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EPA WORK ASSIGNMENT NUMBER: 041-2Z00
EPA CONTRACT NUMBER: 68-W8-0110
EBASCO SERVICES INCORPORATED

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ARCS II PROGRAM

FINAL
SCREENING SITE INSPECTION (SSI)
UNITED PLATING INCORPORATED
CITY OF SCHENECTADY
SCHENECTADY COUNTY, NEW YORK
CERCLIS NO.: NYD986924280

9th
SEPTEMBER 1993

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FINAL DRAFT
PRELIMINARY ASSESSMENT REPORT
UNITED PLATING, INC.
SCHENECTADY, SCHENECTADY COUNTY, NEW YORK

FIELD INVESTIGATION TEAM ACTIVITIES AT
UNCONTROLLED HAZARDOUS SUBSTANCES
FACILITIES — ZONE I

NUS CORPORATION
SUPERFUND DIVISION

4007

02-9012-18-PA
REV. NO. 0

**FINAL DRAFT
PRELIMINARY ASSESSMENT REPORT
UNITED PLATING, INC.
SCHENECTADY, SCHENECTADY COUNTY, NEW YORK**

PREPARED UNDER

**TECHNICAL DIRECTIVE DOCUMENT NO. 02-9012-18
CONTRACT NO. 68-01-7346**

FOR THE

**ENVIRONMENTAL SERVICES DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY**

APRIL 15, 1991

**NUS CORPORATION
SUPERFUND DIVISION**

SUBMITTED BY:


PATRICIA D. HASTINGS
PROJECT MANAGER


VALERIE MATHERS
SITE MANAGER

REVIEWED/APPROVED BY:


RONALD M. NAMAN
FACILITY MANAGER

SITE SUMMARY AND RECOMMENDATION

United Plating, Inc. is an abandoned metal plating facility located at the intersection of Foster Avenue and Seneca Street in a residential and semi-industrial area of Schenectady, New York. At the site, there are two buildings considered to be of poor structural integrity. A smaller two-story cement block building contains drums of acids and caustics. A larger six-story building contains drums of cyanide solutions, acids and caustics, in addition to vats and tanks used for metal plating, and non-drum containers of assorted volume and content. In both buildings, drums are poorly arranged with regard to chemical compatibility and accessibility. Several drums, containers, and vats are corroded, and their contents unknown due to mislabeling or destruction of labels by corrosion. Hazardous wastes previously generated and stored at the facility are spent plating chemicals and plating sludges. Raw product or feedstock materials that have remained on site, such as assorted acids, cyanides solutions, solvents, oxidizers, and corrosives, potentially represent hazardous wastes in the event of illegal trespass or fire. Total quantities of identified hazardous waste include approximately 290 drums, 10,000 gallons of bulk solutions in tanks, 2,310 gallons of liquids and sludges, and 95 pounds of solids in non-drum containers. These values, however, do not necessarily reflect actual quantities due to the unidentified contents or unknown volumes of approximately 460 drums, greater than 40 tanks, and "large quantities" of bottles at the site (Ref. Nos. 5, 24, 25, 26, 27, 35, and 36).

From 1989 to the present, numerous inspections of the site have been made by both local and state environmental/health agencies. On July 9, 1989, the New York State Department of Environmental Conservation (NYSDEC) conducted a site inspection and completed an extensive inventory of the contents within the two buildings on the premises. During the inspection, a wooden box of plating sludges was observed in the rear yard (Ref. No. 5). It is suspected that this is a potential source of soil, and ground- and surface water contamination if the sludges were exposed to precipitation, thus leaching excess moisture onto the ground. In August 1989, the NYSDEC collected water samples from trenches on site. Although analyses of the water samples indicate that there are elevated levels of cadmium and lead in the groundwater, there are no wastes or feedstocks on the premises to which this contamination can be attributed (Ref. Nos. 17 and 30). A subsequent site inspection conducted jointly by the NYSDEC and the City of Schenectady on June 19, 1990 revealed numerous violations of city fire, sanitation, plumbing, and health and safety ordinances (Ref. No. 24). The facility was also observed to treat and store plating sludges in violation of its RCRA Part A permit status as a generator only (Ref. No. 27). On July 25, 1990, the NYSDEC sampled two tanks respectively labeled cyanide and acid in the chrome plating area of the facility. No analytical results of these samples, however, were available.

SITE SUMMARY AND RECOMMENDATION (CONT'D)

Within the same month, United Plating, Inc. was closed by order of the Supreme Court of the State of New York until which time the owner could demonstrate that the facility was in compliance with "state and local laws and regulations relating to public health, safety and the environment" (Ref. No. 27). Of primary concern, was the threat to human health should a fire occur on the premises, particularly in the processing and chemical storage areas. Toxic gases, such as hydrogen cyanide, could be generated. Contaminated water runoff from fire fighting activities could be carried to the Mohawk River via storm drains. A fire did occur at the site on June 7, 1990, but it was confined to the waste treatment room of the facility without incident (Ref. Nos. 24, 27, and 28).

The NYSDEC inspected the site again on October 4, 1990, and indicated that an unlined sump tank below the chrome plating area of the process building may have been leaking its contents into groundwater (Ref. Nos. 5 and 27). There is no evidence, however, to substantiate that a release has occurred. On October 10, 1990, Chris LeGere, the owner/manager of United Plating, Inc., notified the NYSDEC the company would cease to operate due to lack of funds (Ref. No. 15). Under these circumstances, the NYSDEC requested the assistance of the U.S. EPA. Accordingly, the U.S. EPA Region II Technical Assistance Team (TAT), U.S. EPA On-Scene Coordinator, and NYSDEC conducted a site investigation of United Plating, Inc. on November 17, 1990. During the investigation, chemical spills were observed on the floors of both buildings (Ref. No. 35). A previous site inspection similarly indicated that vats in the chrome plating and aluminum anodizing areas were leaking (Ref. No. 5). On November 21, 1990, the U.S. EPA released an Initial POLREP (Pollution Report) of United Plating, Inc. proposing remedial action be taken at the site (Ref. No. 25). The EPA subsequently issued an Action Memorandum on November 29, 1990, requesting a removal action for this site. This essentially described the hazardous conditions of the facility and activities proposed for its remediation (Ref. No. 26).

Release of contaminants from the site is most likely to occur to groundwater via contamination of the soil. Two suspected sources are a sump tank below the chrome plating area and a wooden box of plating sludges in the rear yard of the facility. United Plating, Inc. overlies the Schenectady aquifer (Ref. No. 9). This is part of a well head protection area which includes three public supply well fields serving approximately 117,000 people. There are approximately 76 private wells within a 4-mile radius of the site. However, none of these wells is located within the groundwater gradient moving from the site to the Mohawk River (Ref. Nos. 2, 5, 9, 17, 19, 20, 22, 23, 27, 31, 32, 33, 34, 41, 42, and 43). A release to surface water could also occur from the box of sludges. However, the

SITE SUMMARY AND RECOMMENDATION (CONT'D)

leachate from this small volume of sludge, 18 cubic feet (Ref. No. 5), is expected to be nominal and would likely be diluted or absorbed by the soil before reaching the nearest surface water, the Mohawk River (Ref. No. 2). One surface water intake for public water supply is located approximately 11.2 miles downstream of the outfall where storm water carried from the site would enter the Mohawk River. This intake for the Latham Water District serves approximately 37,500 people (Ref. No. 6). There is no information documenting air contamination resulting from the operations of this facility.

Under the provisions of the Comprehensive Environmental Response, Compensation, and Liability Act, a **SITE INSPECTION** is recommended for this site. Although a release of contaminants from the site to groundwater, surface water, or air has not been documented, there remains significant potential for soil and groundwater contamination to have occurred and, to a lesser extent, contamination of surface water. This, in conjunction with a large population, 37,500 to 117,300, potentially affected by either surface or groundwater contamination, warrants further investigation of the site, particularly in areas surrounding the chrome plating sump tank and the rear yard of the facility where prior release to the environment is probable.

SITE ASSESSMENT REPORT: PRELIMINARY ASSESSMENT
PART I: SITE INFORMATION

1. Site Name United Plating, Inc. Alias Moutain Top Distribution Company;
J.G. Don Adio Enterprises, Inc; J.G.D.
Plating, Inc; Universal Litho Corporation;
and Capital Plating Works, Inc.
- Street 1776 Foster Avenue (mailing address); 1740-1742 Foster Avenue
- City Schenectady State New York Zip 12308
2. County Schenectady County Code 093 Cong. Dist. 23
3. CERCLIS ID No. NYD986924280
4. Block No. 1 Lot No. 1
5. Latitude 42° 49' 33" N Longitude 073° 55' 32" W
- USGS Quad. Schenectady
6. Approximate size of site 1 acre
7. Owner J.G. Don Adio Enterprises, Inc. Tel. No. Unlisted
- Street P.O. Box 810
- City Schenectady State New York Zip 12301
- Owner Christopher LeGere Tel. No. Unlisted
- Street Maple Avenue
- City Scotia State New York Zip 12302
8. Operator Christopher LeGere Tel. No. NA (site inactive)
- Street 1776 Foster Avenue
- City Schenectady State New York Zip 12308
9. Type of Ownership
- ☒ Private ☐ Federal ☐ State
- ☐ County ☐ Municipal ☐ Unknown ☐ Other _____
10. Owner/Operator Notification on File
- ☐ RCRA 3001 Date _____ ☐ CERCLA 103C Date _____
- ☐ None ☒ Unknown

11. Permit Information

Permit	Permit No.	Date Issued	Expiration Date	Comments
RCRA	NYD002063527	July 7, 1980	Unknown	Generator Only
IWWD	006	February 1989	June 1990	S.I.C. 3471
SPDES	Unknown	Unknown	Unknown	

12. Site Status

☐ Active ☒ Inactive ☐ Unknown

13. Years of Operation Unknown to July 1990

14. Identify the types of waste sources (e.g., landfill, surface impoundment, piles, stained soil, above- or below-ground tanks or containers, land treatment, etc.) on site. Initiate as many waste unit numbers as needed to identify all waste sources on site.

(a) Waste Sources

Waste Unit No.	Waste Source Type	Facility Name for Unit
1	Drums	Drums
2	Aboveground Tanks	Vats/Tanks
3	Containers	Carboys, Bottles, Bags
4	Junk Pile	Empty Drums, Abandoned Equipment, and Plating Sludge

(b) Other Areas of Concern

Identify any miscellaneous spills, dumping, etc. on site; describe the materials and identify their locations on site.

Liquid spills have been observed in both buildings on the site. In the chromium plating room of the six-story building on site, floor drains directed any spillage to an unlined sump area below the chrome plating solutions. Evidence of leakage was also found in areas adjacent to tanks used for chrome plating and aluminum anodizing. In the two-story building containing drums of acids and bases, the pH of a liquid spill was determined to be 12. This indicated that a spill of a base solution had occurred.

Ref. Nos. 2, 5, 13, 15, 16, 17, 25, 26, 27, 28, 35 and 39

15. Information available from

Contact Amy Brochu Agency U.S. EPA Region 2 Tel. No. (908) 906-6802
Preparer Valerie Mathers Agency NUS Corp. Region 2 FIT Date 4/15/91

PART II: WASTE SOURCE INFORMATION

For each of the waste units identified in Part I, complete the following items.

Waste Unit	<u>1</u>	-	<u>Drums</u>
Source Type			
<u> </u>	Landfill	<u> </u>	Land Treatment
<u> </u>	Surface Impoundment	<u> </u>	Chemical Waste Pile
<u> X </u>	Drums	<u> </u>	Scrap Metal or Junk Pile
<u> </u>	Tanks/Containers	<u> </u>	Tailings Pile
<u> </u>	Contaminated Soil	<u> </u>	Trash Pile
<u> </u>	Pile	<u> </u>	Other

Description:

Site inventories indicate that there were approximately 750 drums stored in either of two buildings on the site. A smaller two-story building contained drums of acids and caustic solutions reportedly stacked on top of each other; while a larger six-story building contained mostly cyanide solutions, acids, and caustics. In both buildings, drums were poorly arranged with regard to chemical compatibility and accessibility. Several drums were also corroded and the contents of many are unknown due to inadequate labeling or destruction of the labels by corrosion.

Hazardous Waste Quantity

Of the 750 drums stored on site, approximately 100 drums have been identified to contain plating chemicals and 10 to 12 drums contain miscellaneous "Corrosives" and "Oxidizers". The facility is currently abandoned. Therefore, many chemicals previously considered feedstocks could become hazardous wastes in the event of fire or illegal trespass at the site.

In addition to the 112 drums already identified, quantities of chemicals in drums representing potential hazardous wastes are as follow:

<u>Chemical</u>	<u>No. of Drums</u>
Zinc, Copper and Nickel Cyanide	150
Chromic Acid	3
Hydrochloric Acid	4
Nitric Acid	1
Hydro Acetic Acid	1
Sulfuric Acid	4
Chromic Acid Fluoride	1
1, 1,1- Trichloroethane	> 1
Ammonia	1
Sodium Hydroxide	11

On the basis of the above inventory, it is assumed that in a worst case situation, there are approximately 290 drums of hazardous waste on site. The contents of the remaining drums, approximately 460, are unknown and their volume is not included in estimated hazardous waste quantities. It should not be assumed, however, that these drums do not contain hazardous wastes until further sampling efforts provide evidence to the contrary.

Hazardous Substances/Physical State.

All existing or potentially hazardous wastes on the site, as listed above, are liquids at standard temperature and pressure. It is assumed, therefore, that these wastes are in a liquid physical state at the site.

Ref. Nos. 5, 25, 26, 27 and 36

PART II: WASTE SOURCE INFORMATION

For each of the waste units identified in Part I, complete the following items.

Waste Unit 2 - Vats / Tanks

Source Type

☐ Landfill	☐ Land Treatment
☐ Surface Impoundment	☐ Chemical Waste Pile
☐ Drums	☐ Scrap Metal or Junk Pile
☒ Tanks/Containers	☐ Tailings Pile
☐ Contaminated Soil	☐ Trash Pile
☐ Pile	☐ Other

Description:

In the larger six-story process building where plating operations occurred on the site, site inventories indicate that there were approximately 70 tanks and/ or vats. Of bulk solutions in tanks, the identity of 20,000 to 25,000 gallons are unknown, while the majority of identifiable liquids are cyanide solutions. The pH measured of unknown contents suggests that they are either acids or caustics. Many tanks are reportedly corroded and those in the areas of chrome plating and aluminum anodizing are leaking.

Hazardous Waste Quantity

The total quantity of bulk cyanide solutions identified (i.e. zinc, copper, and nickel cyanide) is approximately 8,000 gallons. The content of most tanks, however, is unknown other than to identify them as acids or bases. Acids and bases were frequently observed to be in close proximity to each other on site. This is considered a health and safety hazard due to the high reactivity of acids with bases.

On the basis of pH determination, it is assumed that there are approximately 24 tanks containing acids and 16 containing basic or caustic solutions. The dimensions or volumes of these tanks were not provided. Therefore, it is not possible to calculate exact quantities of acids or bases contained in the tanks. Only one tank with a volume of 2,000 gallons was labeled "acid". It is assumed that there are approximately 10,000 gallons of bulk hazardous wastes contained in vats or tanks on site.

Hazardous Substances/Physical State.

The cyanide and acid solutions found in tanks occur in a liquid physical state.

Ref. Nos. 5, 25, 26, 27, 35, and 36

PART II: WASTE SOURCE INFORMATION

For each of the waste units identified in Part I, complete the following items.

Waste Unit 3 - Carboys, Bottles, and Bags

Source Type

☐	Landfill	☐	Land Treatment
☐	Surface Impoundment	☐	Chemical Waste Pile
☐	Drums	☐	Scrap Metal or Junk Pile
☒	Tanks/Containers	☐	Tailings Pile
☐	Contaminated Soil	☐	Trash Pile
☐	Pile	☐	Other

Description:

In the six-story process building at the site, site inventories indicate that there were numerous containers (ie. carboys, bottles, and bags) of assorted size, condition, and contents. It was not possible to identify the contents of many containers due to mislabeling or destruction of the labels by corrosion of the exteriors. Containers other than drums and tank or vats were found on all floors of the facility with the exception of the third floor.

Hazardous Waste Quantity

The facility is currently abandoned. Therefore, many chemicals previously considered feedstocks could become hazardous wastes in the event of illegal trespass or fire on the premises. Chemicals in containers representing potential hazardous wastes include:

Hydrofluoric Acid	81 gallons
Chromic Acid	200 gallons
Glacial Acetic Acid	5 gallons
Containers Labeled "Corrosives"	25 gallons
Lead Acetate	15 pounds
Curpic Sulfate	80 pounds

Plating sludges previously generated at the facility, were also found in excess of 2,000 gallons.

