by the NYSDOH.

The following assumptions have been made in the development of this scope of services and the associated costs:

- All drilling locations are accessible to a truck-mounted drilling rig as determined by the drilling subcontractor.
  The soils do not contain excessive amounts of cobbles or boulders.
- It is anticipated that the six wells will be approximately 45 feet deep, and that twelve normal, eight-hour days would be required for their installation.

Geophysical Survey

A terrain conductivity or earth resistivity survey will be conducted in order to obtain additional subsurface information. Both of these geophysical methods evaluate changes in the earth's resistance/conductance to an induced electrical current which may reflect changes in stratigraphy and/or groundwater quality. The survey would be implemented in areas of the site deemed appropriate based on existing geologic and water quality data.

Task 4 - Surface Water Investigation

The Old Halfmoon Landfill is bordered by The Mohawk River. Surface water and sediment samples (both upstream and downstream of the site) need to be collected to verify if the Mohawk River is being contaminated.

To assist in identifying the contaminants of concern at the site, a leachate sampling and analysis program is also necessary. This program will consist of collecting one leachate sample. The sample will be collected along the boundary of the site where leachate generation appears most predominant. Samples of various seeps in the same general area may be collected and composited for single analysis. If no leachate is present, a sample of stained soil may be substituted for a leachate sample.

Laboratory analyses of the surface water, leachate, and sediment samples will be performed for the HSL, Priority Pollutant Heavy Metals and water quality indicator parameters (water samples only), as indicated in Task 2.

Task 5 - Qualitative Air Monitoring

Throughout all Phase II activities conducted at the site, air monitoring will be performed using the HNU Systems Photoionizer and an O_2/LEL meter, both upwind and downwind of the site. If consistent, unusually high values are observed (five to ten ppm above background) with the HNU, a more quantitative air analysis would be requested as an extra, subject to NYSDEC approval.

Task 6 - Laboratory Analysis

During the field investigation the following samples will be collected for analysis by a subcontractor laboratory:

- Eleven water samples (six wells, two surface water, one leachate, one field blank, one trip blank) for HSL, Priority Pollutants Heavy Metals and water quality indicator parameters
- Two sediment samples for HSL and Priority Pollutants Heavy Metals

Task 7 - Preliminary Remedial Cost Estimate

The consultant will consider the possible cost for future remedial investigations, engineering plans and specifications, and the physical remediation anticipated for the site. A range of possible remedial costs will

be developed using best engineering judgment and previous experience with possible feasible remedial schemes. This task is not intended to perform a cost-effectiveness analysis of feasible remedial alternatives but rather to provide a cost range estimate adequate for budget reporting purposes.

Task 8 - Phase II Report Preparation

Under this task, the engineer will compile a final report for the site. This report will contain the following:

- Phase II information developed under Tasks 1 through 7
  Final Site Assessment and HRS

Extras

This work plan has been developed based upon available site information as contained in the Phase I report. If conditions encountered during the Phase II investigation indicate the need for additional services or extras such as difficult drilling, poor access, etc., not included within the original scope of work, the costs will be negotiated with the NYSDEC. Such extra services will be performed on a time and materials basis with prior authorization by the NYSDEC project officer.

NYSDEC SUPERFUND INVESTIGATIONS
PHASE II - TOTAL PROJECT COST SUMMARY[1]
SITE: OLD HALFMOON LANDFILL

Wehran's Labor and Expenses	$ 56,000.00
Subcontractors:	
Driller	42,000.00
Laboratory	26,000.00
TOTAL ESTIMATED COST	$ 124,000.00*

[1]This cost estimate does not include any provisions for inflation and salary adjustments and can be considered current for approximately three months.

*Note: This cost estimate has been developed for budgeting purposes only. Should this site be selected for Phase II investigation, Wehran will develop a detailed cost estimate for NYSDEC approval.

APPENDIX

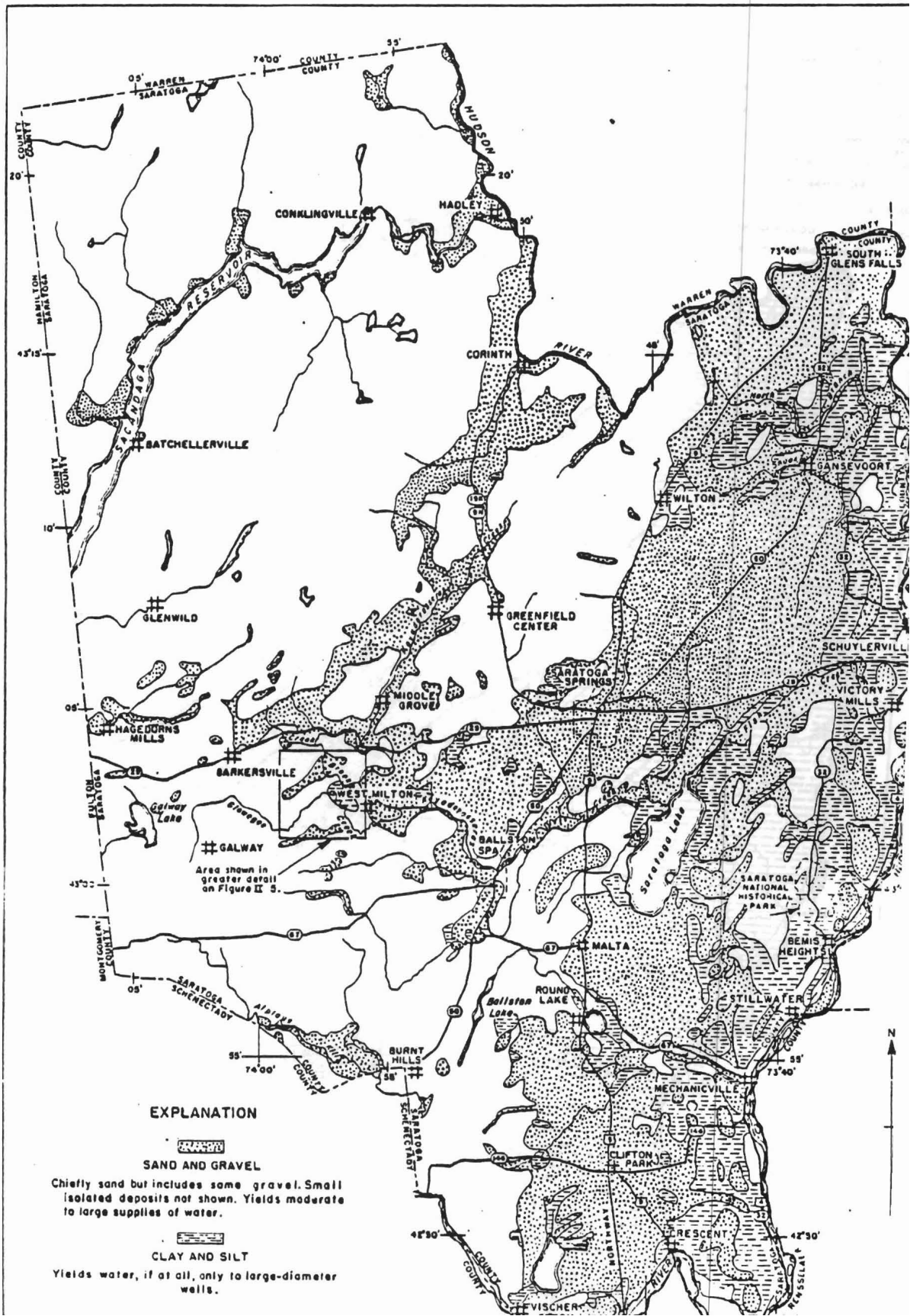
STATE OF NEW YORK
DEPARTMENT OF CONSERVATION
WATER RESOURCES COMMISSION

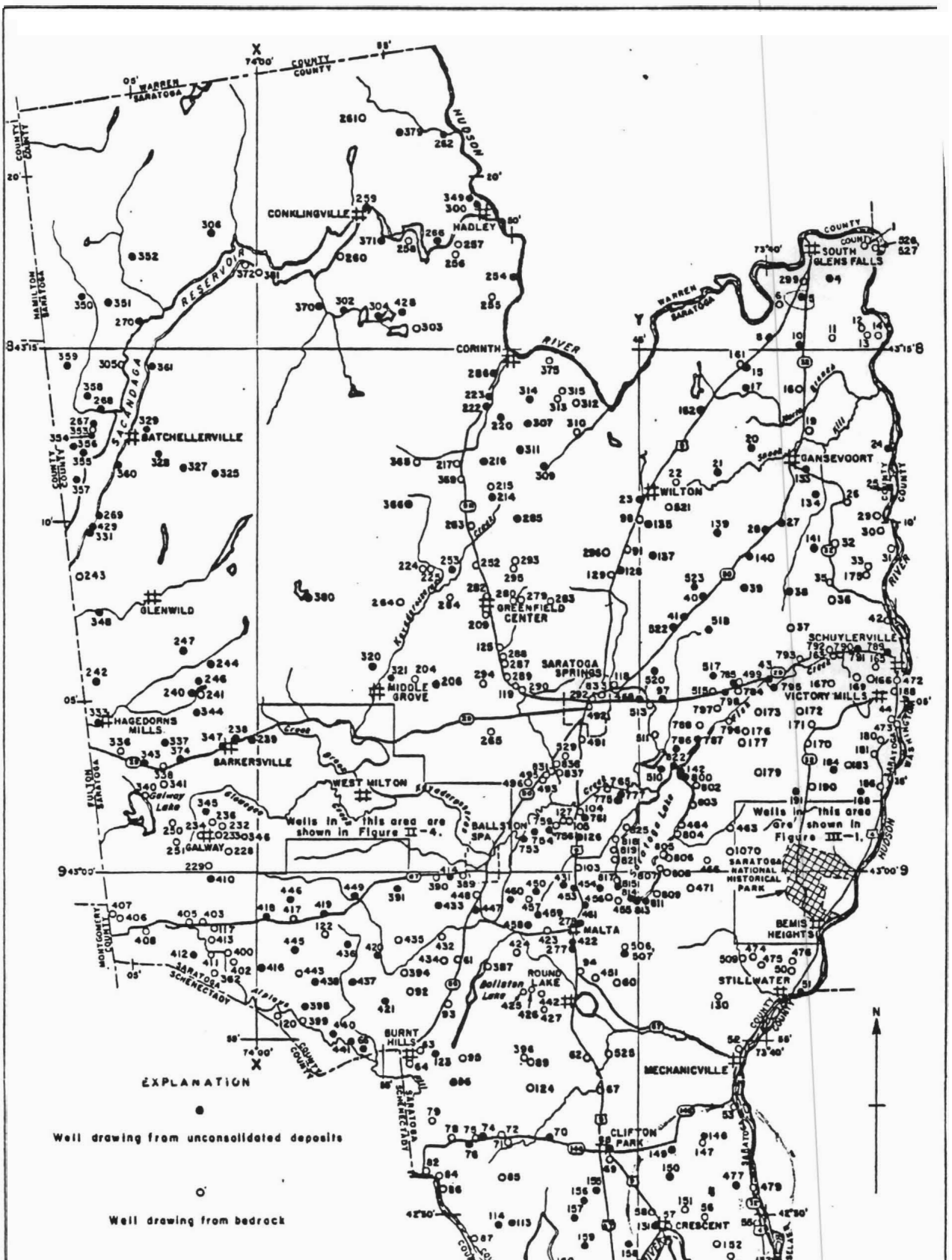
Ground-Water Studies in Saratoga County, New York

By
R. C. Heath, F. K. Mack, and J. A: Tannenbaum
Geologists, U. S. Geological Survey

Prepared by the
U. S. GEOLOGICAL SURVEY
in cooperation with the
NEW YORK WATER RESOURCES COMMISSION,
U. S. ATOMIC ENERGY COMMISSION,
and the
U. S. NATIONAL PARK SERVICE

BULLETIN GW-12


EXPLANATION
SAND AND GRAVEL
Chiefly sand but includes some gravel. Small isolated deposits not shown. Yields moderate to large supplies of water.
CLAY AND SILT
Yields water, if at all, only to large-diameter wells.
Area shown in greater detail on Figure II 3.
CONKLINGVILLE
HADLEY
CORINTH
BATCHELLERVILLE
GLENWILD
GREENFIELD CENTER
HAGEDORNS MILLS
BARKERSVILLE
WEST MILTON
GALWAY
MIDDLE GROVE
SARATOGA SPRINGS
WILTON
GANSEVOORT
SOUTH GLENS FALLS
SCHUYLERVILLE
VICTORY MILLS
BALLSTON SPA
MALTA
BEMIS HEIGHTS
STILLWATER
ROUND LAKE
BURNT HILLS
MECHANICVILLE
CLIFTON PARK
CRESCENT
VISCHER
Saratoga Lake
Ballston Lake
Galway Lake
SACANDAGA RESERVOIR
HUDSON RIVER
SARATOGA NATIONAL HISTORICAL PARK
HAMILTON COUNTY
FULTON COUNTY
MONTGOMERY COUNTY
SARATOGA COUNTY
SCHENECTADY COUNTY
WARREN COUNTY
74°00'
73°40'
43°15'
43°00'
42°50'
N


EXPLANATION
Well drawing from unconsolidated deposits
Well drawing from bedrock
Wells in this area are shown in Figure II-4.
Wells in this area are shown in Figure III-1.
SARATOGA NATIONAL HISTORICAL PARK
SARATOGA SPRINGS
SCHUYLERVILLE
SOUTH GLENS FALLS
GANSEVOORT
WILTON
GREENFIELD CENTER
MIDDLE GROVE
WEST MILTON
BALLSTON SPA
MALTA
ROUND LAKE
BURNT HILLS
CLIFTON PARK
CRESCENT
MECHANICVILLE
STILLWATER
BEMIS HEIGHTS
VICTORY MILLS
CONKLINGVILLE
HADLEY
CORINTH
GLENWILD
HAGEDORNS MILLS
BARKERSVILLE
GALWAY
SACANDAGA RESERVOIR
HUDSON RIVER
N