In a laboratory within the cyanide room of the process building, "large quantities" of bottles, quart size and smaller, were found and described as containing acids, cyanides, solvents, and poisons. In a storage room adjacent to the waste treatment room, a large and varied collection of laboratory chemicals were observed in "small bottles" and on "five shelves over 10 feet long". The specific identities of these chemicals were not indicated. Therefore, it has not be assumed that they are hazardous wastes until sampling efforts or labeling provide evidence to the contrary. Quantified descriptions of these chemicals were also non-specific, thereby prohibiting the calculation of their exact quantities. It is assumed that there are approximately 2,310 gallons and 95 pounds hazardous wastes in non-drum containers on site.

Hazardous Substances/Physical State.

Potentially hazardous substances as listed above were predominantly liquids with the exception of plating sludges, lead acetate, and cupric sulfate. Plating sludges were found either dewatered and packaged in 200-gallon polyethylene bags, or stored as a slurry in containers and vats waiting to be dried. Lead acetate and cupric sulfate were solids in the form of salts.

Ref. Nos. 5, 25, 26, 27, and 36

PART II: WASTE SOURCE INFORMATION

For each of the waste units identified in Part I, complete the following items.

Waste Unit 4 - Empty Drums, Abandoned Equipment, and Plating Sludge

Source Type

☐ Landfill	☐ Land Treatment
☐ Surface Impoundment	☐ Chemical Waste Pile
☐ Drums	☒ Scrap Metal or Junk Pile
☐ Tanks/Containers	☐ Tailings Pile
☐ Contaminated Soil	☐ Trash Pile
☐ Pile	☐ Other

Description:

In a yard to the rear of the buildings on site, numerous empty drums were stacked against the buildings. Pieces of equipment from the plating process also littered the area. A wooden box containing plating sludges of dimension 3'x 3'x 2' was also found.

Hazardous Waste Quantity

The quantity of hazardous waste identified, plating sludge, is defined only by the dimensions of its container, 3'x 3'x 2'. This is equivalent to 18 cubic feet.

Hazardous Substances/Physical State.

The only hazardous waste identified in the rear yard sand was plating sludge contained in a wooden box. It is likely that fluid in the sludge may have drained off through seams of the box and onto the ground, potentially transporting chromium and other metal contaminants to the soil. If the box was left uncovered, the sludge would likely be rewetted by precipitation and leach excess moisture onto the ground.

Ref. Nos. 5 and 27

PART III: EXISTING ANALYTICAL DATA

In August 1989, the NYSDEC collected water samples from trenches dug to a depth of several feet below the soil surface at the site. The exact location of the trenches, and the number of samples collected were not indicated. Results of the sample analyses demonstrated elevated levels of cadmium and lead in the groundwater. This determination was made relative to Maximum Contaminant Levels established by the Safe Drinking Water Act.

On May 16, 1990, the State of New York, Department of Health collected seven soil samples from Carrie Avenue Park. This park is a playground located diagonally and south of the site. The samples were analyzed for Hazardous Substance List (HSL) metals and cyanide. Results of these analyses indicated that levels of arsenic, cadmium, cobalt, copper, mercury, lead, and zinc were slightly elevated over average indigenous soil concentrations.

During a site inspection performed by three environmental engineers of the NYSDEC on July 9, 1990, the pH of 57 tanks or vats was screened and found to vary widely within a range of one to 14. The method of pH determination was not described. Low pH values (0-4) are indicative of acids, while high pH values (10-14) are indicative of caustic or basic compounds. On the basis of these approximate pH measurements, it is estimated that there are 24 tanks of acids and 16 tanks of caustics or bases in the six-story building on the site. Dimensions or volumes of many tanks were not described to allow total quantities of these materials to be calculated.

In a subsequent visit to the site by the NYSDEC on July 25, 1990, two tanks respectively labeled cyanide and acid in the copper plating area of the six-story building were sampled. Results of these analyses; however, were not made available for documentation.

During a site assessment of United Plating, Inc. conducted by the U.S. EPA, TAT, and NYSDEC on November 17, 1990, air monitoring was performed with an organic vapor analyzer (OVA), combustible gas indicator and oxygen meter (CGI/O₂), and a radiation survey meter. No readings were above background on the CGI/O₂ or the radiation survey meter, while the OVA had readings of one part per million above background throughout the facility. No mention was made of air monitoring performed outside the buildings on site.

Ref. Nos. 5, 17, 25, 30, 38, 44, and 45.

PART IV: HAZARD ASSESSMENT

GROUNDWATER ROUTE

- 1. Describe the likelihood of a release of contaminant(s) to the groundwater as follows: observed release, suspected release, or none. Identify contaminants detected or suspected and provide a rationale for attributing them to the site. For observed release, define the supporting analytical evidence.**

Although available analytical data indicates that there is cadmium and lead contamination in the groundwater below the site, there is no evidence to directly link this contamination with feedstocks or hazardous waste sources on the premises. However, a release of contaminants to groundwater is suspected from an unlined sump area below the chrome plating room of the process building and from a wooden box containing plating sludges in the rear yard of the facility. The sump area collects spillage by way of floor drains from the chrome plating room. If the sump area is an underground tank and leaking, a release to groundwater is highly probable. Likewise, the box of plating sludges could be releasing contaminants to groundwater if left uncovered and exposed to precipitation. Excess moisture in the sludge could drain off through seams in the box and onto the ground. Once in the soil, the sludge leachate could migrate to groundwater representing a contaminant release.

Ref. Nos. 5, 17, 25, 26, 27, 30 and 35

- 2. Describe the aquifer of concern; include information such as depth, thickness, geologic composition, areas of karst terrain, permeability, overlying strata, confining layers, interconnections, discontinuities, depth to water table, groundwater flow direction.**

The site overlies the Schenectady Aquifer, a sole source aquifer without an alternative source. This aquifer consists of well sorted sands and gravels with an associated permeability of 10⁻⁵ to 10 cm/sec. The aquifer is continuous and varies in thickness from 0 to 200 feet throughout its area. Overlying strata are highly transmissive alluvial silts and sands. Confining layers below the aquifer are bedrock or a layer of till, silt or clay. Depth to ground water closely reflects the level of the Mohawk River. This suggests that groundwater moves northwesterly toward the river, but is also recharged by the river when its level is high. Within the floodplain of the river, depth to groundwater is generally less than 30 feet, but may be as great as 70 feet at higher elevations.

Ref. Nos. 2, 8, 9, and 18

- 3. What is the depth from the lowest point of waste disposal/storage to the highest seasonal level of the saturated zone of the aquifer of concern?**

Waste sources are contained in the buildings on site with the exception of a junk pile in the rear yard of the facility. It is not described as buried, but appears to be visible and above ground. Exact depth to groundwater below the site is unknown. It is presumed, however, to be several feet below ground surface where water was observed in trenches dug on site. Thus, the depth from the lowest point of waste disposal at ground surface to the highest seasonal level of the saturated zone of the aquifer of concern is conservatively assumed to be 30 feet.

Ref. Nos. 5, 9, 17, 25, 26, 27 and 35

- 4. Identify and determine the distance to and depth of the nearest well that is currently used for drinking purposes?**

The nearest well currently used for drinking purposes is approximately 0.8 miles from the site. The depth of the well is unknown.

Ref. Nos. 2, 23

5. If a release to groundwater is observed or suspected, determine the number of people that obtain drinking water from wells that are documented or suspected to be located within the contamination boundary of the release.

Groundwater below the site moves northwest toward the Mohawk River where its migration is intercepted. This is assumed to be the area of contaminant release, within which no wells are located. None of the population, therefore, would be affected by a suspected release to groundwater from the site.

Ref. Nos. 5, 9, 17, 23, and 27

6. Identify the population served by wells that are not expected to be contaminated located within 4 miles of the site that draw from the aquifer of concern.

<u>Distance</u>	<u>Population</u>
0 - $\frac{1}{4}$ mi	0
$>\frac{1}{4}$ - $\frac{1}{2}$ mi	0
$>\frac{1}{2}$ - 1 mi	8
> 1 - 2 mi	118
> 2 - 3 mi	213
> 3 - 4 mi	117,311

State whether groundwater is blended with surface water, groundwater, or both before distribution.

The City of Niskayuna obtains approximately 50 percent of its potable water outside of the 4-mile radius from a well field adjacent to the Mohawk River near Lock No. 7. The remaining 50 percent is purchased from the City of Schenectady which is also supplied by groundwater. The two supplies are blended prior to distribution. As 20,000 persons are served in Niskayuna, the apportioned population served is 10,000.

Ref. Nos. 19, 20, 22, 23, 31, 32, 33, and 34

7. Identify uses of groundwater within 4 miles of the site (i.e. private drinking source, municipal source, municipal and private, commercial, irrigation, unuseable).

Uses of groundwater within 4 miles of the site include industrial, commercial, municipal, private, livestock, and unused.

Ref. Nos. 2 and 23

SURFACE WATER ROUTE

8. Describe the likelihood of a release of contaminant(s) to surface water as follows: observed release, suspected release, or none. Identify contaminants detected or suspected and provide a rationale for attributing them to the site. For observed release, define the supporting analytical evidence.

Although no of contaminants from the site to surface water has been observed, a release is suspected from a wooden box containing plating sludges in the rear yard of the facility. The sludge, if left uncovered and exposed to precipitation, would drain off excess moisture through seams in the box and onto the ground. Once on the ground, the sludge leachate could be carried overland from the site to surface water via runoff. Other hazardous wastes on site are stored in buildings with the exception of what may be an underground storage tank below the chrome plating room of the facility. These wastes are unlikely to contribute to surface water contamination. There exists, however, potential for their release should a fire occur at the facility. If a fire at the site were to include the areas of chemical storage and processing, it is likely that contaminated runoff from the site would be directed to

surface water via storm drains or migrate through the soil to groundwater. On June 7, 1990, a fire occurred at the site, but no chemicals were involved. Therefore, no contaminant release to surface water was observed or suspected as a result of this fire.

Ref. Nos. 5, 24, 26, 27, and 28

9. Identify the nearest downslope surface water. If possible, include a description of possible surface drainage patterns from the site.

The nearest downslope surface water from the site is the Mohawk River. The site is located in an urban area where surface drainage is most likely to be intercepted by storm drains. Storm sewers in the vicinity of the site discharge to the Mohawk River at an outfall located between two bridges, the D and H bridge and the Route 50 bridge, on the Schenectady shore. Surface runoff from the site would flow north westerly overland to the Mohawk River.

Ref. Nos. 2, 27, and 29

10. What is the distance in feet to the nearest downslope surface water? Measure the distance along a course that runoff can be expected to follow.

The distance to the nearest downslope surface water is approximately 0.3 miles northwest of the site.

Ref. No. 2

11. Determine the type of floodplain that the site is located within.

The site is located within an area of minimal flooding.

Ref. No. 4

12. Identify drinking water intakes in surface waters within 15 miles downstream of the site. For each intake identify: the name of the surface water body in which the intake is located, the distance in miles from the point of surface water entry, population served, and stream flow at the intake location.

<u>Intake</u>	<u>Distance</u>	<u>Population Served</u>	<u>Flow (cfs)*</u>
Latham Water District (City of Colonie) on the Mohawk River	11.2 miles	≈ 37,500	1,000 to 10,000

Water from the Mohawk River intake is blended with groundwater and serves 75,000 people. Accordingly, the apportioned population served by surface water is 37,500.

Ref. No. 6

13. Identify fisheries that exist within 15 miles downstream of the point of surface water entry. For each fishery specify the following information:

<u>Fishery Name</u>	<u>Water Body Type</u>	<u>Flow (cfs)*</u>	<u>Saline/ Fresh/ Brackish</u>
Mohawk River	Large Stream to River	1,000 to 10,000	Fresh

Ref. Nos. 3 and 12

14. Identify surface water sensitive environments that exist within 15 miles of the point of surface water entry. For each sensitive environment specify the following:

<u>Sensitive Environment</u>	<u>Water BodyType</u>	<u>Flow (cfs)*</u>	<u>Wetland Frontage (miles)</u>
Mohawk River Wetlands	Large Stream to River	1,000 to 10,000	8.57

Ref. Nos. 7, 11, 12, and 37

*An exact figure for flow can not be assigned to intakes, fisheries, or sensitive environments within 15 miles downstream of the point of surface water entry due to seasonal flow fluctuations in the Mohawk River, and lack of documented flow measurements within the 15 mile mixing zone. The nearest flow measurements are either upstream or downstream of the designated mixing zone. They vary widely within a range of 1,000 to 10,000 cfs, but tend to increase downstream of the site with tributary inflows to the Mohawk River.

Ref. No. 12

15. If a release to surface water is observed or suspected, identify any intakes, fisheries, and sensitive environments from question Nos. 12-14 that are or may be located within the contamination boundary of the release.

Intakes:

Fisheries: Mohawk River

Sensitive Environments: Mohawk River Wetlands

Ref. Nos. 3, 6, 7, 11, 12, and 37

SOIL EXPOSURE PATHWAY

16. Determine the number of people that occupy residences or attend school or day care on or within 200 feet of the site property.

Approximately 15 residential buildings zoned for two family housing are located within 200 feet of the site property. Assuming an average of 3.8 persons per dwelling, there are approximately 114 people living within this radius. There are no schools or day care centers located within 200 feet of site property.

Ref. Nos. 2, 10, and 13

17. Determine the number of people that regularly work on or within 200 feet of the site property.

All activities at United Plating, Inc. have ceased and no one currently works on the premises. Across the street from the site at its Foster Avenue boundary is the Schenectady City Garage. Municipal vehicles are repaired at the garage, which employs approximately 40 people.

Ref. Nos. 14 and 15

18. Identify terrestrial sensitive environments on or within 200 feet of the site property.

There are no known terrestrial sensitive environments on or within 200 feet of the site property.

Ref. No. 7

AIR ROUTE

19. Describe the likelihood of release of contaminants to air as follows: observed release, suspected release, or none. Identify contaminants detected or suspected and provide a rationale for attributing them to the site. For observed release define the supporting analytical evidence.

No release of contaminants to the air has been observed or is suspected to have occurred from the site. There exists, however, the potential for contaminant release should a fire occur at the facility. If a fire on the site were to include areas of chemical storage and processing, toxic gases (i.e. hydrogen cyanide) could be produced and released. On June 7, 1990, a fire occurred at the site, but no chemicals were involved. Therefore, no release of contaminants to the air was observed or is suspected.

Ref. Nos. 24, 26, 27, and 28

20. Determine populations that reside within 4 miles of the site.

<u>Distance</u>	<u>Population</u>
0 - $\frac{1}{4}$ mi	1,653
$>\frac{1}{4}$ - $\frac{1}{2}$ mi	2,525
$>\frac{1}{2}$ - 1 mi	10,465
>1 - 2 mi	32,279
>2 - 3 mi	40,592
>3 - 4 mi	31,445

Ref. No. 1

21. Identify sensitive environments, including wetlands and associated wetlands acreage, within $\frac{1}{2}$ mile of the site.

<u>0-$\frac{1}{4}$ Mile</u>	<u>$\frac{1}{4}$ - $\frac{1}{2}$ Mile</u>
<u>Sensitive Environments/Wetland Acreage</u>	<u>Sensitive Environments/Wetland Acreage</u>
None	Mohawk River Wetlands (<3 acres)

Ref. No. 7, 11

22. If a release to air is observed or suspected, determine the number of people that reside or are suspected to reside within the area of air contamination from the release.

No contaminant release to air from the site has been observed or is suspected. Therefore, there is no area of contamination, nor an affected population.

Ref. Nos. 10 and 35

23. If a release to air is observed or suspected, identify any sensitive environments, listed in question No. 21, that are or may be located within the area of air contamination from the release.

No contaminant release to air from the site has been observed or is suspected. Therefore, there is no area of air contamination, nor sensitive environments.