GEOLOGY AND GROUND WATER

Saratoga County is underlain by two distinctly different types of
Most of the surface is composed of a layer of unconsolidated deposits (
erroneously termed "soil") ranging in thickness from a few feet on some
to more than 100 feet in parts of the lowlands adjacent to the Hudson ar
Mohawk Rivers. The layer of unconsolidated deposits is underlain every
in the county by consolidated rocks (also termed "bedrock") thousands of
feet thick. Where the unconsolidated deposits are absent consolidated r
form the surface. Both the unconsolidated deposits and the consolidated
rocks are divisible into several different units. The subdivision of ei
may be based, depending on the objective of a particular study, on sever
different criteria. For instance, the rocks underlying most areas are c
different ages and in certain geologic studies the principal subdivision
based on age. In other studies, as for example in studies of the occurr
and availability of ground water, unconsolidated deposits are generally
divided on the basis of grain size and degree of sorting, and consolidat
rocks are subdivided on the basis of type of openings and mineral compos

From the standpoint of the availability of ground water, the uncons
dated deposits in Saratoga County are divided into (1) nonstratified dep
(till), (2) coarse-grained stratified deposits (sand and gravel), and (3
fine-grained stratified deposits (silt and clay). The geologic and wate
bearing characteristics of each of these are described in the section ti
"Unconsolidated Deposits."

Also from the standpoint of the availability of ground water, the c
solidated rocks in Saratoga County are divided into (1) crystalline rock
(2) sandstone, (3) carbonate rocks (limestone and dolomite), and (4) sha
The geologic and water-bearing characteristics of each of these are desc
in the section titled "Consolidated Rocks."

The following discussions of the water-bearing characteristics of t
different rock units in Saratoga County are based on records of selected
water wells and test holes. These records are tabulated in table I-3.
locations of the wells are shown in figures I-5, II-4, and III-1.

Unconsolidated Deposits

Most of the veneer of unconsolidated deposits in Saratoga County wa
laid down by sheets of ice thousands of feet thick that invaded the area
from the north several times during the last million years. The last ic
sheet to cover the county may have existed as recently as 10,000 to 15,0
years ago. As the ice sheets advanced over the county they carried soil
rock debris (some of which was derived from areas considerably north of
county and some from the rocks within the county). Some of the soil and
rock debris was deposited, both during the advance of the ice and during
retreat (melting), as a blanket of unsorted material called "till." Thi
blanket of till exists today on most hills and in some lowland areas,
relatively little altered by weathering or other geologic processes. In
some stream valleys in the northwestern part of the county and in most o
the lowlands adjacent to the Hudson and Mohawk Rivers, the blanket of ti
was reworked by streams carrying water derived from the melting ice shee
The material reworked by the streams was deposited in strata (layers) in

adjacent to the channels and in lakes into which the streams flowed. Where the stream velocities were high, predominantly large grains were deposited, forming layers referred to as a coarse-grained stratified deposit or, more simply, as sand and gravel. Where the velocities were relatively low, as in the lakes, small grains were deposited, forming layers referred to as a fine-grained stratified deposit or, more simply, as clay and silt.

A soils map of Saratoga County (Maxon, 1919) forms the basis for figure 1-3, a generalized map of the unconsolidated deposits. The soils map was modified on the basis of data obtained during the well survey and after comparison with glacial maps of Stoller (1911, 1916, 1918). The deposits in the West Milton area were mapped by Simpson and Mack (Mack and others, fig. 4), and are shown in figure 11-5.

Ground water occurs in unconsolidated deposits in the pore spaces between the grains. The amount of water stored in a given volume (for instance, in one cubic foot of material) depends on the porosity - or the percent of the total volume occupied by pores. Porosity depends largely on the degree of sorting and the shape of the grains composing a deposit. Thus, those parts of the sand and gravel deposits which are composed largely of rounded grains of about the same diameter have a porosity of 25 to 35 percent. On the other hand, till, which consists of a mixture of rock particles of widely different shapes and sizes, has a porosity of 5 to 15 percent.

However, the mere presence of water in the pore spaces of a deposit is no assurance that the water can be withdrawn through wells. The ability of a deposit to transmit water is termed "permeability" and is dependent on size, shape, and interconnection of the pores and other openings. Because the smaller particles in till effectively fill the openings that would otherwise exist between the larger particles, the permeability of till is relatively low. On the other hand, a uniformly grained sand and gravel deposit has a high permeability. Permeability is usually expressed quantitatively as the number of gallons a day that will flow through a square foot of material under a hydraulic gradient of 100 percent. The permeability of a well-compacted till may be as low as 0.0002 gpd/ft^2 while many sand and gravel deposits have permeabilities of more than 1,000 gpd/ft^2.

Till

Till is the principal unconsolidated deposit in the western two-thirds of the county (fig. 1-3). It also underlies a large area between Saratoga Lake and the Hudson River. Small unmapped exposures of consolidated rocks occur at numerous places, particularly on the steeper hillsides in the northwestern part of the county, in the areas shown in figure 1-3 as being underlain by till. Till which is locally referred to as "hardpan" consists chiefly of an unsorted mixture of rock particles ranging in diameter from less than 0.0001 inch (clay) to several feet (boulders). At places the till encloses thin lenses of well-sorted sand. The till penetrated by wells listed in table 1-3 ranges in thickness from zero at bedrock outcrops to about 70 feet in well Sa 243. Well Sa 1028T penetrated till from the surface to a depth of 65 feet and from 160 feet to 218 feet. The till was separated between depths of 65 and 160 feet by clay and sand.

The clay and silt is, for all practical purposes, impermeable and will not yield water in usable quantities. In a few places wells have dug through several feet of sand and into the underlying clay to depths 5 to 10 feet (well Sa 21). Most of the water drawn from such wells dou less is derived from a thin saturated zone in the lower part of the sar The hole in the clay serves primarily as a reservoir between periods of

From the standpoint of ground water the clay serves as an impermea bottom for the overlying sand and gravel. It also serves as an imperme cover for the underlying deposits. As a result, the water in the under deposits occurs under artesian conditions. This does not mean that wel drilled through the clay and into the underlying till or bedrock will f at the surface. According to the current definition, water under artes conditions need only rise to a level above the bottom of the clay (the confining bed). However, in some of the lower areas, for instance alon parts of the valleys of the small streams flowing into the Hudson River water from wells drilled into water-bearing deposits beneath the clay w flow at the surface.

Consolidated Rocks

The consolidated rocks underlying the unconsolidated deposits in Saratoga County are divided on the basis of type of opening and mineral composition into (1) crystalline rocks, (2) sandstone, (3) carbonate ro and (4) shale. It may be noted that this subdivision is also consisten from the standpoint of age, the crystalline rocks being the oldest and shale being the youngest. In contrast to the unconsolidated deposits, of which are more than 1 million years old and most of which are probab only 10,000 to 15,000 years old, the age of the consolidated rocks is a beyond comprehension. The oldest, the crystalline rocks, are of Precam age and thus, are at least 510 million years old and may be much older. youngest consolidated rocks, the shales, are of Ordovician age and, thu are at least 350 million years old. The areas underlain by the differe types of consolidated rocks are shown in figure 1-4.

Ground water occurs in the consolidated rocks in a completely diff type of opening from that present in the unconsolidated deposits. In t consolidated rocks pore spaces are either completely absent or, if pres are not interconnected and, thus, do not contribute to any significant extent in the storage and movement of water. Ground water occurs in th consolidated rocks in three different types of openings. These are (1) faults, (2) joints, and (3) bedding planes. Faults are breaks along wh the rocks on the two sides have been displaced relative to each other. Faults are relatively abundant in Saratoga County and at most places fo the contact between the rock units shown in figure 1-4. Other faults o within the same rock unit. Along most of the faults the rocks to the s east were displaced downward relative to the rocks to the northwest. T amount of the displacement varies at different places along the same fa and from fault to fault. However, displacements of a few hundred feet not uncommon. One of the consequences of faulting from the standpoint ground water is that deep wells only a few hundred feet apart may penet entirely different types of rock. In places along faults, the rocks ma shattered that wells penetrating these zones will have substantially gr yields than wells penetrating other parts of the bedrock.

Joints are breaks (fractures) in the consolidated rocks along which no displacement has occurred. The spacing of joints ranges from several inches to many feet. The joints trend in various directions and dip at steep angles. Although the openings along joints are generally minute they, nevertheless, play a significant role in the yield of wells drawing from the consolidated rocks. The opening developed along a joint is generally largest near the top of the rock. The size of the opening decreases with depth and in most rocks probably becomes insignificatn at depths of 200 to 300 feet. Drilling below those depths will not increase the yield of the well in most cases.

Bedding planes, as the name implies, are planes which separate individual layers or beds. Obviously, such planes exist only in a layered (stratified) rock. Thus, they occur in the sandstone, carbonate rocks, and shale units shown in figure 1-4 but not in the crystalline rocks. The beds, and thus the bedding planes, in the sandstone, carbonate rocks, and in the shale in the south-central part of the county dip at low angles away from the crystalline rocks except where the dip of the beds has been affected by faulting. In the eastern part of the county, on the other hand, the beds comprising the shale are tightly folded. Throughout a large part of the area the folds are overturned toward the west. As a result, the bedding planes generally dip toward the east at rather steep angles (Cushing and Ruedemann, 1914, p. 102). From the standpoint of ground water, openings developed along bedding planes play an important role in the movement of water.

Crystalline Rocks

Crystalline rocks directly underlie the unconsolidated deposits in most of the northwestern part of the county and in a large area in the north-central part, north of the city of Saratoga Springs (fig. 1-4). In the remainder of the county they underlie the younger consolidated rocks. The crystalline rocks are composed of several different types of metamorphic and igneous rocks. The metamorphic rocks include schist, quartzite, gneiss, and limestone (marble). The igneous rocks include granite, anorthosite, syenite, and gabbro. In most places the metamorphic and igneous rocks are intimately intermingled.

Water is obtained from the crystalline rocks from drilled wells that penetrate them to depths of 150 to 200 feet. The depth of 62 of the drilled wells in bedrock listed in table 1-3 averages 176 feet and ranges from 23 feet to 675 feet (table 1-1). Wells drawing from crystalline rocks, as well as from the other bedrock units, are generally cased to the top of rock and left uncased from the top of rock to the bottom of the well. The yield of these wells depends on the number and size of the joints and other openings penetrated. Yields were reported for nine of the wells drawing from crystalline rocks listed in table 1-3. The yield of these ranged from 1 to 20 gpm and averaged about 5 gpm (table 1-2).

Sandstone

The crystalline rocks are partly bordered (fig. 1-4) by a rock consisting largely of sandstone but containing, in the upper part, interbedded layers of dolomite. The rocks here referred to as "sandstone" include the

and Rensselaer Counties. The water at Saratoga Springs appears to be controlled by the Saratoga fault. East of the fault the dolomite is overlain by shale which prevents upward seepage of the water. Movement of water across the fault is prevented by the presence of impermeable crystalline rocks which lie opposite the Gailor Dolomite of Fisher and Hanson (1951) on the west side of the fault. The origin of the water is not known. However, the presence of abundant carbon dioxide and the high concentration of chloride, bromide, iodide, fluoride, and sodium carbonate suggest an igneous origin (Kemp, 1912, p. 48-64).

Shale

Most of the eastern and southern parts of the county (fig. 1-4) are underlain by a thick section of consolidated rocks consisting largely of shale interbedded with thin layers of sandstone. These rocks have been subdivided into the following formations: Normanskill Shale, Snake Hill Formation, Canajoharie Shale, and Schenectady Formation. The thickness of the shale ranges from a few hundred feet near the contact with the limestone to considerably more than 1,000 feet in the southern part of the county.

Yields are reported for 110 of the wells drawing from shale listed in table 1-3. The yield of these wells ranges from 0.5 to 80 gpm and averages about 10 gpm (table 1-2).

Table 1-3.--Records of selected wells and test holes in Saratoga County (Continued)