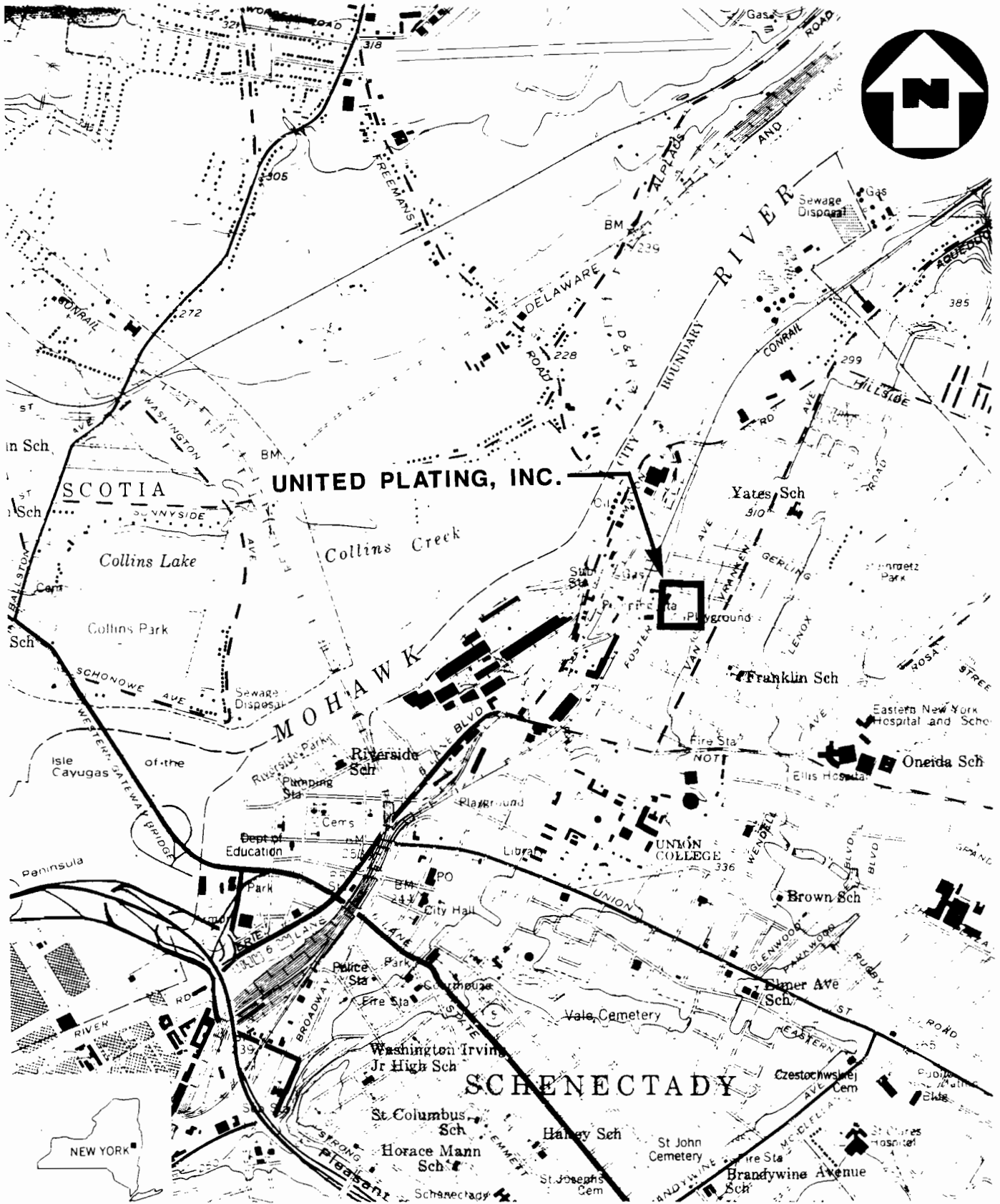
Ref Nos. 10 and 35

ATTACHMENT 1

UNITED PLATING, INC.
SCHENECTADY, SCHENECTADY COUNTY, NEW YORK

CONTENTS

Figure 1: Site Location Map
Figure 2: Site Map
Figure 3: Surface Water Pathway Map
Exhibit A: Photograph Log



(QUAD) SCHNECTADY, N.Y.

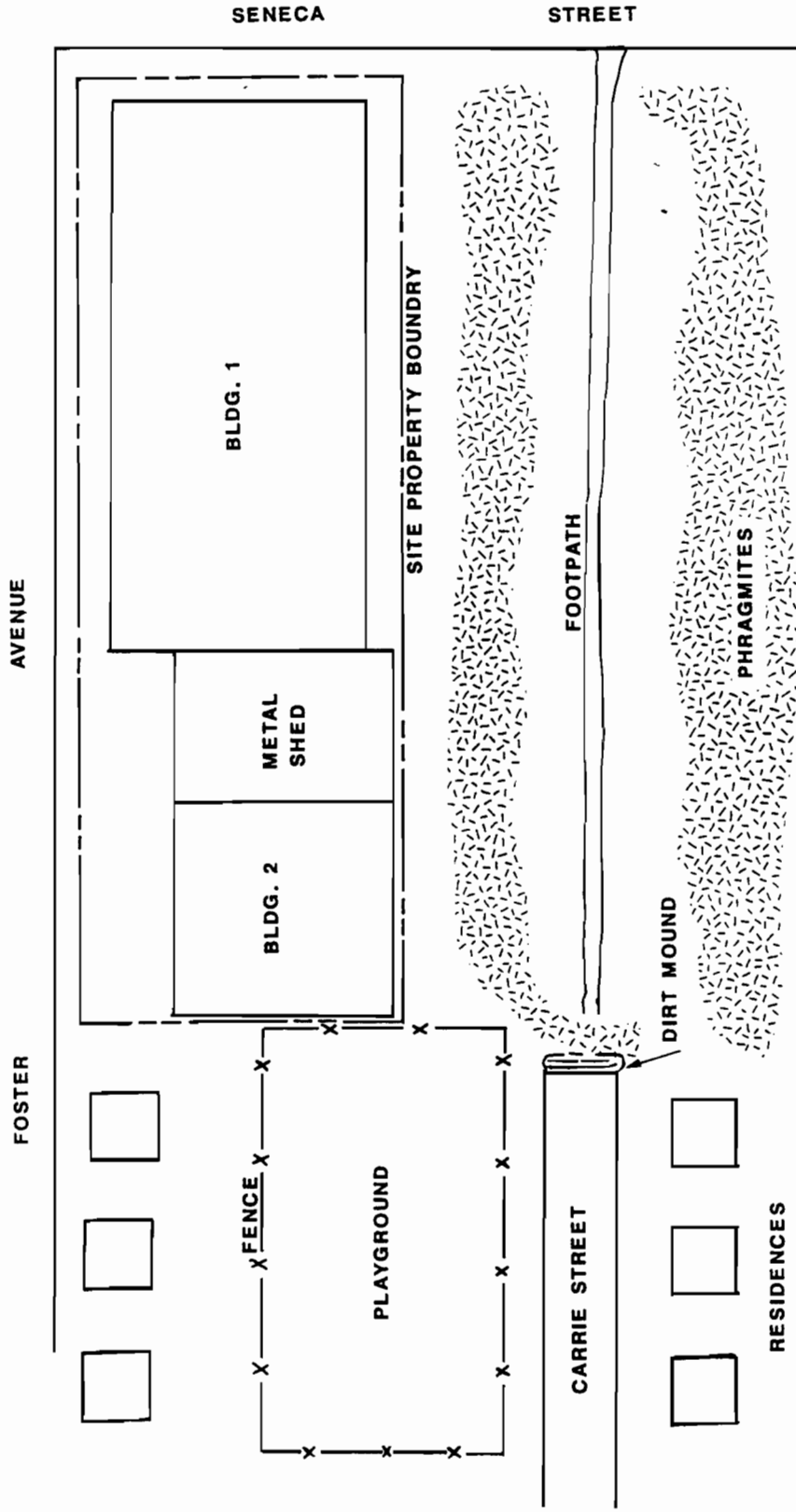
**SITE LOCATION MAP,
UNITED PLATING, INC.,
SCHNECTADY, N.Y.**

SCALE : 1" = 2000'

FIGURE 1



FIGURE 2



SITE MAP

UNITED PLATING INC., SCHENECTADY, N.Y.

NOT TO SCALE



UNITED PLATING, INC.
SCHENECTADY, NEW YORK
DECEMBER 13, 1990

PHOTOGRAPH INDEX

ALL PHOTOGRAPHS WERE TAKEN BY NICK KIDES

<u>Photo Number</u>	<u>Description</u>	<u>Time</u>
1P-1	Looking north at back of United Plating, Inc. (UPI) buildings.	1146
1P-2	Looking northwest at back of UPI building.	1147
1P-3	Back of UPI building as seen looking north at 330° compass reading.	1148
1P-4	Field in back of UPI building as seen looking north at 30° compass reading.	1150
1P-5	Looking north at playground adjacent to UPI building.	1151
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1P-7	Looking northwest at back of UPI building.	1237
1P-8	Looking east at debris in back of UPI building.	1243
1P-9	Looking south at front of the western most site building.	1246
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UNITED PLATING, INC., SCHENECTADY, NEW YORK



1P-1

December 13, 1990

1146

Looking north at back of United Plating, Inc. (UPI) buildings.



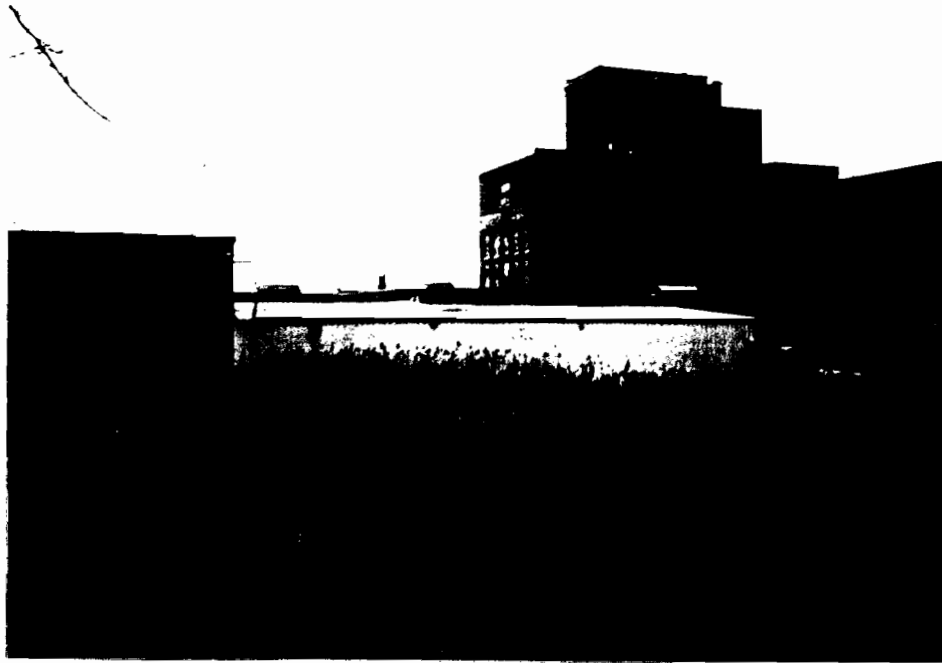
1P-2

December 13, 1990

1147

Looking northwest at back of UPI building.

UNITED PLATING, INC., SCHENECTADY, NEW YORK



1P-3

December 13, 1990

1148

Back of UPI building as seen looking north at 330°
compass reading.



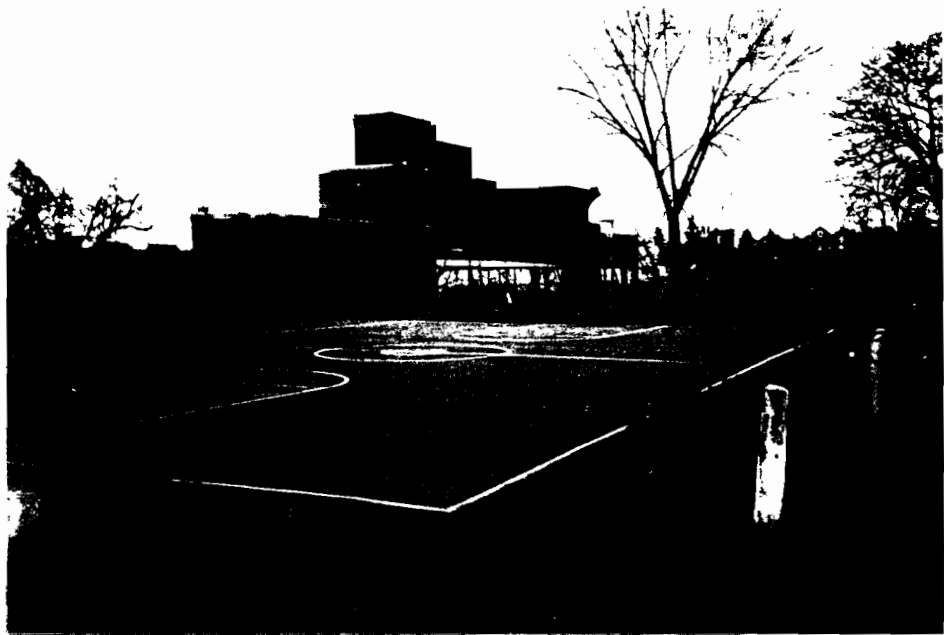
1P-4

December 13, 1990

1150

Field in back of UPI building as seen looking north
at 30° compass reading.

UNITED PLATING, INC., SCHENECTADY, NEW YORK



1P-5

December 13, 1990

1151

Looking north at playground adjacent to UPI building.



1P-6

December 13, 1990

1236

Looking southwest at metal shed on site.

UNITED PLATING, INC., COHENECTADY, NEW YORK



1P-7

December 13, 1990
Looking northwest at back of UPI building.

1237

UNITED PLATING, INC., SCHENECTADY, NEW YORK



1P-8

December 13, 1990

1243

Looking east at debris in back of UPI building.



1P-9

December 13, 1990

1246

Looking south at front of the western most site building.

UNITED PLATING, INC., SCHENECTADY, NEW YORK



1P-10

December 13, 1990
Looking northeast at front of UPI building.

1248

ATTACHMENT 2

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REFERENCE NO. 1

GRAPHICAL EXPOSURE MODELING SYSTEM

(GEMS)

USER'S GUIDE

VOLUME 2. MODELING

Prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF PESTICIDES AND TOXIC SUBSTANCES
EXPOSURE EVALUATION DIVISION

Task No. 3-2

Contract No. 68023970

Project Officer: Russell Kinerson

Task Manager: Loren Hall

Prepared by:

GENERAL SCIENCES CORPORATION

8401 Corporate Drive

Landover, Maryland 20785

Submitted: December 1, 1986

GEMS> I

united plating inc.

LATITUDE 42:49:33 LONGITUDE 73:55:32 1980 POPULATION

Miles	0.0-0.25	0.25-0.5	0.5-1.0	1.0-2.0	2.0-3.0	3.0-4.0	SECTOR
KM	0.00-.400	.400-.810	.810-1.60	1.60-3.20	3.20-4.80	4.80-6.40	TOTALS
S 1	1653	2525	10465	32279	40592	31445	118959
RING	1653	2525	10465	32279	40592	31445	118959
TOTALS	1653	4178	14643	46922	87514	118959	

> I

united plating inc.

LATITUDE 42:49:33 LONGITUDE 73:55:32 1980 HOUSING

							SECTOR
KM	0.00-.400	.400-.810	.810-1.60	1.60-3.20	3.20-4.80	4.80-6.40	TOTALS
S 1	686	1017	4095	13340	15542	11548	46228
RING	686	1017	4095	13340	15542	11548	46228
TOTALS	686	1703	5798	19138	34680	46228	

REFERENCE NO. 2

REFERENCE NO. 3

NUS CORPORATION AND SUBSIDIARIES

TELECON NOTE

CONTROL NO.:

02-9012-18

DATE:

2/25/91

TIME:

16:15-

DISTRIBUTION:

United Plating, Inc. NYPIPA

BETWEEN:

Russell Fieldhouse

OF:

NYDEC, Region IV
Stamford, NY

PHONE:

(607) 652-7364

AND:

Valerie Mathers

(NUS)

DISCUSSION:

Contacted the NYSDEC Region IV in Stamford, New York regarding important fisheries downstream from the point where runoff from the site, United Plating, Inc., would be discharged to surface waters. I was referred to Mr. Fieldhouse who informed me that the Mohawk River which receives storm water runoff from the site, is one of the most important fisheries in the state of New York for numerous species of game fish. Two of the more popular game fish in the Mohawk River downstream from Schenectady are smallmouth bass and Walleye, members of the perch family.

ACTION ITEMS:

VAM

REFERENCE NO. 4

NATIONAL FLOOD INSURANCE PROGRAM

**FIRM
FLOOD INSURANCE RATE MAP**

**CITY OF
SCHENECTADY,
NEW YORK
SCHENECTADY COUNTY**

PANEL 2 OF 5
(SEE MAP INDEX FOR PANELS NOT PRINTED)

**COMMUNITY-PANEL NUMBER
360741 0002 B**

**EFFECTIVE DATE:
SEPTEMBER 30, 1983**



Federal Emergency Management Agency

100-Year Flood Boundary _____

500-Year Flood Boundary _____

Base Flood Elevation Line
With Elevation In Feet**

513

Base Flood Elevation in Feet
Where Uniform Within Zone**

(EL 987)

Elevation Reference Mark

RM7X

Zone D Boundary _____

River Mile

•M1.5

**Referenced to the National Geodetic Vertical Datum of 1929

***EXPLANATION OF ZONE DESIGNATIONS**

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
A0	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

NOTES TO USER

Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

This map is for flood insurance purposes only; it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

For adjoining map panels, see separately printed Index To Map Panels.