Well number	Location	Owner or occupant	Date completed	Altitude above sea level (feet)	Type of well	Depth of well (feet)	Diameter (inches)	Depth to bedrock (feet)	Water-bearing material	Water level below land surface (feet)	Yield (gallons per minute)	Use	Remarks
a 35	8Y, 7.6S, 6.3E	Albert Cook	1941	300	Drl	128	6	28	Shale	19	4	--	Till 0-28, shale 28-128. Drawdown 81 ft after pumping 4 gpm for 15 min.
a 36	8Y, 8.2S, 6.3E	Edgar King	1915	320	Drl	165	8	--	do.	18	--	D	
a 37	8Y, 9.0S, 5.0E	King Bros. Dairy	1940	300	Drl	166	8	63	do.	20	3	C	Sand 0-7, till 7-63, shale 63-166.
a 38	8Y, 7.9S, 4.9E	do.	1875	260	Dug	20	30-60	--	Sand	15	--	D,S	Sand 0-20. Water contains some hydrogen sulfide.
a 39	" 3.4E	R. Berghamer	1943	330	Drv	23	1¼	--	do.	17	--	D	Well driven in cellar 6 ft below land surface.
a 40	"	Mrs. Rose Zwijacz	1921	320	Dug	14	48	--	do.	8	--	D	
a 41	"	Yurick	1929	310	Dug	17	48	--	do.	13	--	C	
a 42	8Y, 9.8S, 8.2E	Harry Seney	1942	120	Drl	100	8	5	Shale	10	2	D	Sand 0-5, shale 5-100. Drawdown 85 ft after pumping 2 gpm for 30 min.
a 43	8Y, 10.6S, 4.4E	C. Christensen	1931	210	Dug	18	30	--	Sand	13	--	D	
a 44	8Y, 12.0S, 8.3E	George Gay	1942	120	Drl	64	6	30	Shale	--	1	--	Clay 0-30, shale 30-64.
a 45	9Y, 1.8N, 5.8E	Henry Schultz	--	290	Drl	140	6	100	do.	20	3	D	Well originally drilled to depth of 100 ft. Yield inadequate. Deepened to 140 ft in 1939.
a 46	9Y, 2.5N, 5.2E	Frederick H. Dodd	1942	320	Drl	102	8	16	do.	--	4	D,S	Drawdown 40 ft after pumping 4 gpm for 20 min.
a 47	9Y, 2.0N, 3.4E	S. W. Baker	1942	500	Drl	66	8	15	do.	20	5	S	Till 0-15, shale 15-66. Drawdown 30 ft after pumping 5-6 gpm for 15 min.
a 48	9Y, 0.9S, 4.8E	Edward Gilligan	1942	310	Drl	64	6	3	do.	--	--	--	
a 50	9Y, 3.4S, 5.1E	John Anusesky	1943	140	Drl	87	6	0	do.	13	--	S	
a 51	9Y, 4.1S, 5.4E	Village of Stillwater	1935	80	Drl	24	12	--	Gravel	15	--	P	Water contains hydrogen sulfide and 2.3 ppm iron. Treated with iron and aerated before distribution.
a 52	9Y, 6.1S, 3.5E	West Virginia Pulp & Paper Co.	1916	80	Drl	2,157	8	0	Shale	--	--	U	Shale 0-1,000, limestone 1,000-2,157. Well is abandoned.
a 53	9Y, 7.9S, 3.2E	Mintzer Petroleum Co.	1945	80	Drl	29	6	15	do.	4	--	I	Till 0-15, shale 15-29. Water contains hydrogen sulfide.
a 55	9Y, 12.1S, 4.2E	Thomas Yacano	1944	30	Drl	73	8	22	do.	16	3	C	Clay 0-7, till 7-22, shale 22-73.
a 56	9Y, 11.6S, 2.3E	T. J. Ceremuga	1939	300	Drl	164	8	63	do.	30	5	D	Till 0-15, clay 15-63, shale 63-164.
a 57	9Y, 12.1S, 1.0E	G. Devery	1900	260	Drl	144	--	144	do.	--	--	--	Clay, marl, boulders 0-144, shale at 144.
a 58	9Y, 11.4S, 0.6E	F. C. VanDenburgh	1939	260	Drl	182	8	19	do.	8	8	D	
a 59	9Y, 15.0S, 3.4E	Cluett Peabody Co., Inc.	--	50	Drv	21	1¼	--	Sand and gravel	18	--	D	Sand and gravel 0-21.
a 60	9X, 3.8S, 2.0E	Robert Griffen	1940	250	Drl	160	6	69	Shale	34	3	D,S	Sand 0-7, till 7-69, shale 69-160. Drawdown 116 ft after pumping 3-4 gpm for 15 min.
a 61	9X, 3.0S, 6.8E	Milford Playford	1940	400	Drl	85	8	18	do.	3	3	--	Till 0-18, shale 18-85.
a 62	9X, 6.4S, 11.2E	Joseph P. Bube	1940	210	Drl	106	6	36	do.	22	2	D,C	Till 0-36, shale 36-106.
a 63	9X, 6.2S, 5.5E	Harold S. Lewis	1942	400	Drl	195	8	35	do.	40	3	--	Till 0-35, shale 35-195.
a 64	9X, 6.6S, 5.2E	F. J. Taylor	1937	390	Drl	102	6	52	do.	--	4	D	Till 0-49, shale 49-102.

Table 1-3.--Records of selected wells and test holes in Saratoga County (Continued)

Well number	Location	Owner or occupant	Date completed	Altitude above sea level (feet)	Type of well	Depth of well (feet)	Diameter (inches)	Depth to bedrock (feet)	Water-bearing material	Water level below land surface (feet)	Yield (gallons per minute)	Use	Remarks
Sa 110	9Y, 14.5S, 2.8E	John Clement	1911	140	Dri	35	6	0	Shale	--	--	--	Shale 0-35.
Sa 111	9Y, 14.9S, 2.5E	Alberdy Bros.	1912	140	Dri	87	6	12	do.	--	--	--	Till 0-12, shale 12-87.
Sa 112	9Y, 15.2S, 2.7E	Joseph Dzamba	1912	80	Dri	34	6	8	do.	--	--	U	
Sa 113	9X, 11.9S, 8.5E	Harry Ray	1850±	340	Dug	15	36	--	Till	5	--	D	
Sa 114	9X, 11.9S, 8.1E	A. Allensandrini	1850±	360	Dug	23	36	--	Sand	5	--	D	
Sa 117	9X, 1.9S, 1.3W	Doris B. Duncan	1935	720	Dri	104	6	26	Shale	flows	10	D	Till 0-26, shale 26-104. Flows from December to June.
Sa 118	8X, 11.0S, 11.6E	P. W. and C. V. Dake	1945	280	Dri	92	10	--	Carbonate rock	+2	15	C	Sand and clay 0-92. Yields mineralized water from underlying dolomite.
Sa 119	8X, 11.0S, 8.7E	R. W. and C. V. Dake	1945	340	Dri	64	10	17	Sandstone	17	100	I	Clay 0-7, till 7-17, sandstone 17-64.
Sa 120	9X, 5.0S, 0.8E	Robert Flynn	1946	500	Dri	172	6	18	Shale	18	4	D,S	Till 0-18, shale 18-172.
Sa 122	9X, 2.1S, 2.3E	H. H. Hizer	1940	540	Dri	150	6	15	do.	27	3	D,S	Till 0-15, shale 15-150.
Sa 123	9X, 6.2S, 5.9E	Burnt Hills-Ballston Lake School	--	360	Dri	27	6	--	Sand and gravel	19	20	P	Sand and gravel 0-27.
Sa 124	9X, 7.4S, 9.1E	Sarah Smith	1900±	310	Dri	200	6	172	Shale	20	--	D	
Sa 125	8X, 9.8S, 8.0E	Gilbert Cady	1945	590	Dri	30	8	9	Sandstone	10	8	D	Till 0-9, sandstone 9-30.
Sa 126	8X, 16.1S, 10.6E	Claude Burger	1946	330	Drv	33	1½	--	Sand	25	--	D	Well driven in cellar 5 ft below land surface.
Sa 127	8X, 15.5S, 10.3E	Edwin J. Ladue	1946	270	Dri	350	6	53	Shale	+4	6	D	Till 0-53, shale 53-350.
Sa 128	8X, 7.2S, 11.9E	W. R. DeGraff	1939	350	Dri	75	6	--	Sand and gravel	--	10	P	Sand 0-60, till 60-72, sand and gravel 72-75.
Sa 129	8X, 7.3S, 11.8E	J. W. Hedrick	1940	350	Dri	100	6	41	Crystalline rock	16	6	P	Sand 0-41, crystalline rock 41-100. Drawdown 69 ft after pumping 7-8 gpm for 15 min.
Sa 130	9Y, 4.3S, 2.7E	Albert Chadourne	1946	310	Dri	87	6	69	Shale	--	10	--	Yellow clay 12-69, shale 69-87. Well drilled in bottom of dug well 12 ft deep. Water contains hydrogen sulfide.
Sa 131	9Y, 12.2S, 0.9E	Howard Bell	1840	200	Dug	70?	42	--	Till	25	--	C	Clay 0-7, till 7-70.
Sa 132	9Y, 12.9S, 4.5E	Frank Wells	1920±	40	Drv	20	2	--	Sand and gravel	10	--	D	
Sa 133	8Y, 3.9S, 5.3E	Rudolph Simon	1870±	240	Dug	23	36	--	Sand	18	--	D	Sand 0-4, clay 4-23.
Sa 134	8Y, 4.8S, 5.8E	J. A. Heber	1850±	220	Dug	16	30-48	--	do.	12	--	D,S	
Sa 135	8Y, 5.7S, 0.4E	Guy Fowler	1936	340	Dri	48	6	48	Gravel	--	35	D,S	Sand and clay 0-46, gravel 46-48.
Sa 137	8Y, 6.7S, 0.5E	Clinton Craig	1927	325	Dug	14	48	--	Sand	11	--	D,S	
Sa 139	8Y, 6.0S, 2.6E	Harry Engel	1850±	300	Dug	14	24	--	do.	11	--	D,S	
Sa 140	8Y, 6.7S, 3.5E	A. C. Record	1800±	320	Dug	20	18-42	--	do.	10	--	D,S	
Sa 141	8Y, 6.5S, 5.8E	Thomas Campion	1880±	280	Dug	30	30	--	do.	--	--	D	
Sa 142	8Y, 13.8S, 1.3E	J. E. Morris	1941	200	Dri	160	6	160	Sand and gravel	4	15	D,C	Sand and gravel 0-160, shale at 160. Some ignitable gas present.
Sa 143	9Y, 0.6N, 5.7E	U. S. National Park Service	1930	250	Dri	80	6	--	Shale	flows	--	U	(b). Water flows only in winter and spring. Water contains hydrogen sulfide. Owing to periodic pollution, water is unfit for drinking.
Sa 144	9Y, 0.5N, 5.7E	do.	--	250	Dug	10	48	--	Till	3.5 4/23/58	--	U	(b).
Sa 145	9Y, 0.4N, 5.3E	do.	1840	290	Dug	17	36	--	do.	7.8	--	U	(b). Water-level [illegible]

Table 1-3.--Records of selected wells and test holes in Saratoga County (Continued)

Well number	Location	Owner or occupant	Date completed	Altitude above sea level (feet)	Type of well	Depth of well (feet)	Diameter (inches)	Depth to bedrock (feet)	Water-bearing material	Water level below land surface (feet)	Yield (gallons per minute)	Use	Remarks
46	9Y, 0.4N, 5.4E	U. S. National Park Service	1920	300	Dri	80	6	70	Shale	24	15	D	(b). Water is chlorinated to remove hydrogen sulfide. House supply is softened. Water leaves iron stains on fixtures.
47	9Y, 9.2S, 2.2E	H. M. Swatling	1945	240	Dri	192	6	--	do.	30	--	D,S	
48	9Y, 9.0S, 2.2E	F. Malinowski	1945	250	Dri	212	6	--	Sand and gravel	--	--	U	Clay, sand, gravel 0-212. Well is drilled in bottom of 12-ft dug well. Family draws water from dug well with hand pump.
49	9Y, 9.4S, 1.2E	J. P. Will	1850±	280	Dug	35	36	--	Sand	10	--	D	Sand 0-4, clay 4-35.
50	9Y, 10.3S, 1.2E	Alden Harris	1947	340	Dug	17	48	--	Gravel	8	--	D	Well dug in cellar 7 ft below land surface.
51	9Y, 11.4S, 1.6E	Leon Suchoski	1928	270	Dri	175	8	--	Shale	25	--	S	Water contains hydrogen sulfide.
52	9Y, 12.6S, 2.6E	A. Shulusky	1945	260	Dri	130	6	65	do.	30	--	D	Sand and clay 0-65, shale 65-130. Water contains hydrogen sulfide.
53	9Y, 12.9S, 3.1E	do.	1933	220	Dri	240	6	60	Unconsolidated sand and shale	75	50	D,S	Sand 0-60, shale 60-240.
55	9X, 11.0S, 11.4E	Anthony Pipino	1900±	320	Dug	15	36	--	Sand	7	--	D	Sand 0-3, clay 3-15.
56	9X, 11.0S, 10.9E	George Jarose	1940	300	Drv	19	1¼	--	do.	9	--	D	Well driven in cellar 4 ft below land surface.
57	9X, 11.7S, 10.6E	J. J. Hogle	1932	280	Dug	15	36	--	do.	8	--	D	
58	9X, 12.5S, 12.4E	A. C. Stiles	1850±	280	Dug	26	36	--	do.	20	--	D	
59	9X, 12.6S, 10.9E	William and Ada Knecht	1947	290	Drv	15	1¼	--	do.	11	--	D	
60	9X, 13.2S, 9.9E	do.	1850±	260	Dug	20	48	--	do.	15	--	S	
61	8Y, 0.4S, 3.4E	Edward Renevo	1946	340	Dri	147	6	118	Carbonate rock	19	35	--	
62	8Y, 2.0S, 2.1E	A. Seutter	1946	420	Dri	290	6	--	Sand	90	--	D	Sand 0-290. Sand heaved up into casing.
63	8Y, 10.1S, 6.5E	J. Larendowski	1943	210	Dri	119	6	4	Shale	--	--	S	
65	8Y, 10.2S, 7.7E	Dan Barratt	1946	300	Dri	130	6	60	do.	15	10	D	Well yielded 6 gpm at 90 ft. Water contains some hydrogen sulfide
66	8Y, 10.6S, 7.5E	Margaret Dunphy	1927	240	Dri	198±	6	30	do.	--	--	D,S	Water contains hydrogen sulfide.
67	8Y, 10.8S, 6.4E	Mrs. Mary Hamm	--	220	Dri	100	8	23	do.	20	11	D,S	Till 0-23, shale 23-100.
68	8Y, 11.1S, 8.4E	P. Germain	1930	120	Dri	85	6	54	do.	+14 flows	--	D,S	Coarse gravel 0-50, till 50-54, shale 54-85. Water contains hydrogen sulfide.
69	8Y, 10.6S, 7.2E	Ray Lemon	--	240	Dri	150	6	64	do.	17	1	D,S	Clay 0-64, shale 64-150.
70	8Y, 12.8S, 5.5E	William Smith	1946	400	Dri	40	6	3	do.	6	25	D	
71	8Y, 12.2S, 5.7E	C. W. Ketchum	1945	340	Dri	65	6	22	do.	6	--	D,S	
72	8Y, 11.7S, 5.3E	William Walsh	1946	400	Dri	125	6	17	do.	15	1	S	Till 0-17, shale 17-125.
73	8Y, 11.8S, 3.8E	C. Candido	1937	270	Dri	110	6	15	do.	25	6	D	Water contains hydrogen sulfide. 50-ft deep drilled well, 70 ft away, reached shale at 20 ft; has water level 8 ft below land surface and contains no hydrogen sulfide.
75	8Y, 7.3S, 7.5E	Henry Peck	1937	240	Dri	83	6	23	do.	7	2	D,S	
76	8Y, 12.4S, 3.5E	S. S. Peck	1895±	370	Dri	60	6	30	do.	30	--	D	
77	8Y, 12.8S, 3.4E	Edward Hanahan	1946	360	Dri	120	6	30	do.	26	--	D	
79	8Y, 13.8S, 3.9E	J. J. Shelko	--	380	Dug	28	36	13	do.	6	--	D,S	Sand 0-10, clay 10-13, black shale 13-28.
80	8Y, 12.7S, 8.0E	Kenneth Everts	1937	180	Dri	63	6	10	do.	8	35	D	