INITIAL IDENTIFICATION:

MAY 10, 1974

FLOOD HAZARD BOUNDARY MAP REVISIONS:

JUNE 25, 1976

FLOOD INSURANCE RATE MAP EFFECTIVE:

SEPTEMBER 30, 1983

FLOOD INSURANCE RATE MAP REVISIONS:

CORPORATE LIMITS

DELAWARE AND HUDSON RAILWAY

FREEMANS ROAD

ROAD

MAXON

RAILWAY

HUDSON

AND

DELAWARE

SENECA

ZONE C

CONRAIL

STREET

SALINA

→ X
United Plating, Inc.

VAN VRANKEN

ROAD

LENOX

REFERENCE NO. 5



New York State Department of Environmental Conservation

MEMORANDUM

TO: Eric Hamilton
FROM: Gary Johnston
SUBJECT: United Plating

A handwritten signature in dark ink, appearing to read "Gary Johnston", written over the printed name in the "SUBJECT" line.

DATE: October 24, 1990

Attached please find a copy of my initial report on United Plating covering an inventory of what is in the building. In addition, I will try to update the condition of the site/building as a result of my October 4, 1990 visit.

Mr. LeGere has been selling whatever he could. The treatment system has been sold along with numerous tanks. Materials that were in the treatment system and the tanks have been repackaged into other tanks with one inch of freeboard remaining. Other materials have been moved around from room to room rendering my initial inventory basically useless. Also, a pump failure has led to the accumulation of chromium contaminated groundwater in the sump area under the chrome plating room. *

Since cold weather is approaching, it is my opinion that some form of cleanup/remediation is required. The drums holding sludges and other liquids, the overfilled tanks and any other liquids could freeze this winter, rupturing the already weak or leaking containers. Because acids and cyanides are in the building, the mixture from spills or releases of these materials could pose a deadly situation. The owner, who is essentially bankrupt, has verbally indicated that he will assist in identifying the contents of drums and containers.

GAJ/gjh-6GAJ24

Attachment



New York State Department of Environmental Conservation

MEMORANDUM

TO: The Record
FROM: Gary Johnston
SUBJECT: United Plating, Foster Avenue, Schenectady
NYD 002063527
DATE: September 13, 1990

This is a report of my activities between July 3, 1990 and the present concerning United Plating, 1776 Foster Avenue, Schenectady, ID # NYD 002063527.

On July 9, 1990, an inspection party consisting of Bruce Knapp, Environmental Engineer I, Roseanne Benson, Environmental Engineer, Gary Johnston, Environmental Engineer II, arrived on site approximately 10:15 am. Bill Wurster, Environmental Chemist, arrived on site at approximately 11:00 am. The purpose of this visit was to start an inventory of what material was being stored in the building.

The inventory was started in what was called the cyanide storage room. On a previous visit (June 19, 1990 with City of Schenectady and NYSDEC officials), Mr. LeGere had informed us that all the material in this room was of no further value to him and that it was considered waste. Upon entering the room, a haze was seen hanging from the ceiling. Drums, containing various cyanide salts, were stored from one end to the other. Intermixed between some of the drums were various sized small tanks

containing unknown materials. Many of the drums and tanks were in bad shape. Corrosion was evident around the bottoms of both the drums and tanks and also was evident around the bung openings of the drums. Additionally, four tanks were leaking their contents onto the floor while approximately half a dozen drums were also doing the same. Staining was observed on the floor where previous spills and releases from the drums had taken place. None of the tanks were covered while four drums were missing bungs (open). There was very limited if not non-existent aisle space to inspect all the drums. Drums along the rear wall of the room could not be reached. Most drums had been labeled by Mr. LeGere as to their contents but some were missing labels, labeled as unknown or with just a question mark. Some of the labels on the drums had been destroyed by the material leaking from the drum. None of the tanks were labeled but pH readings on some were as high as twelve.

Located within this large cyanide room was a small area enclosed with walls that was set-up as a lab of some sorts. Stored here was a large quantity of quart bottles or smaller of acids, cyanides, solvents, and poisons. Various testing equipment was also found in this area.

The total inventory found in the cyanide room consisted of over 7,000 gallons of mainly cyanide salts. There was over a dozen drums of various sizes labeled as unknowns. Additionally,

there was approximately 2,000 gallons of unknown materials in open top tanks.

The next area to be inventoried was the chromium plating room which is adjacent to the cyanide room. Basically, this operation consists of eight tanks. Two of these tanks contained chrome plating solutions while the remaining six were unlabeled. Readings for pH were taken on these six tanks and they were 4, 14, 1, 5, 5, 1. Found adjacent to these tanks were two drums of chromic acid and two drums of chromic acid fluoride. The floor around the tanks was wet indicating spillage and/or leaks. Floor drains collected these discharges and directed them to an unlined sump area underneath the chrome plating solutions. The sump pumped the collected liquid to three storage tanks located adjacent to the sump area before the material was transferred to the waste treatment system. Before going to the next plating room, we found two drums of soap, one drum labeled old chrome, twelve empties and two five gallon containers of dry chromic acid located outside the men's room.

The next room to be inventoried was the copper plating area. Upon entering this room from the chrome plating area, five open top storage tanks were encountered. These tanks, their approximate sizes, contents and other information is as follows:

1 tank	350 gallons	Unknown	pH of 1
1 tank	2000 gallons	Sludge/liq.	pH of 12-13

1 tank	2000 gallons	1500 gals/labeled cyanide
1 tank	2000 gallons	1500 gals labeled acid
1 tank	1500 gallons	Unknown pH of 9

There was also one large vapor degreaser, which was empty, stored in the area by the tanks. Two drums of unknown material was found adjacent to the tanks along with four drums of hydrochloric acid. Additionally, two drums of oil and one-25 gallon carboy labeled corrosive was inventoried. The previously mentioned drums and tanks were haphazardly placed. To get to some tanks, you had to step over old equipment and junk. The two tanks labeled cyanide and acid were being stored in direct contact with each other. On July 25, 1990, these two tanks were sampled.

The other side of this room contained four plating lines, the main one being copper. Thirteen tanks were in this copper operation with a pH of 12 in the first tank and between 3 and 11.8 on the remaining ones. Against the rear wall of the building, just inside an overhead door, was a plating line consisting of eight (8) tanks. The pH readings of four of the tanks were below 1.5, one was 13.4 and another was between 3 and 11.8. The level in the last two tanks was too low to safely attempt to secure a reading. Located in the aisle between this plating line and a work area was a drum of what Mr. LeGere later identified as 3% nitric acid. This drum had heavy fumes and/or vapors originating from its open top. The pH of this material was less than one. At the far side of the copper plating room, at the end of the copper plating line, were nine containers of

material. There were five drums of electroless nickel solution, one drum of ammonia, one drum of hydroacetic acid, one drum of chromic acid and one twenty gallon container of an unknown.

There appeared to be two more plating lines in this room. One line had eight tanks. Two of these had a pH of less than one, one had a pH of 12.3 and the rest were between 3 and 11.8. The other line had four tanks, all with a pH of between 3 and 11.8.

The next area to be inspected was the waste treatment room. Here spent solutions and rinsewater are treated before discharge to the City of Schenectady sanitary sewer. The discharge is regulated by the City. Created as a result of this treatment is a sludge which is a listed hazardous waste, waste code F006. There were wastewaters stored in the approximate six tanks that comprise the treatment system. There was also less than one cubic yard of sludge underneath the filter press, which is used to de-water the sludge. At the end of the treatment system was another plating line which was for nickel. The pH readings on the tanks followed the same pattern as previous lines with some low, some high but most between 3 and 11.8.

On the other side of the room from the waste treatment system was nine drums of sodium hydroxide, four drums of sulfuric

acid and one drum of a coagulant. There was also a portable tank containing approximately one foot of sludge awaiting de-watering.

Continuing through the waste treatment room you enter another large room which was being used to store a large quantity of chemicals. There was 76 gallons (in one gallon containers) of hydrofloric acid, eleven 15 gallon containers of chromic acid, fourteen 20 gallon containers of acid, 19 containers of unknowns and 142 containers of varying sizes of a number of chemicals. Many of the containers holding these chemicals were in bad condition; corrosion on the outside was highly evident. Some of the labels on the containers did indicate the material as being spent. Also, there was a very large quantity (five shelves over 10 feet long) of a variety of lab chemicals in small bottles. At the rear of the storage room was the hazardous waste storage area. There was one bag ($\approx$ 200 gals) of sludge in storage. It was properly labeled and dated. Adjacent to the hazard waste storage area was an area which was used as the sludge drying area. There was two containers of sludge here, one awaiting drying and one dried. This was also the site of the previous fire.

The inspection party then proceeded to the second floor where we went to the aluminum anodizing operation. This operation consisted of 11 tanks with pH's of 11, 7, 14, 2, 7, 1, 5, 5, 6, 3 and 1. Also found in this room were a couple of 5-gallon carboys of hydrofloric and glacial acetic acid. The floor was wet, indicating discharges from the tanks were taking place.

In another room on the second floor, we found an additional large quantity of chemicals stored in various sized containers. This area was somewhat organized, but there was staining on the floor indicating releases and/or spills. Corrosion was evident around the bottom of many containers. The following inventory was taken:

47 containers ($\approx$ 2,000 gallons)	various acids
8 drums	finishing agents
1 drum	black dye
1 drum	hydrogen peroxide
7 drums	chrome
4 drums (leaking)	sodium hydroxide
80 lb. bags	copper sulfate

There were also some small containers of finishing agents and acids. On a balcony overlooking the second floor (considered part of 3rd floor) were found 35 drums of various chemicals consisting of alcohols, oils, solvents, rust preventatives and trichloroethane. We believed this material to be product as the drums had been grounded to the building (for safety) and some drums had valves in the bung openings to assist in getting material out. Samples were taken on July 25, 1990 of a drum labeled isopropyl alcohol and one labeled 1,1,1-trichloroethane.

On the fourth floor, 3 5-lb. boxes of lead acetate were found in a room which also contained a small smelting operation. Nothing else was found in the building.

The rear yard area was checked also. Numerous empty drums were stacked against the building. Old pieces of equipment littered the area. Fence posts were installed but no fence fabric had been hung. We did find a one cubic yard box of what appeared to be sludge from the waste treatment plant. This was sampled on July 25, 1990.

Conclusions:

Since Mr. LeGere verbally indicated that the material in the cyanide room is waste, there exist approximately 138 containers (over 7,000 gallons) of hazardous waste which are unlabeled [373-1.1(d)(1)(iii)] as such. Also the material is undated [373-1.1(d)(1)(iii)(c)(2)] as to when it was placed in storage as waste. There was not enough aisle space [373-3.3(f)] to properly inspect and store the drums. Drums were also leaking hazardous waste [373-3.9(b)] onto the floor and some drums were open [373-3.9(d)(1)]. Due to the condition of the containers, it is my engineering judgment that this material has been in storage over 90 days [373-1.2(a)], which classifies this facility as a TSD facility. There was no secondary containment provided for the containers [373-1.1(d)(1)(iii)]. All of the previously mentioned violations also apply to the tanks in this room.

Chrome Plating Room

No hazardous waste violations exist in this area except for the unlabeled sump collection tanks. These tanks also require secondary containment.

However, should United Plating decide not to reopen, the plating solutions will become a hazardous waste, either listed or characteristic, needing proper disposal.

Copper Plating Room

Nothing in the room is labeled as hazardous waste. However, the five tanks located on the north side of the room are questionable. The sampling of the acid tank showed this material to be hazardous due to the lead, cadmium and chromium levels. More analysis for reactivity needs to be performed on the cyanide tank, although the first analysis did show a cyanide level of between 583 and 828 ppm (parts per million).

The other tanks having a very low or high pH (below 2 or over 12.5) would be a characteristic hazardous waste. They could also be a listed hazardous waste if they are spent plating solutions.

Given the above information, the following violations exist:

- (1) unlabeled HW [373-3.10(e)(4)]
- (2) undated HW [372.2(a)(8)(ii)]
- (3) no secondary containment [373-3.10(d)]
- (4) incompatible waste not separated [373-3.2(h)]

Treatment Room

None of the tanks and all but one container of waste sludge were not labeled as hazardous waste. The containers are also undated as to when storage started. The operation of drying the sludge (the homemade oven which resulted in the fire) is considered treatment of hazardous waste for which United Plating has no Part 373 permit.

Potential violations exist associated with the large quantities of chemicals stored behind the treatment room. Some containers were labeled as spent or were highly corroded and leaking on the floor. If these materials are hazardous wastes, then they are unlabeled as such. Also, if all of the chemicals stored here are classified as waste, since over 90% of them are acids, there exists a good possibility that they are characteristic hazardous waste. The lab's wastes would also fall into the category of being potential hazardous wastes.

Aluminum Anodizing Operation

Mr. LeGere previously informed city and State officials that the operation had not been used in 18 months. Storing material speculatively without classifying it as waste for this period of time is, in my professional judgment, too long. Any tank having a pH below 2 or above 12.5 is a characteristic hazardous waste. The tanks were unlabeled, undated and some were leaking -- all violations.

Second Floor Chemical Storage

Mr. LeGere contends that the chemicals stored here are products. If that is the case, why would someone who paid for raw materials let them leak and/or spill onto the floor? My professional judgment is that some of the material is usable product while some is not. A more detailed inventory and sampling program would have to be initiated to determine what is or is not waste and/or product. If it is classified as waste, and further as hazardous waste, there is no labeling or dating of the containers.

Third Floor and Rest of Building

It is my opinion that these chemicals are products. They appeared to be in use. However, some of the chemicals (isopropanol and trichloroethane) seem out of place for a plating operation. The question is, what are they doing here? Analysis did show the drums sampled were trichloroethane and the alcohol drum to have a flash point of 78°F.

Rear Yard

Basically, the yard is littered with old equipment and machinery and empty drums, but there was also a 3' x 3' x 2' box of a greyish, sandy material. This substance greatly resembles plating sludge. It was sampled and the analysis confirmed that this material is hazardous due to its lead content. This material is unlabeled and undated. Also, from the appearance of the wooden box, it is safe to say it had been there over 90 days, another violation.

Need for Remediation

There exists an immediate need for attention to the materials/waste presently stored in the United Plating building. With the upcoming winter season and cold weather, and the additional fact that utilities have been disconnected, the potential for freezing of the material exists. The freezing of the material could cause the destruction of the container holding it. If this happens, the material could end up in the groundwater/soils underneath the building and possible running into the street. Once in the street, the potential of possible contamination of the Mohawk River via the storm water sewer system exists. Downstream from the potential discharge points are two known public drinking water intakes.

GAJ/gjh-GAJ17

REFERENCE NO. 6

CONTROL NO.:

02-9012-18

DATE:

3/5/91

TIME:

16:30

DISTRIBUTION:

United Plating, Inc. NYPI

BETWEEN:

Mr. Gary Mostert

OF:

Colonie, Dept. of
Water

PHONE:

(518) 783-2750

AND:

Valerie Mathers

(NUS)

DISCUSSION:

The Latham Water District, also known as the Department of Water Works in the City of Colonie, was contacted to identify any surface water intakes for potable supply that they may have on the Mohawk River. According to Mr. Mostert, the City of Colonie does have a water intake on the Mohawk River approximately 1 mile upstream from the interstate highway 87 bridge. This location falls within 15 miles downstream of the site. Potable water for the City of Colonie is also supplied from groundwater. The city well is adjacent to the water treatment ^{plant} near the river where the surface water intake is located. Groundwater in the area is influenced by the Mohawk River. Therefore, any contamination in the river would also be found in the groundwater supply. Groundwater and Surface water from the Mohawk River are mixed at the city's water treatment plant. Approximately 75,000 people are served by the Latham Water District which, according to Mr. Mostert, are all in the City of Colonie.

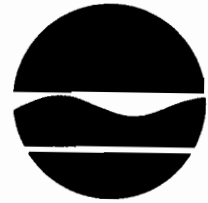
ACTION ITEMS:

/Am 3/5/91

REFERENCE NO. 7

New York State Department of Environmental Conservation

Information Services
700 Troy-Schenectady Road
Latham, New York 12110-2400



Thomas C. Jorling
Commissioner

March 4, 1991

Ms. Valerie A. Mathers
NUS Corporation
1090 King Georges Post Road, Suite 1103
Edison, New Jersey 08837

Dear Ms. Mathers:

We have reviewed the Significant Habitat Program and the Natural Heritage Program files with respect to your request for biological information concerning the Hazardous Waste Site as indicated on your map, located in the City of Schenectady, Schenectady County, New York State.