Table 1-3.--Records of selected wells and test holes in Saratoga County (Continued)

Location	Owner or occupant	Date completed	Altitude above sea level (feet)	Type of well	Depth of well (feet)	Diameter (inches)	Depth to bedrock (feet)	Water-bearing material	Water level below land surface (feet)	Yield (gallons per minute)	Use	Remarks
9X, 1.2S, 10.8E	M. S. Murphy	--	330	Brd	35	4	--	Sand	29	--	D,C	Sand 0-32, clay 32-35.
8Y, 15.7S, 2.9E	O. Soundquist	1945	410	Drl	90	6	--	Shale	--	--	D	Water contains hydrogen sulfide.
8Y, 15.7S, 1.4E	Louis Fraticelli	1940	280	Drl	100	6	3	do.	10	10	D	
8Y, 16.8S, 2.2E	William Burke	1947	400	Drl	95	8	17	do.	16	8	D	Sand 0-17, shale 17-95.
9Y, 0.4N, 3.5E	Griffin & Hale	1946	480	Drl	100	6	16	do.	24	10	D,S	
8Y, 11.5S, 0.2E	T. G. Schrade	1944	240	Drl	63	8	--	Sand and gravel	18	20	U	Sand and gravel 0-63. Drawdown 32 ft after pumping 20 gpm for 30 min.
9Y, 1.1S, 4.0E	Mary W. Nolan	1850	370	Dug	20	48	--	Till	10	--	D,S	
9Y, 0.9S, 3.2E	James Groozneck	1931	400	Dug	14	36	10	Shale	12	--	D	Sand and gravel 0-10, shale 10-14.
9Y, 0.6S, 1.8E	T. G. Coon	1800±	400	Dug	20	36	4	do.	12	--	D,C	Shale 4-20.
8Y, 10.7S, 8.5E	Joseph Kelly	1939	130	Drl	65	6	5	do.	15	--	D	
8Y, 12.2S, 8.4E	Riley DeVoe	1946	100	Drl	70	6	--	do.	15	--	D	Temp 51°F, 9/2/47.
9Y, 2.9S, 3.8E	George Canfield	1900±	320	Dug	14	96	11	do.	flows	--	D	Clay 0-11, shale 11-14. Temp 53°F, 8/28/47.
9Y, 3.2S, 4.0E	C. W. Mallson	1918	320	Drl	90	6	2	do.	23	--	D,S	Shale 2-90. Well drilled in bottom of 25-ft deep dug well.
9Y, 3.1S, 5.1E	Nicholas Petruszek	1900	140	Dug	18	36	2	do.	15	--	D	Shale 2-18.
9Y, 10.5S, 3.2E	W. E. Pearse	1930	230	Dug	12	36	--	Sand	10	--	--	
9Y, 10.6S, 3.8E	Frank Garo	1920	50	Drl	42	6	--	Shale	3	--	D,C	Water contains hydrogen sulfide.
8X, 12.8S, 10.7E	Saratoga Springs Authority, State of New York	1944	310	Drl	325	10-6	185	Carbonate rock	--	100	C	"Lincoln Spring No. 12." Sand 0-54, clay 54-91, till 91-185, shale 185-281, carbonate rock 281-325. Cased to 325 ft.
8X, 11.8S, 10.9E	do.	1905	310	Drl	497	3	62	do.	--	--	C	"Hathorn Spring No. 1." Well originally drilled to 1,015 ft. Water is pumped from a 1¼-inch pipe capped at the bottom and perforated between depths of 482 and 497. The 3-inch hole is sealed above and below the perforation.
8X, 14.0S, 9.5E	do.	--	310	Drl	540	10-8	23	do.	10	1	C	"Hathorn Spring No. 2." Blue clay 0-23, some gravel at 23, shale 23-75, shale and carbonate rock 75-455, carbonate rock 455-540.
8X, 13.8S, 9.6E	do.	--	310	Drl	420	6	9	do.	38	15	C	"Coesa Spring." Till 0-9, shale 9-169, carbonate rock 169-420.
8X, 14.2S, 9.0E	do.	1916	330	Drl	635	6	75	do.	0	--	U	Smith Experimental well. Sand, clay, till, 0-75, shale 75-275, carbonate rock 275-635.
8Y, 11.0S, 3.3E	M. L. Sotomayor	--	280	Drl	178	8	27	Shale	145	7	D	Sand 0-15, till 15-27, shale 27-178.
9X, 2.6N, 3.4E	C. W. Lewis	--	440	Drv	16	1¼	--	Sand	12	3	D,S	
9X, 1.6N, 1.4E	Miles Weaver	--	550	Dug	17	48	--	Sand and gravel	16	--	D	
9X, 2.3N, 1.3E	Jacob Abramson	--	540	Drl	172	6	72	Shale	25	10	D,S	
9X, 2.6S, 12.1E	U. S. Army?	1946	330	Drl	430	--	210	do.	--	15	U	Yellow sand 0-60, fine gray sand 60-120, blue clay and fine gray sand 120-200, till 200-210, shale 210-430. Well is abandoned.
9X, 2.6S, 12.1E	do.	1947	330	Drl	82	12-8	--	Sand	--	--	--	Sand and clay 0-61, quicksand 61-82. Well cased to 62 ft and has 20-ft screen. A 30-gpm pump is installed.
9Y, 3.0S, 3.4E	William Joly	1946	320	Drl	95	8	23	Shale	30	1	D	Till 0-23, shale 23-95.
8Y, 13.5S, 1.0E	George Riley	--	260	Drv	24	1¼	--	Sand and gravel	16	--	D	
8Y, 12.5S, 0.6E	Joseph Smith	--	230	Drl	125	6	117	Shale	25	--	D	Gravel and sand 0-12, blue clay 12-113, quicksand 113-117, shale at 117.

gravel deposits which are exposed at the present land surface and which may be appropriately termed "surficial deposits."

The thickest section of sand and gravel known to have been penetrated in the county is 120 feet in well Sa 506. In most places the deposit is less than 50 feet thick; the average thickness is probably about 25 feet.

The sand and gravel is the most productive source of ground water in the county. Where the deposit consists chiefly of sand, supplies of water adequate for domestic needs can generally be obtained from driven wells as small as 1¼ inches in diameter and equipped with a screened drive point. Such wells, properly developed, will yield from 5 to 10 gpm (gallons per minute) or more. Larger diameter wells will yield proportionately more water. The average depth of 36 driven wells listed in table 1-3 is 20 feet. These wells range in depth from 6 to 31 feet (table 1-1). (Additional discussion of the water-bearing characteristics of the surficial sand deposit that underlies the eastern part of the county is contained in Part III.)