We did not identify any potential impacts on endangered, threatened, or special concern wildlife species, rare plant, animal or natural community occurrences, or other significant habitats.

The absence of data does not necessarily mean that rare or endangered elements, natural communities or other significant habitats do not exist on or adjacent to the proposed site, but rather that our files currently do not contain any information which indicates the presence of these. Our files are continually growing as new habitats and occurrences of rare species and communities are discovered. In most cases, site-specific or comprehensive surveys for plant and animal occurrences have not been conducted. For these reasons, we cannot provide a definitive statement on the presence or absence of species, habitats or communities. This information should not be substituted for on-site surveys that may be required for environmental assessment.

This response applies only to known occurrences of rare animals, plants and natural communities and/or significant wildlife habitats. You should contact our regional office(s), Division of Regulatory Affairs, at the address(es) on the enclosed list for information regarding any regulated areas or permits that may be required (e.g., regulated wetlands) under state law.

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

Sincerely,

Burrell Buffington
Burrell Buffington
Significant Habitat Unit

Enc.

NEW YORK STATE DEPT. OF ENVIRONMENTAL CONSERVATION REGULATORY AFFAIRS
REGIONAL OFFICES

<u>REGION</u>	<u>COUNTIES</u>	<u>NAME</u>	<u>LOCATION</u>
Region 1	Nassau Suffolk	Robert Greene	Bldg. 40, SUNY Stony Brook, NY 11790
Region 2	New York City	Barbara Rinaldi	Hunter Point Plaza 47-40 21st Street Long Island City, NY 11101
Region 3	Dutchess Orange Putnam Rockland Sullivan Ulster Westchester	Ralph Manna	21 South Putt Corners Road New Paltz, NY 12561
Region 4	Albany Columbia Delaware Greene Montgomery Otsego Rensselaer Schenectady Schoharie	Jeffrey Sama	2176 Guilderland Avenue Schenectady, NY 12306
Region 5	Clinton Essex Franklin Fulton Hamilton Saratoga Warren Washington	Richard Wild	Route 86 Ray Brook, NY 12977
Region 6	Herkimer Jefferson Lewis Oneida St. Lawrence	Randy Vaas	State Office Building 317 Washington Street Watertown, NY 13601

OVER

REFERENCE NO. 8

ENVIRONMENTAL PROTECTION AGENCY

(FRL-2631-5b)

Schenectady/Niskayuna Aquifer System in Schenectady, Saratoga; and Albany Counties, NY; Sole Source Aquifer; Final Determination

AGENCY: Environmental Protection Agency.

ACTION: Notice.

SUMMARY: Notice is hereby given that pursuant to Section 1424(e) of the Safe Drinking Water Act, the Administrator of the U.S. Environmental Protection Agency (EPA) has determined that the Schenectady/Niskayuna Aquifer System, underlying portions of Albany, Saratoga and Schenectady Counties, New York, is the sole or principal source of drinking water for Ballston (Lake), Burnt Hills, Charlton, Glenville, Niskayuna, Rexford, Rotterdam, Schenectady and Scotia and that this aquifer, if contaminated would create a significant hazard to public health. As a result of this action, Federal financially assisted projects constructed in the Schenectady/Niskayuna Area and its stream flow source zone (upstream portions of the Mohawk River drainage basin) will be subject to EPA review to ensure that these projects are designed and constructed so that they do not create a significant hazard to public health.

DATES: This determination shall be promulgated for purposes of judicial review at 1:00 p.m. eastern time on January 28, 1985. This determination shall become effective on February 27, 1985.

ADDRESSES: The data on which these findings are based are available to the public and may be inspected during normal business hours at the U.S. Environmental Protection Agency, Drinking/Ground Water Protection Branch, 26 Federal Plaza, New York, New York 10278.

FOR FURTHER INFORMATION CONTACT: Damian J. Duda, Drinking/Ground Water Protection Branch, Environmental Protection Agency, Region II at 212-264-1000.

SUPPLEMENTARY INFORMATION:

I. Background

Section 1424(e) of the Safe Drinking Water Act (42 U.S.C., 300f, 300h-3(e), Pub. L. 93-523) states:

(c) If the Administrator determines on his own initiative or upon petition, that an area has an aquifer which is the sole or principal drinking water source for the area and which, if contaminated, would create a

significant hazard to public health, he shall publish notice of that determination in the Federal Register. After the publication of any such notice, no commitment for Federal financial assistance (through a grant, contract, loan guarantee, or otherwise) may be entered into for any project which the Administrator determines may contaminate such aquifer through a recharge zone so as to create a significant hazard to public health, but a commitment for Federal financial assistance may, if authorized under another provision of law, be entered into to plan or design the project to assure that it will not so contaminate the aquifer.

On August 20, 1982, EPA received a petition from Mr. Frank J. Duci, ex-Mayor for the City of Schenectady, which petitioned EPA to designate the Schenectady or Great Flats Aquifer as a sole source aquifer. On January 28, 1983, EPA published a notice in the Federal Register which served to reprint the petition, to announce a public comment period and to set a public hearing date. A public hearing was conducted on March 3, 1983 and the public was permitted to submit comments and information on the petition until April 4, 1983.

II. Basis for Determination

Among the factors to be considered by the Administrator in connection with the designation of an area under Section 1424(e) are: (1) Whether the Schenectady/Niskayuna Aquifer System is the area's sole or principal source of drinking water and (2) whether contamination of the aquifer would create a significant hazard to public health. On the basis of technical information available to this Agency, the Administrator has made the following findings, which are the bases for the determination noted above:

1. The Schenectady/Niskayuna Aquifer System currently serves as the "sole source" of drinking water for approximately 147,000 persons in the service area.

2. There is no existing alternative drinking water source or combination of sources which provides fifty percent or more of the drinking water to the designated area, nor is there any available cost effective future source capable of supplying the drinking water demands for the Mohawk River communities.

3. The Schenectady/Niskayuna Aquifer System, which consists of a complex series of discontinuous coarse sand and gravel deposits, is underlain by glacial till. An extensive sand unit separates the coarse gravel unit from the till in much of the well field area. As a result of its highly permeable soil characteristics, the aquifer is susceptible to contamination through its recharge

zone from a number of sources, including, but not limited to, chemical spills, highway and urban area runoff, septic systems, leaking storage (above and underground) tanks, and landfill leachate. Since ground water contamination can be difficult or sometimes impossible to reverse and since the aforementioned communities rely on the Schenectady/Niskayuna Aquifer System for drinking water purposes, contamination of the aquifer would pose a significant public health hazard.

III. Description of the Schenectady/Niskayuna Aquifer System of the Albany, Schenectady and Saratoga Counties area. Their Recharge Zone and Their Streamflow Source Zone

The Schenectady/Niskayuna Aquifer System is composed of permeable sand and gravel deposits overlying glacial till. The system occupies approximately 30 square miles of the lowermost part of the Mohawk River drainage basin in New York State. The area in which Federal financially assisted projects will be subject to review is the portion of the Schenectady/Niskayuna Aquifer System in the Albany, Schenectady and Saratoga Counties area, the recharge zone and the streamflow source zone.

For purposes of this designation, the Schenectady/Niskayuna Aquifer System is considered to include the entire municipalities of Ballston, Burnt Hills, Charlton, Glenville, Niskayuna, Rexford, Rotterdam, Schenectady and Scotia, New York. The recharge zone is considered to be several very permeable portions of the aquifer within Albany, Schenectady and Saratoga Counties. The streamflow source zone is that portion of the Mohawk River drainage basin composing the upstream headwaters area for the Albany, Schenectady and Saratoga Counties area.

IV. Information Utilized in Determination

The information utilized in this determination includes the petition, written and verbal comments submitted by the public and various technical publications. The above data are available to the public and may be inspected during normal business hours at the U.S. Environmental Protection Agency, Region II, Drinking/Ground Water Protection Branch, 26 Federal Plaza, New York 10278.

V. Project Review

EPA Region II is working with the Federal agencies that may in the future provide financial assistance to projects

in the area of concern. Interagency procedures and Memoranda of Understanding have been developed through which EPA will be notified of proposed commitments by Federal agencies for projects which could contaminate the Schenectady/Niskayuna Aquifer System, upon which the Ballston, Burnt Hills, Charlton, Glenville, Niskayuna, Rexford, Rotterdam, Schenectady and Scotia areas are dependent for their sole source water supply. EPA will evaluate such projects and, where necessary, conduct an in-depth review, including soliciting public comments where appropriate. Should the Administrator determine that a project may contaminate the aquifer through its recharge zone as to create a significant hazard to public health, no commitment for Federal financial assistance may be entered into. However, a commitment for Federal financial assistance may, if authorized under another provision of law, be entered into to plan or design the project to assure that it will not so contaminate the aquifer.

Although the project review process cannot be delegated, the U.S. Environmental Protection Agency will rely to the maximum extent possible on any existing or future State and local control mechanisms in protecting the ground water quality of the Schenectady/Niskayuna Aquifer System, upon which the Ballston, Burnt Hills, Charlton, Glenville, Niskayuna, Rexford, Rotterdam, Schenectady and Scotia areas are dependent for their sole source water supply. Included in the review of any Federal financially assisted project will be the coordination with the State and local agencies. Their comments will be given full consideration and the Federal review process will attempt to complement and support State and local ground water protection mechanisms.

VI. Summary and Discussion of Public Comments

Most of the comments received from the public were in favor of the designation. However, three commenters expressed some opposition.

One commenter felt that the existing regulations are more than sufficient to protect the aquifer area and that more regulations would have a devastating effect on the local construction industry.

Another commenter also felt that the aquifer is adequately protected and that additional regulations would ban construction in the area.

Another commenter felt that the petitioning of the aquifer for designation as sole source was only a ploy used to

prevent the construction of a shopping mall in the area.

One commenter, although generally in favor of designation, felt that the aquifer area is already more than adequately protected, while other portions, such as recharge zones, need greater safeguard measures.

The area considered for designation was determined to meet the criteria of an area which depends upon an aquifer for its sole or principal drinking water source and which, if contaminated, would pose a serious threat to the health of the residents of Albany, Schenectady and Saratoga Counties.

VII. Economic and Regulatory Impact

Pursuant to the provisions of the Regulatory Flexibility Act (RFA), 5 U.S.C. 605(b), I hereby certify that the attached rule will not have a significant impact on a substantial number of small entities. For purposes of this Certification, the "small entity" shall have the same meaning as given in Section 601 of the RFA. This action is only applicable to the Albany, Schenectady and Saratoga County areas.

The only affected entities will be those Area-based businesses, organizations or governmental jurisdictions that request Federal financial assistance for projects which have the potential for contaminating the aquifer so as to create a significant hazard to public health. EPA does not expect to be reviewing small isolated commitments of financial assistance on an individual basis, unless a cumulative impact on the aquifer is anticipated; accordingly, the number of affected small entities will be minimal.

For those small entities which are subject to review, the impact to today's action will not be significant. Most projects subject to this review will be preceded by a ground water impact assessment required pursuant to other Federal laws, such as the National Environmental Policy Act (NEPA) as amended, 42 U.S.C. 4321, et seq. Integration of those related review procedures with sole source aquifer review will allow EPA and other Federal agencies to avoid delay or duplication of effort in approving financial assistance, thus minimizing any adverse effect on those small entities which are affected. Finally, today's action does not prevent grants of Federal financial assistance which may be available to any affected small entity in order to pay for the redesign of the project to assure protection of the aquifer.

Under Executive Order 12291, EPA must judge whether a regulation is "major" and therefore subject to the

requirement of a Regulatory Impact Analysis. This regulation is not major because it will not have an annual effect of \$100 million or more on the economy, will not cause any major increase in costs or prices and will not have significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of United States enterprises to compete in domestic or export markets. Today's action only affects the Schenectady/Niskayuna Aquifer System of the Albany, Schenectady and Saratoga County areas. It provides an additional review of ground water protection measures, incorporating state and local measures whenever possible, for only those projects which request Federal financial assistance.

Dated: January 4, 1985.

William D. Ruckelshaus,

Administrator.

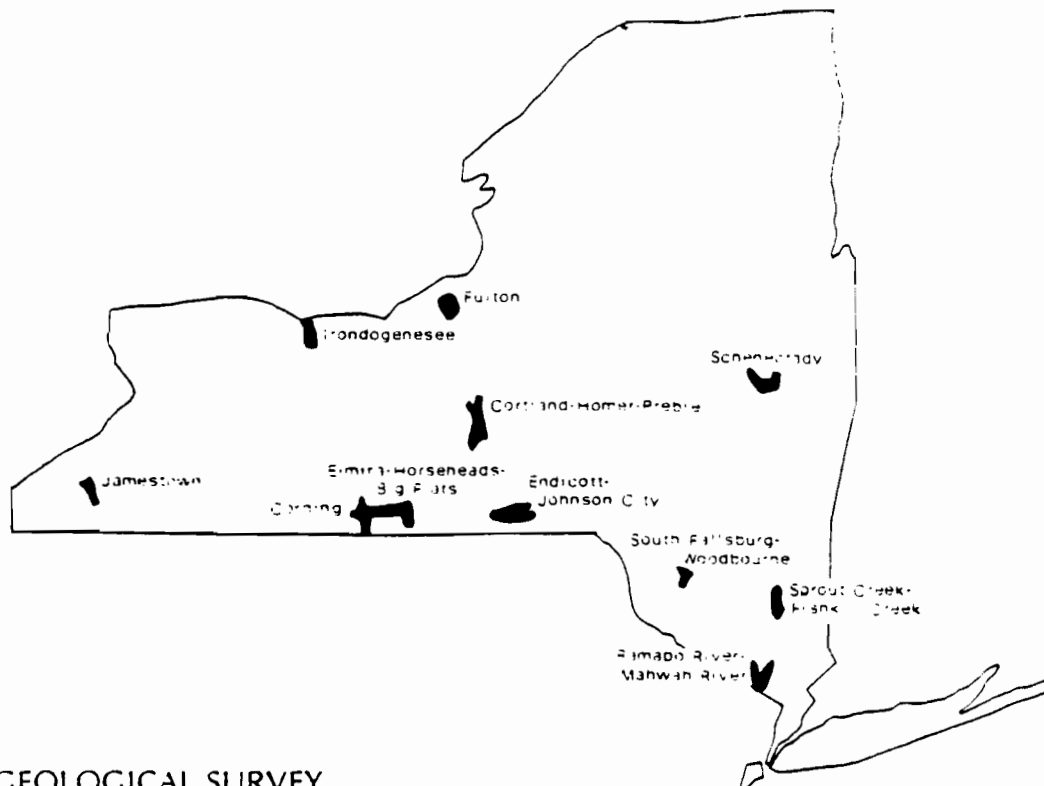
[FR Doc. 85-487 Filed 1-11-85; 9:45 am]

BILLING CODE 1540-50-M

REFERENCE NO. 9

Atlas of Eleven Selected Aquifers in New York

RECEIVED
BROWN AND CALDWELL
NEW YORK



U.S. GEOLOGICAL SURVEY
Water-Resources Investigations
Open-File Report 82-553

Prepared in cooperation with
NEW YORK STATE DEPARTMENT OF HEALTH
Bureau of Public Water Supply Protection



2

SCHENECTADY AREA

By G. Allan Brown

- A. Location and major geographic features
- B. Population and ground-water use
- C. Geologic setting
- D. Geohydrology
- E. Aquifer thickness
- F. Ground-water movement
- G. Temporal trends in ground-water levels
- H. Well yields
 - I. Soil-zone permeability
 - J. Land use
- K. Present and potential problems
- L. Selected references

2 SCHENECTADY AREA

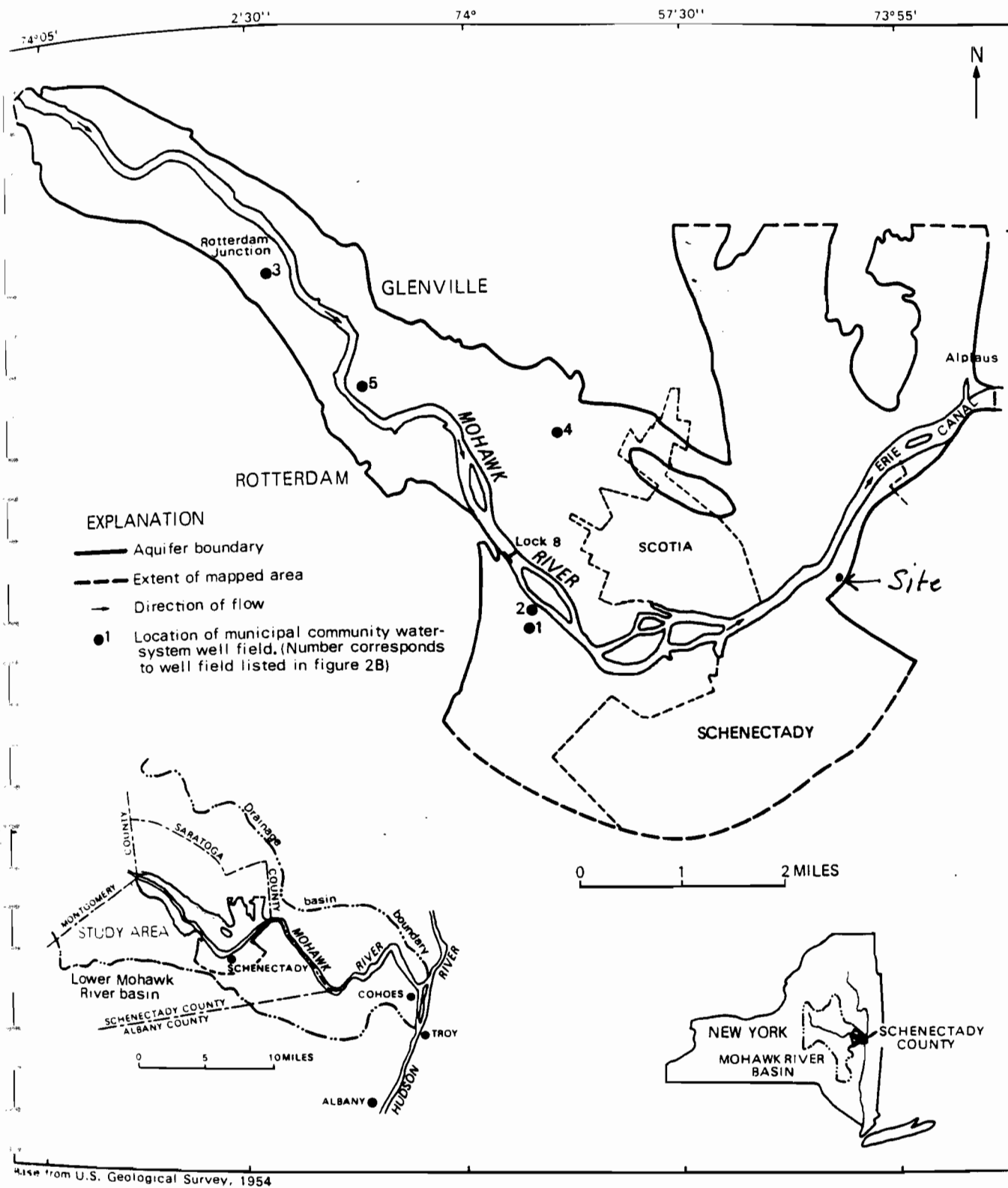
A. Location and major geographic features

**This aquifer underlies the lower reach of
the Mohawk valley**

This aquifer, which serves the Schenectady area, lies in a highly urbanized part of the lower Mohawk River valley in eastern New York. The main part of the aquifer is about 14 miles long and 0.5 to 5 miles wide.

The Great Flats, or Schenectady, aquifer is about 14 miles long and underlies 25 square miles in the lowermost, highly urbanized part of the Mohawk River drainage basin in Schenectady County (fig. 2A). Near its western end at the Montgomery County border, the aquifer is about ½ mile wide but increases eastward to more than 5 miles wide at Schenectady. The east end of the aquifer terminates where the river valley narrows at Alplaus. The aquifer lies between the upland hills to the west and the Hudson River lowlands to the east.

FIGURE 2A SCHENECTADY AREA
Location and major geographic features



2 SCHENECTADY AREA

B. Population and ground-water use

This aquifer is the principal source of water for Schenectady County

More than 80 percent of the population of Schenectady County lives on or near the aquifer. Ground water from this aquifer is the principal source of water for the county and is withdrawn at a rate of 25 million gallons per day. A high percentage of the area is urban.

The aquifer serving the Schenectady area is in the most extensively urbanized area overlying a major aquifer in upstate New York and also supplies the largest population (more than 143,000) of any upstate aquifer. It serves the City of Schenectady, the Town of Rotterdam, the Town of Glenville, and the Village of Scotia (fig. 2A), about 84 percent of the county's population, and about 12,000 people in several outlying districts.

Five municipal community water systems pump from the aquifer (fig. 2B). The City of Schenectady, with 16 high-yield wells, pumps an average of 18.6 Mgal/d. In addition to the five municipal community water system, individual or private water systems pump about 0.5 Mgal/d.

The table opposite lists 1980 pumpage by the various water suppliers. Locations of municipal systems are shown on the map below and in figure 2A.

LOCATION OF MUNICIPAL COMMUNITY WATER-SYSTEM WELL FIELDS

Numbers correspond to well
fields listed opposite

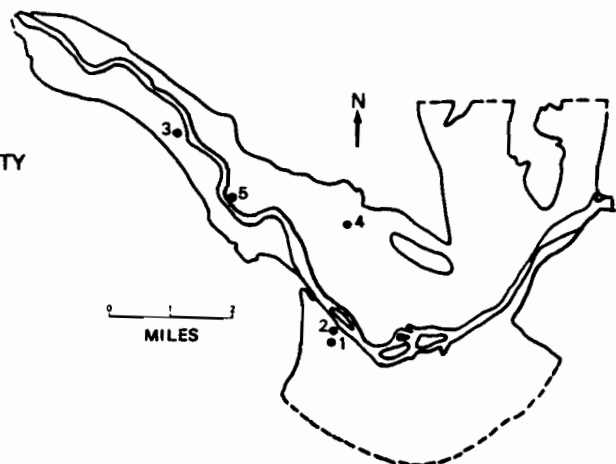


FIGURE 2B SCHENECTADY AREA
Population and ground-water use

POPULATION AND PUMPAGE FROM SCHENECTADY AREA, 1980

Source	Population served ¹	Average pumpage ² (Mgal/d)
A. MUNICIPAL COMMUNITY WATER SYSTEMS		
1. City of Schenectady (16 wells)	67,972	18.590
Niskayuna Water District Nos. 1, 2, 3, 6, 7, and 8	6,150	—
Rotterdam Water District No. 1	5,250	—
2. Rotterdam Water District No. 5 (3 wells)	25,949	2.740
3. Rotterdam Water District No. 3 (2 wells) (Village of Rotterdam Junction)	1,700	* 0.095
4. Village of Scotia (3 wells)	7,600	1.380
Glenville Water District No. 2	2,300	—
Glenville Water District No. 3	600	—
Glenville Water District No. 8	300	—
Glenville Water District No. 12	200	—
5. Glenville Water District No. 11 (3 wells)	14,000	1.800
Charlton Water District (Saratoga County)	2,000	—
Burnt Hills-Ballston Lake Water District (Saratoga County)	3,500	—
Rexford Water District (Saratoga County)	1,000	—
Subtotal	138,521	* 24.605
B. PRIVATE WATER SUPPLIES		
Home use of 100 gallons per person per day is assumed	* 5,000	* 0.500
Total	* 143,521	* 25.105

¹ Revised from New York State Department of Health (1981)

² Unpublished data from New York State Department of Health

* Estimated

2 SCHENECTADY AREA

C. Geologic setting

**This aquifer consists of sand and gravel
overlain by flood-plain silt**

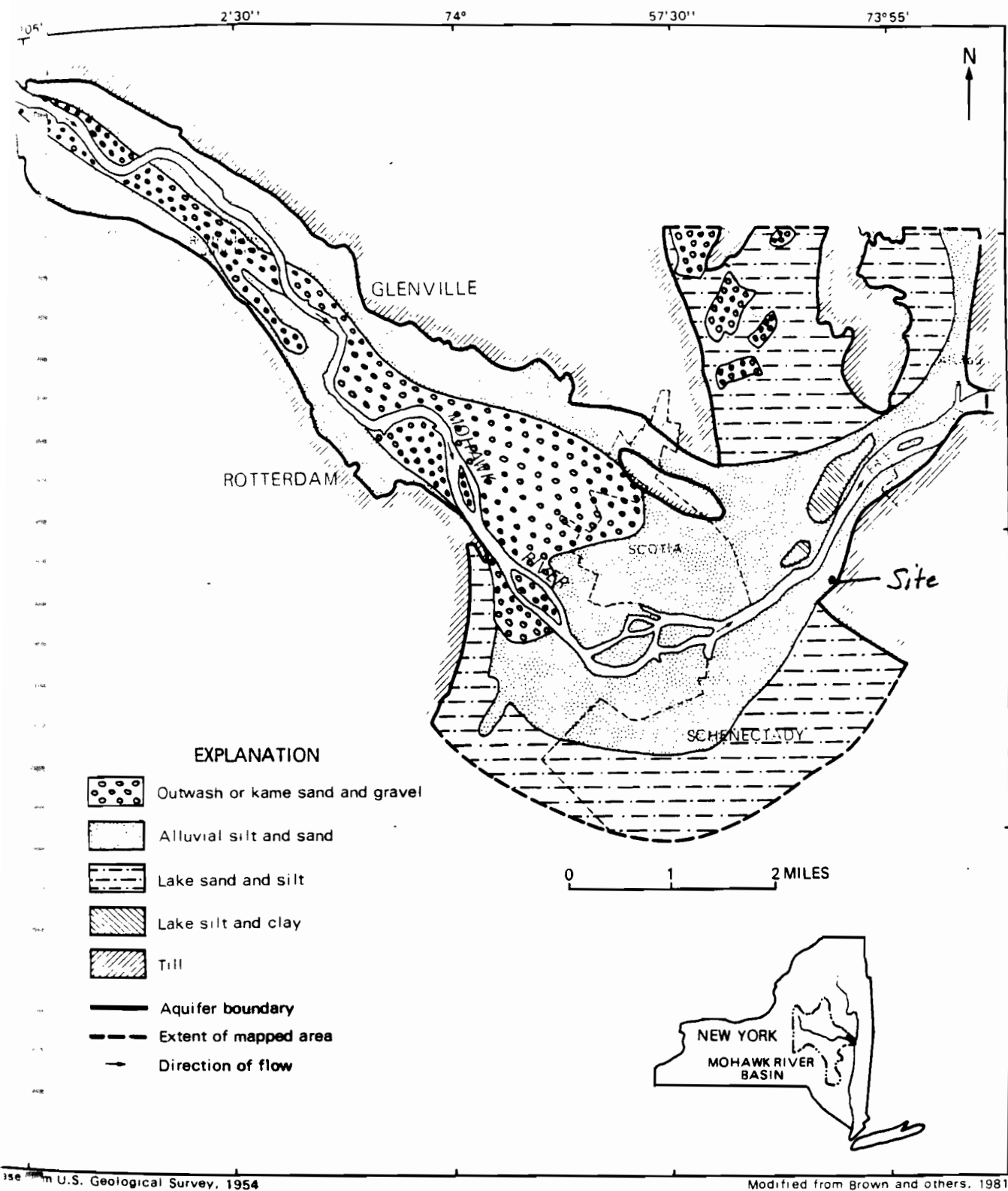
The downstream (east) end of the aquifer contains sand and silt deposits that formed in a large glacial lake. Upstream from the former lake, the valley contains coarse sand and gravel that was deposited by glacial meltwaters. The valley floor is covered by a veneer of postglacial flood-plain sand and silt.

Bedrock underlying the Mohawk valley in the Schenectady area is flat-lying shale with some interbedded siltstone. During the last glaciation, glaciers modified the regional topography by smoothing off hilltops, scouring out some valleys and filling in others, then leaving a mantle of unconsolidated material over the land surface nearly everywhere in the area (Winslow and others, 1965).

Till, silt, and sand overlie bedrock throughout most of the area (fig. 2C). The till is exposed primarily in the upland areas west and northwest of the aquifer and along a ridge east of it. Sand, silt, and clay carried by glacial meltwater were deposited in a large temporary glacial lake, now termed Lake Albany, which covered much of the mid-Hudson valley, including the Schenectady area. These fine sediments are found in the valley in the eastern part of the aquifer and also form the broad lowland plain in the northeastern and southern parts of the mapped area. Coarser sand and gravel, which was deposited upstream from the lake, occurs in the western part of the main valley. Most of the glacially derived deposits are now covered by sand and silt that form the modern flood plain.

In the northeastern part of the aquifer, kames consisting of highly permeable sand and gravel were deposited by meltwater streams at ice margins. Although the kames subsequently became partly buried by lake sand and silt of Lake Albany, a layer of sand and gravel that once formed the kames now extends southward beneath the lake sediments to the main valley of the Mohawk River (Winslow and others, 1965, p. 33).

FIGURE 2C SCHENECTADY AREA
Geologic setting



Base map from U.S. Geological Survey, 1954

Modified from Brown and others, 1981

2 SCHENECTADY AREA

D. Geohydrology

The coarsest deposits are along the 5-mile reach upstream from Scotia

This aquifer system consists of tens to hundreds of feet of stratified unconsolidated deposits that fill the bedrock valley. The coarsest deposits are in the narrow valley reach upstream from Scotia.

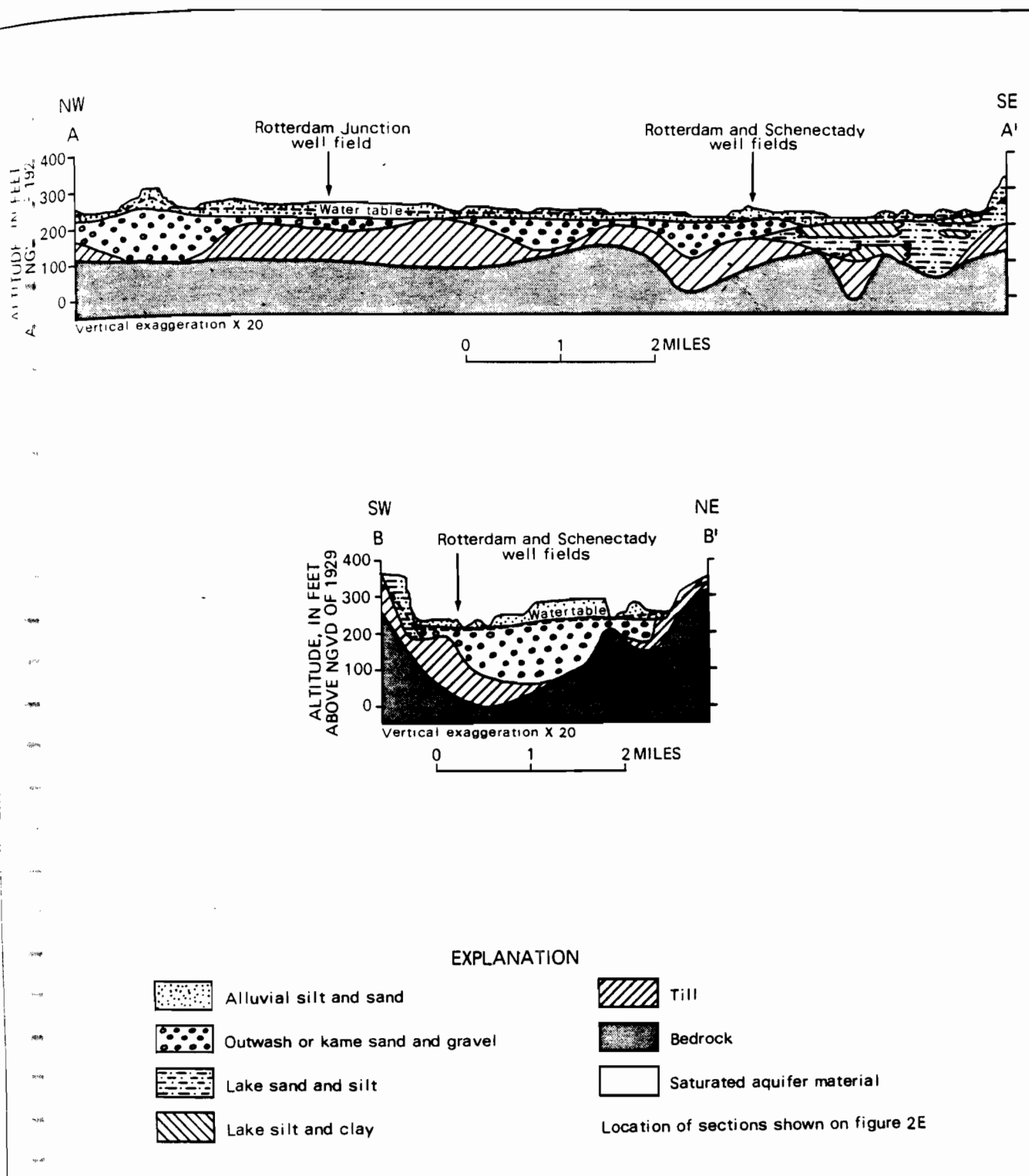
The lower Mohawk valley contains a thick sequence of unconsolidated sediments, as shown in figure 2D. The coarser, well-sorted sediments make up the principal aquifer. The aquifer is mostly under water-table conditions with localized confinement under clay and silt beds.