Where the deposit contains layers of gravel, supplies of several hundred gallons per minute can be obtained from properly developed drilled wells. The average depth of 25 drilled wells drawing from sand and gravel deposits (table 1-3) is 80 feet and range in depth is from 17 feet to 145 feet (table 1-1). (See the discussion of the stratified deposits underlying the valley of Kayaderosseras Creek in Part II.)

The development of water supplies from the coarser-grained stratified deposits in much of the lowland adjacent to the Hudson River presents certain problems, because the deposits consist largely of thin layers of coarse to medium sand alternating with layers of silt and fine sand. Chief among these problems is the development required to obtain the maximum yield. In the process of driving a well the screen is enveloped in a mixture of material ranging in grain size from silt to coarse sand. As this mixture is relatively impermeable the yield of the well when first driven is rather low, in some cases only a fraction of a gallon per minute. The yield of the well can generally be increased substantially by alternately pumping water into the well under high pressure and pumping water from the well to remove fine material from the area surrounding the screen. The procedure used to develop test wells drilled in the Saratoga National Historical Park is described in Part III.

Clay and Silt

Fine-grained stratified deposits consisting chiefly of clay but also containing some silt underlie relatively extensive areas in the eastern part of the county (fig. 1-3). These deposits were laid down in lakes that occupied the area in the closing stages of the "ice age." In figure II-4 they are referred to as "lake-bottom deposits." These deposits almost invariably underlie the surficial layer of sand and gravel and thus are exposed in many places where the overlying sand and gravel has been removed by erosion. In addition, the clay and silt underlies areas, such as that in the western part of the Saratoga National Historical Park, which appear never to have been covered by sand or sand and gravel. In most places the clay and silt rests directly on till or on bedrock. In other places

The clay and silt is, for all practical purposes, impermeable a
will not yield water in usable quantities. In a few places wells ha
dug through several feet of sand and into the underlying clay to dep
5 to 10 feet (well Sa 21). Most of the water drawn from such wells
less is derived from a thin saturated zone in the lower part of the
The hole in the clay serves primarily as a reservoir between periods

From the standpoint of ground water the clay serves as an imper
bottom for the overlying sand and gravel. It also serves as an impe
cover for the underlying deposits. As a result, the water in the un
deposits occurs under artesian conditions. This does not mean that
drilled through the clay and into the underlying till or bedrock wil
at the surface. According to the current definition, water under ar
conditions need only rise to a level above the bottom of the clay (t
confining bed). However, in some of the lower areas, for instance a
parts of the valleys of the small streams flowing into the Hudson Ri
water from wells drilled into water-bearing deposits beneath the cla
flow at the surface.

Consolidated Rocks

The consolidated rocks underlying the unconsolidated deposits i
Saratoga County are divided on the basis of type of opening and mine
composition into (1) crystalline rocks, (2) sandstone, (3) carbonate
and (4) shale. It may be noted that this subdivision is also consis
from the standpoint of age, the crystalline rocks being the oldest a
shale being the youngest. In contrast to the unconsolidated deposit
of which are more than 1 million years old and most of which are prol
only 10,000 to 15,000 years old, the age of the consolidated rocks i
beyond comprehension. The oldest, the crystalline rocks, are of Pre
age and thus, are at least 510 million years old and may be much old
youngest consolidated rocks, the shales, are of Ordovician age and,
are at least 350 million years old. The areas underlain by the diff
types of consolidated rocks are shown in figure 1-4.

Ground water occurs in the consolidated rocks in a completely d
type of opening from that present in the unconsolidated deposits. I
consolidated rocks pore spaces are either completely absent or, if p
are not interconnected and, thus, do not contribute to any significa
extent in the storage and movement of water. Ground water occurs in
consolidated rocks in three different types of openings. These are
faults, (2) joints, and (3) bedding planes. Faults are breaks along
the rocks on the two sides have been displaced relative to each othe
Faults are relatively abundant in Saratoga County and at most places
the contact between the rock units shown in figure 1-4. Other fault
within the same rock unit. Along most of the faults the rocks to th
east were displaced downward relative to the rocks to the northwest.
amount of the displacement varies at different places along the same
and from fault to fault. However, displacements of a few hundred fe
not uncommon. One of the consequences of faulting from the standpoi
ground water is that deep wells only a few hundred feet apart may pe
entirely different types of rock. In places along faults, the rocks
shattered that wells penetrating these zones will have substantially
yields than wells penetrating other parts of the bedrock.

NEW YORK STATE REGISTRY FORMS

HAZARDOUS WASTE DISPOSAL SITES REPORT
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Code: 2A

Site Code: 546013

Name of Site: Old Halfmoon Landfill Region: 5

County: Saratoga Town/City Halfmoon

Street Address Clam Stream Road

Status of Site Narrative:

This site is part of the Old Erie Canal adjacent to the Mohawk River. It was used by the Town of Halfmoon as a municipal dump. Exact quantity and composition of waste is unknown. EPA esitmates that the volume of material disposed of is approximately 176,000 cubic yards.

Leaching is visible on the site with runoff entering the Mohawk River. Groundwater in this area is used for drinking water by approximately 50 homes located within a ¼ mile of the site. There has been one explosion in 1970 at this site.

Type of Site: Open Dump ☐ Treatment Pond(s) ☐ Number of Ponds
Landfill ☒ Lagoon(s) ☐ Number of Lagoons
Structure ☐

Estimated Size 18 Acres

Hazardous Wastes Disposed? Confirmed ☐ Suspected ☒

*Type and Quantity of Hazardous Wastes:

TYPE	QUANTITY (Pounds, drums, gallons)
Unknown	Unknown

* Use additional sheets if more space is needed.

Name of Current Owner of Site: Town of Halfmoon

Address of Current Owner of Site: Town Hall, Halfmoon, New York

Time Period Site Was Used for Hazardous Waste Disposal:

_____, 19____ To _____, 1968

Is site Active ☐ Inactive ☒
(Site is inactive if hazardous wastes were disposed of at this site and site was closed prior to August 25, 1979)

Types of Samples: Air ☒ Groundwater ☐ None ☐
Surface Water ☐ Soil ☐

Remedial Action: Proposed ☐ Under Design ☐
In Progress ☐ Completed ☐
Nature of Action:

Status of Legal Action: _____ State ☐ Federal ☐

Permits Issued: Federal ☐ Local Government ☐ SPDES ☐
Solid Waste ☐ Mined Land ☐ Wetlands ☐ Oth

Assessment of Environmental Problems:

Leaching has been observed with runoff into the Mohawk River. Potential for both surface and/or groundwater contamination exists.

Assessment of Health Problems:

Fifty homes within a ¼ mile use the shallow aquifer for a drinking water source. No sampling of groundwater has occurred to date.

Persons Completing this Form:

David B. Tompkins — Wehran Engineering

New York State Department of Environmental Conservation — New York State Department of Healt

Date October 1985