In the south-central part of the aquifer, the bedrock surface contains several deep troughs. The deepest of these, which extends south from the present Mohawk valley just west of Schenectady (sec. A-A'), was probably the preglacial course of the Mohawk River (Winslow and others, 1965, p. 22). As much as 350 feet of unconsolidated glacial material now fills this channel.

The valley-fill material overlying till and bedrock was deposited by glacial meltwater. The coarse sands and gravels in the western part of the valley were deposited by fast-moving water flowing eastward through the valley; the finer sand and silty sand further east was deposited by more slowly moving water where the valley broadened out into Lake Albany. The silt and clay deposits in the eastern part of the area formed in the quiet waters of Lake Albany.

The sand and silty sand that now form a veneer over the valley floor are flood-plain deposits laid down by the present Mohawk River. In general, they are less permeable than the underlying stratified glacial deposits.

FIGURE 2D SCHENECTADY AREA



2 SCHENECTADY AREA

E. Aquifer thickness

This aquifer is continuous and is thickest in scattered pockets along the valley axis

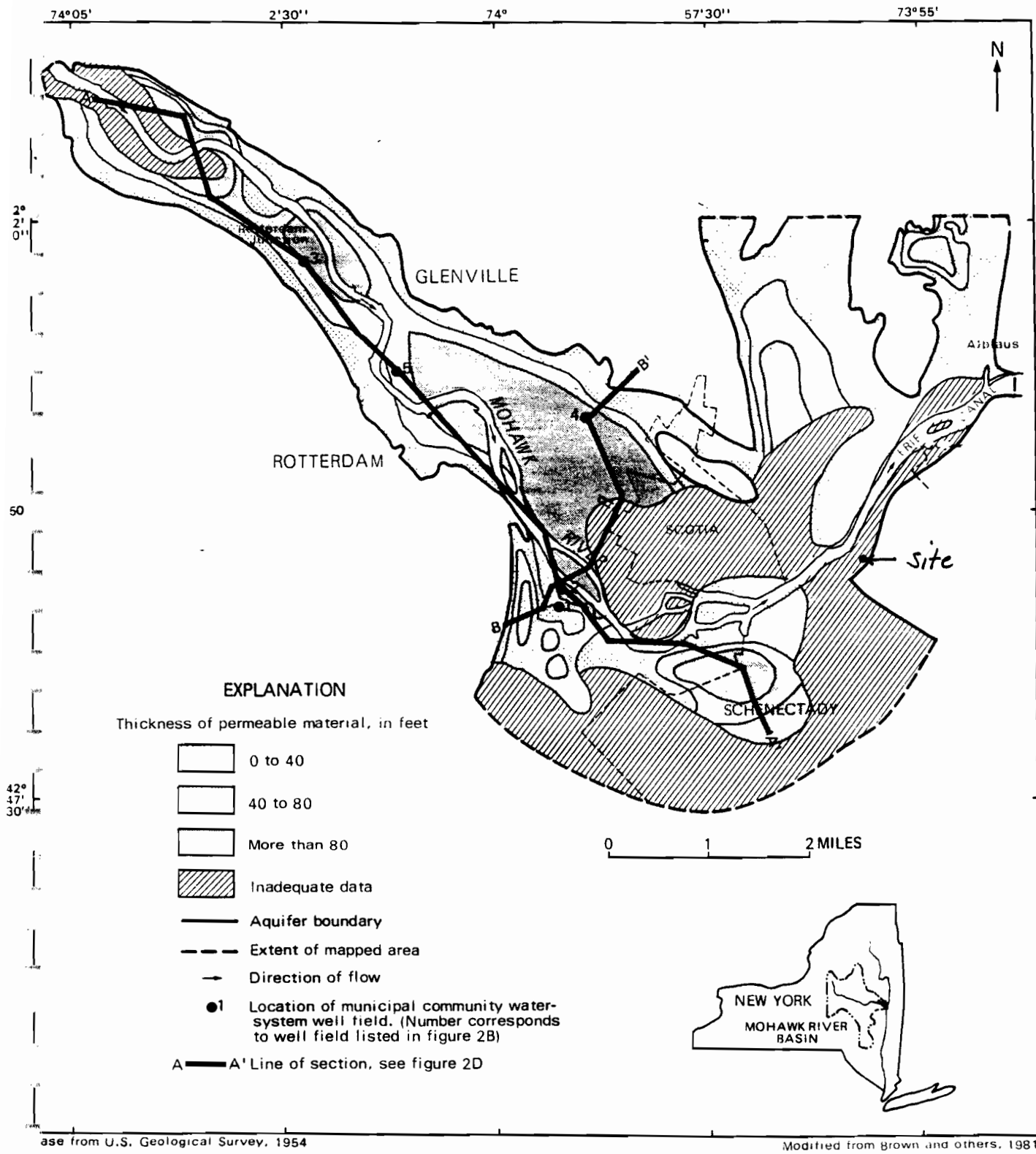
This aquifer is a moderately thick body of permeable sand and gravel. Thickness ranges from 0 at the valley walls to more than 200 feet in the center of the valley. The thickest parts are scattered along the main axis of the valley.

The thickest parts of the aquifer occur as pockets of sand and gravel along the valley floor (fig. 2E). The estimated thickness¹ of permeable sediments in the aquifer was determined from land surface to the top of the first extensive unit of low permeability, which may be bedrock or a layer of till, silt, or clay. Deeper, confined aquifers are included in these values where significant. The aquifer materials range in size from very fine sand and silty sand to coarse pebble and cobble gravel. Lenses of silt and clay less than 10 feet in thickness and discontinuous are included in the thickness values. Because thickness includes the unsaturated part of the aquifer and is measured from land surface, the contours reflect irregularities in the topography.

Very little data are available from which to determine aquifer thickness in the southeastern part of the valley. The sediments there may be as much as 200 feet thick in places but are probably finer grained and less permeable than those to the west.

¹ Aquifer thickness was computed from well logs given in Winslow and others (1965) and Haley and Aldrich (1981), and from files of the U.S. Geological Survey in Albany, N.Y.

FIGURE 2E SCHENECTADY AREA
Aquifer thickness



base from U.S. Geological Survey, 1954

Modified from Brown and others, 1981

2 SCHENECTADY AREA

F. Ground-water movement

**The water table in most places is less than
30 feet below land surface**

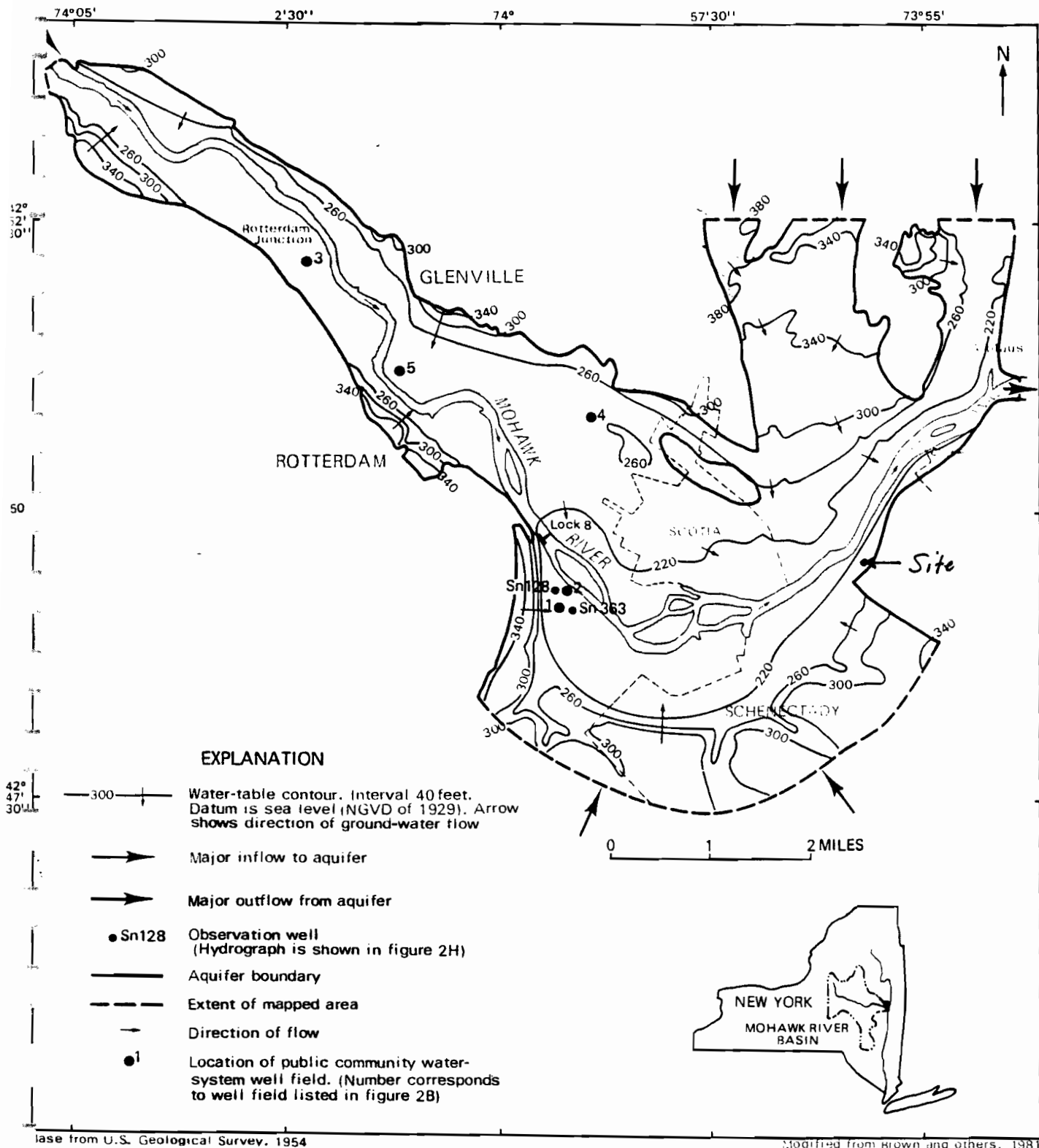
This aquifer is recharged by precipitation directly on the aquifer, by ground water flowing in from adjacent hillsides and valleys, and by seepage from streams crossing the aquifer. Discharge is principally to the Mohawk River and to wells.

Aquifer recharge occurs from precipitation directly on the land, by seepage from the tributary streams flowing across the aquifer, by subsurface flow from the till on the sides of the valley, and as seepage from bedrock and deposits of low permeability underlying the aquifer. In addition, recharge from streams may be induced by nearby large-capacity pumping wells. Aquifer discharge occurs as seepage into streams or lakes and as flow to pumping wells.

The long-term average water-table altitude in the Schenectady area aquifer as measured in wells, streams, and lakes is shown in figure 2F (Winslow and others, 1965; Haley and Aldrich, 1981). Ground-water levels closely reflect the level of the Mohawk River. Within the flood plain, depth to water is generally less than 30 feet but at higher elevations may be as much as 70 feet. Springs discharge at the base of some slopes. The water table extends up into the till and bedrock adjacent to the aquifer. In the lake sand in the eastern part of the aquifer, water levels are generally less than 25 feet below land surface but may be as deep as 50 feet in places adjacent to small downcut stream valleys.

A cone of depression has developed around the Rotterdam and Schenectady well fields (wells Sn 128 and Sn 363, fig. 2F), but because the cone of depression is less than 20 feet deep, it does not show on the map. Winslow and others (1965) depict the potentiometric surface and its intersection with the Mohawk River. They concluded that 90 percent of the well-field pumpage is induced recharge from the river, but ground water now moves toward the well field from all directions.

FIGURE 2F SCHENECTADY AREA
Ground-water movement



2 SCHENECTADY AREA

G. Temporal trends in ground-water levels

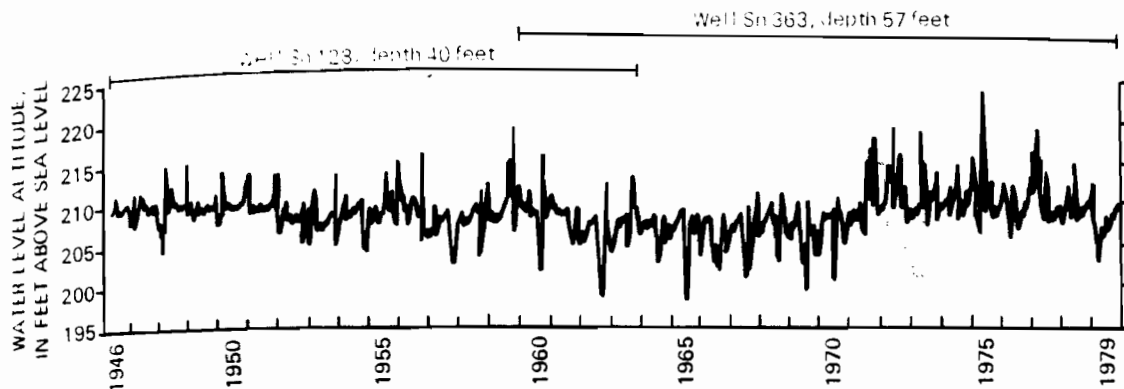
Seasonal water-table fluctuations are smallest near the river

Seasonal variations in recharge to this aquifer cause water-table altitudes to fluctuate a few feet. Water levels may also be influenced by nearby pumping or by proximity to streams or lakes.

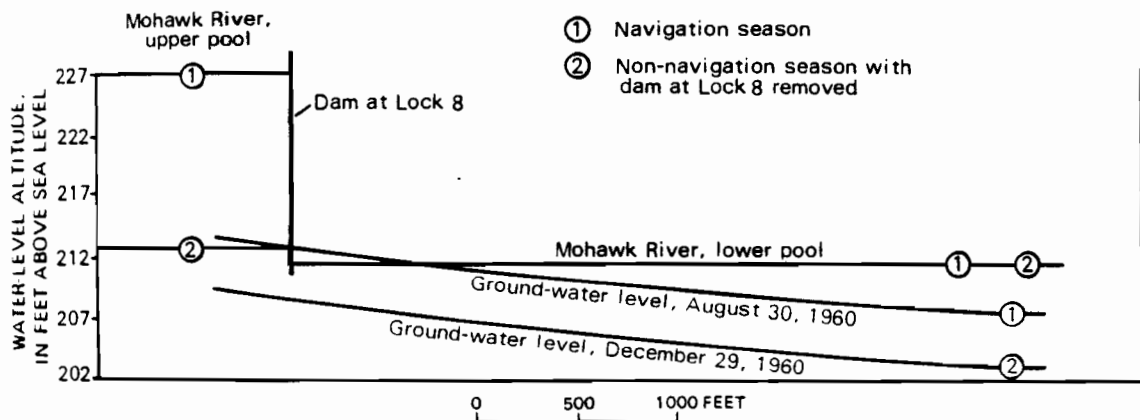
Water-table fluctuations and long-term trends in the aquifer are shown in figure 2G by the combined hydrograph of two observation wells approximately 0.3 miles apart near the municipal well fields of Schenectady and Rotterdam. (Well locations are shown in fig. 2F.) Because wells in this area are in close hydraulic connection with the river, the water level in the river is the predominant factor controlling the water level in the wells even though a pumpage of 21 Mgal/d is occurring nearby.

During the navigation season, which usually extends from early April to mid-December, the river level is controlled by a series of locks and dams. Both river and ground-water levels rise at the beginning of the navigation season and decline by a corresponding amount at the end of the season, producing a 2- to 4-foot seasonal change in water level in the vicinity of well Sn 363. The diagrammatic section along the river (fig. 2G) depicts the effect that opening the dam at lock 8 in 1960 had on water levels in nearby wells.

FIGURE 2G SCHENECTADY AREA
Temporal trends in ground-water levels



Hydrograph showing seasonal water-level fluctuations in observation wells near well fields of Schenectady and Rotterdam. Well locations are shown in figure 2F.



Profile along Mohawk River at Schenectady showing relationship of controlled seasonal changes of river level to water levels in aquifer during navigation and non-navigation seasons. Location of lock is shown in figure 2F. (Modified from Winslow and others, 1965.)

2 SCHENECTADY AREA

H. Well yields

Coarse deposits in hydraulic contact with the river provide the largest yields

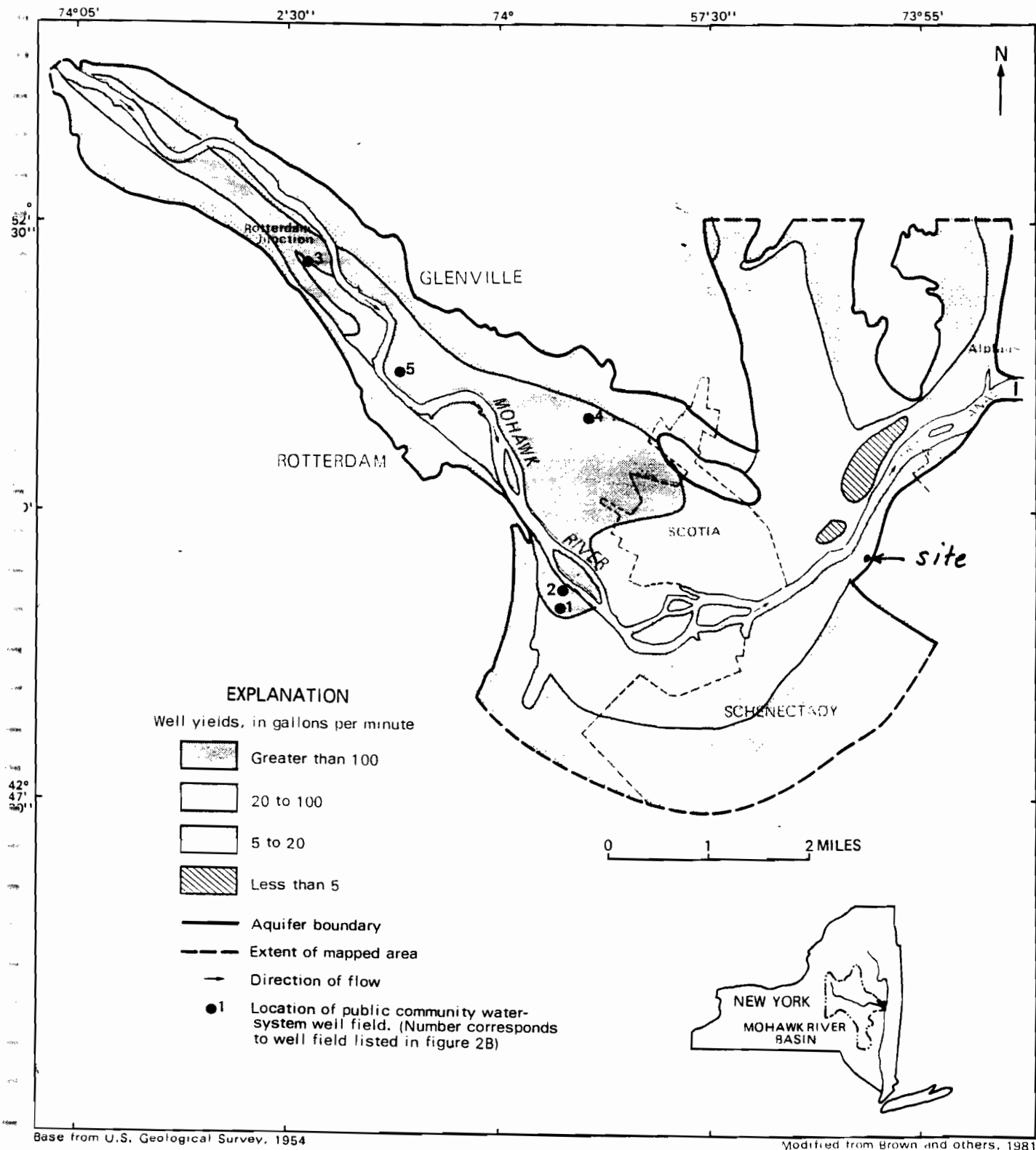
Well yields differ greatly from place to place depending on the composition of the aquifer material and proximity to the Mohawk River. Yields as high as 3,500 gallons per minute may be obtained from the coarse sand and gravel deposits along the river.

The largest well yields are obtained from the coarse sand and gravel deposits that underlie the flood plain in the northwest part of the aquifer (fig. 2H). Nearly all the aquifer's large-capacity wells are in this area; some yield more than 3,500 gal/min. Most of the water pumped from these wells is derived by induced infiltration from the river. Any properly constructed well tapping these deposits may be expected to easily yield at least 100 gal/min.

Yields of 20 to 100 gal/min may be expected in areas containing kame sand and gravel deposits or relatively thick flood-plain deposits. Well yields from kames or flood-plain deposits near the Mohawk River may be as high as 350 gal/min.

Lake sands and silts in the northeast and southern parts of the aquifer generally yield from 5 to 20 gal/min to wells; thin flood-plain deposits along the sides of the valley have similar yields. The upper layers of the lake sands and silts are coarser grained, less silty, and yield more water than the lower layers. Yields from these lake deposits are adequate for domestic wells and some small public supplies. Wells tapping some of the coarser lake sand may obtain as much as 100 gal/min. Wells tapping lake silt and clay have yields of less than 1 gal/min.

FIGURE 2H SCHENECTADY AREA
Well yeilds



2 SCHENECTADY AREA

1. Soil-zone permeability

Most soil overlying this aquifer is moderately to highly permeable

About three-quarters of this aquifer area is covered by sandy soil of moderate to high permeability. Extensive urbanization over the aquifer affects the soil permeability by disturbing or covering the soil surface and disrupting runoff patterns.

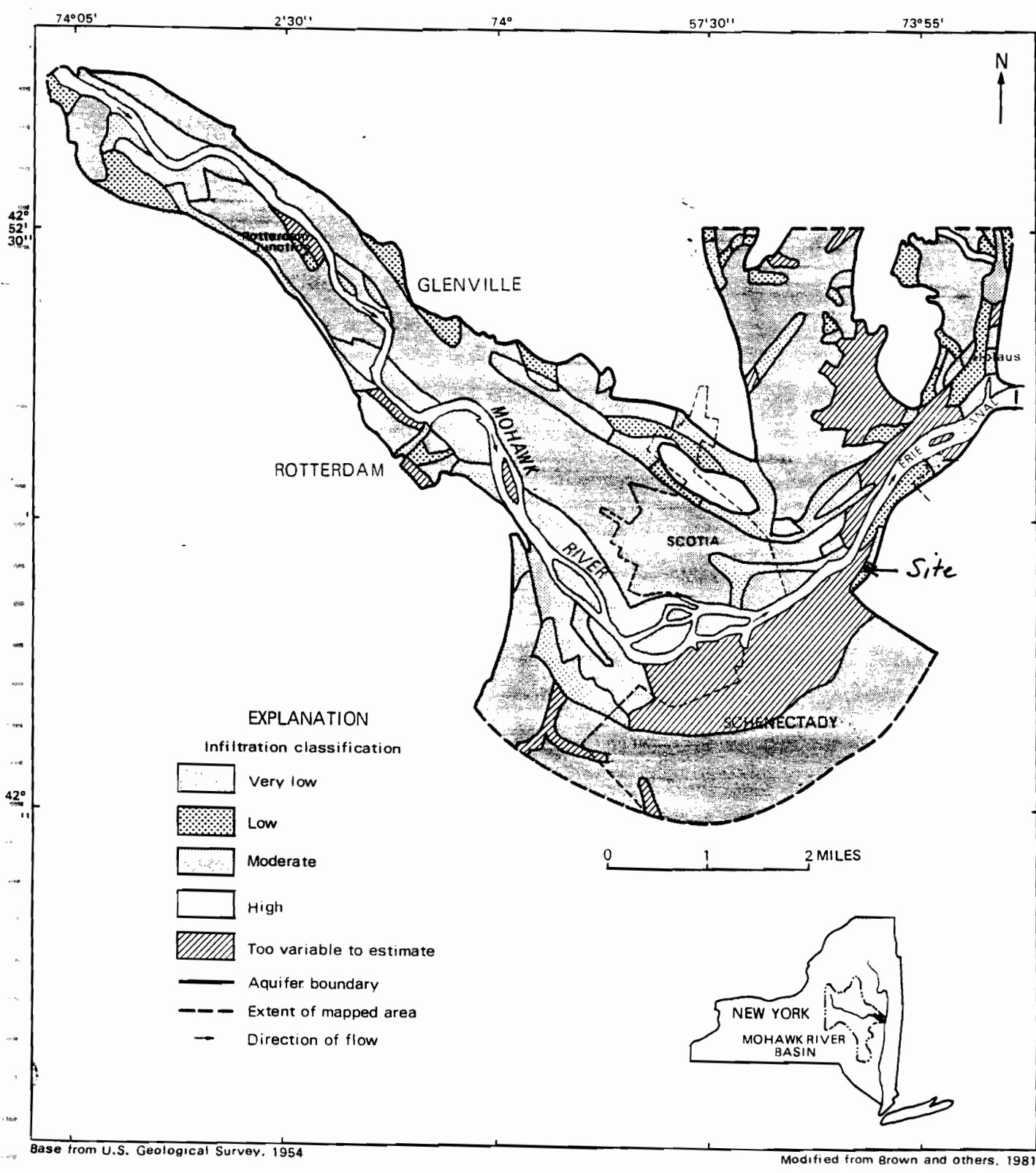
The soil-zone permeability map in figure 2I¹ indicates the generalized degree to which water can infiltrate through the soil zone. The soil zone is considered here to be only the weathered layer, which generally ranges in depth from 18 to 30 inches. The permeability classification in figure 2I is based on several factors, including surface drainage, slope, soil texture, depth to seasonal high water table, presence or absence of a fragipan (water-impeding layer), average soil-infiltration rates, septic-tank soil-percolation tests, and some engineering properties such as linear shrinkage and soil compressibility.

The soil overlying about half the aquifer has a high water-transmitting potential, and the soil overlying about three-quarters of the area can be classified in the moderate to high range. The effects of urbanization, such as the diversion of runoff to storm sewers and the disturbance or paving over of the soil, need to be considered in map interpretation.

The hills surrounding the aquifer are covered with till, which is rich in clay and ranges from low to moderate permeability. In contrast, the soils overlying most of the aquifer are relatively permeable and offer little protection against infiltration to the aquifer from land surface.

¹ This map is derived from soil-survey maps by Lounsbury (1942) and Davis and Landry (1978) by grouping soils with similar permeability.

FIGURE 21 SCHENECTADY AREA
Soil-zone permeability



2 SCHENECTADY AREA

J. Land use

Much of the area is urban, but several rural areas remain

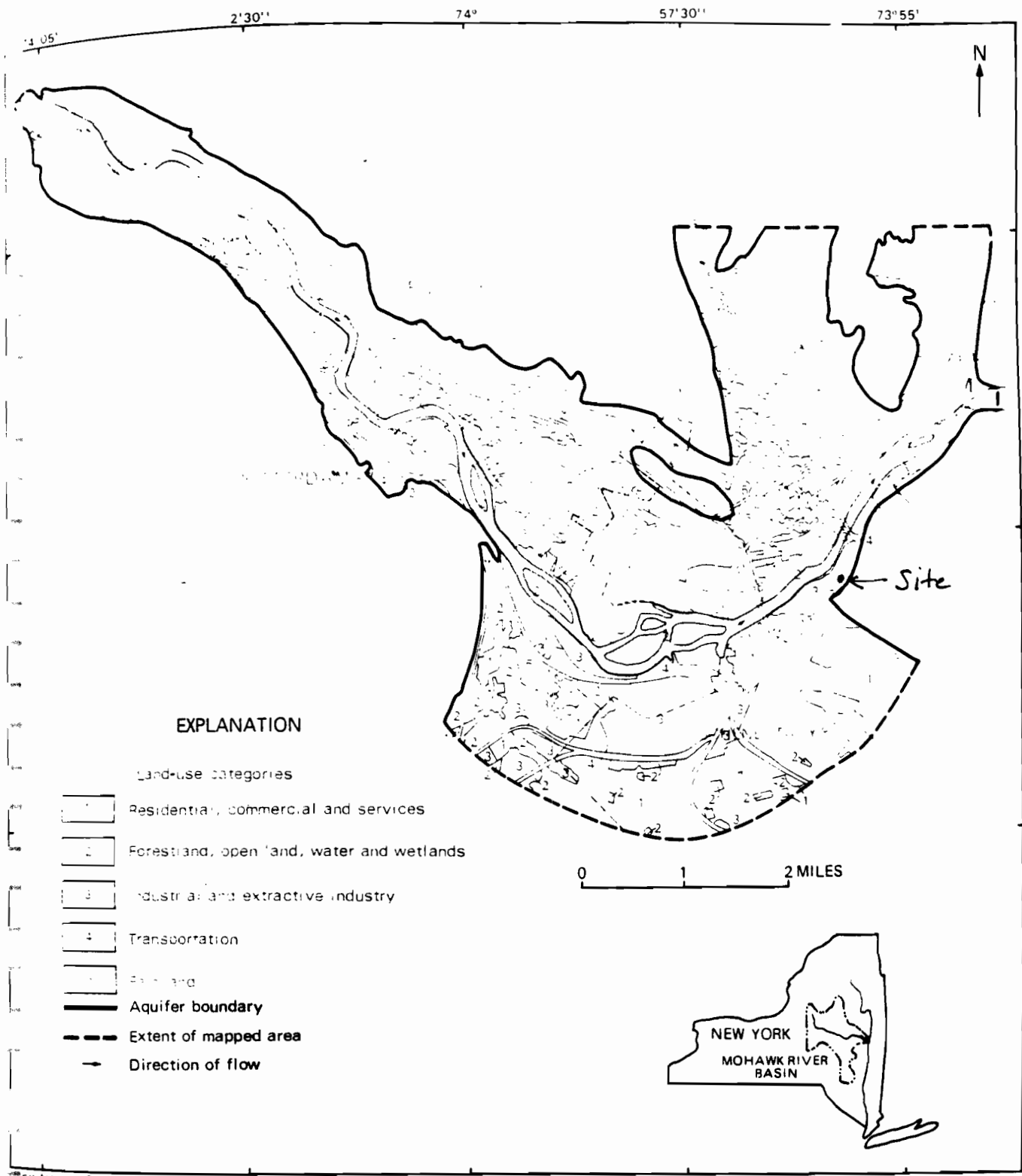
*The flat land surface above this aquifer has led to extensive urbanization.
The largest land-use category is residential-commercial.*

The land overlying the aquifer has been extensively developed, yet some farmland remains (fig. 2J)¹. Development is concentrated within the valley because the surrounding hillsides are generally too steep for most purposes.

The largest single land-use category¹ in terms of area is residential and commercial. The second largest includes open public land, forest, and wetlands. Industrial and extractive uses (sand and gravel mining) occupy about 8 percent of the land surface over the aquifer; many of these areas in the northwest part of the aquifer are sand and gravel pits. The railroad and highway networks are concentrated on the flat land over the aquifer and occupy a significant part of it. Suburban areas surrounding the aquifer are expected to grow, and outlying areas are expected to become more suburbanized (C.T. Male Associates, P.C., 1978, p. 7).

¹ Figure 2J is a modified and generalized version of a land-use inventory prepared jointly by the Schenectady County Environmental Advisory Council and the Schenectady County Planning Department (1977).

FIGURE 2J SCHENECTADY AREA



Source from U.S. Geological Survey, 1954

2 SCHENECTADY AREA

K. Present and potential problems

This aquifer may be vulnerable to contamination from surface sources

Ground water at the well fields is of excellent quality for drinking at present, but potential sources of pollution are on and near the aquifer.

Ground-water quality in the vicinity of the present well fields meets all State and Federal standards for drinking (U.S. Geological survey, 1980, and Allen and Waller, 1981). However, many potential sources of pollutants, both on the aquifer and in the area bordering it, could pose a threat. These sources include sewage-treatment plants, industrial and military facilities, landfills, dumping sites for septic-tank wastes, and transportation routes and facilities with their associated traffic. Urban runoff, polluted river water, and chemical and petroleum spills are other potential sources.

C.T. Male Associates, P.C. (1978) report on "critical areas" of the aquifer for present and future water development (fig. 2K). Factors considered in the selection of these critical areas were current and projected land use, hydrologic character of the site, distance of the location from anticipated water users, and the practicality of developing the new areas into well fields. Hydrologic characteristics included such properties as composition and thickness of the aquifer material, potential for infiltration of water from the Mohawk River, storage potential, river and ground-water levels, and water quality of tributary streams flowing across the aquifer.

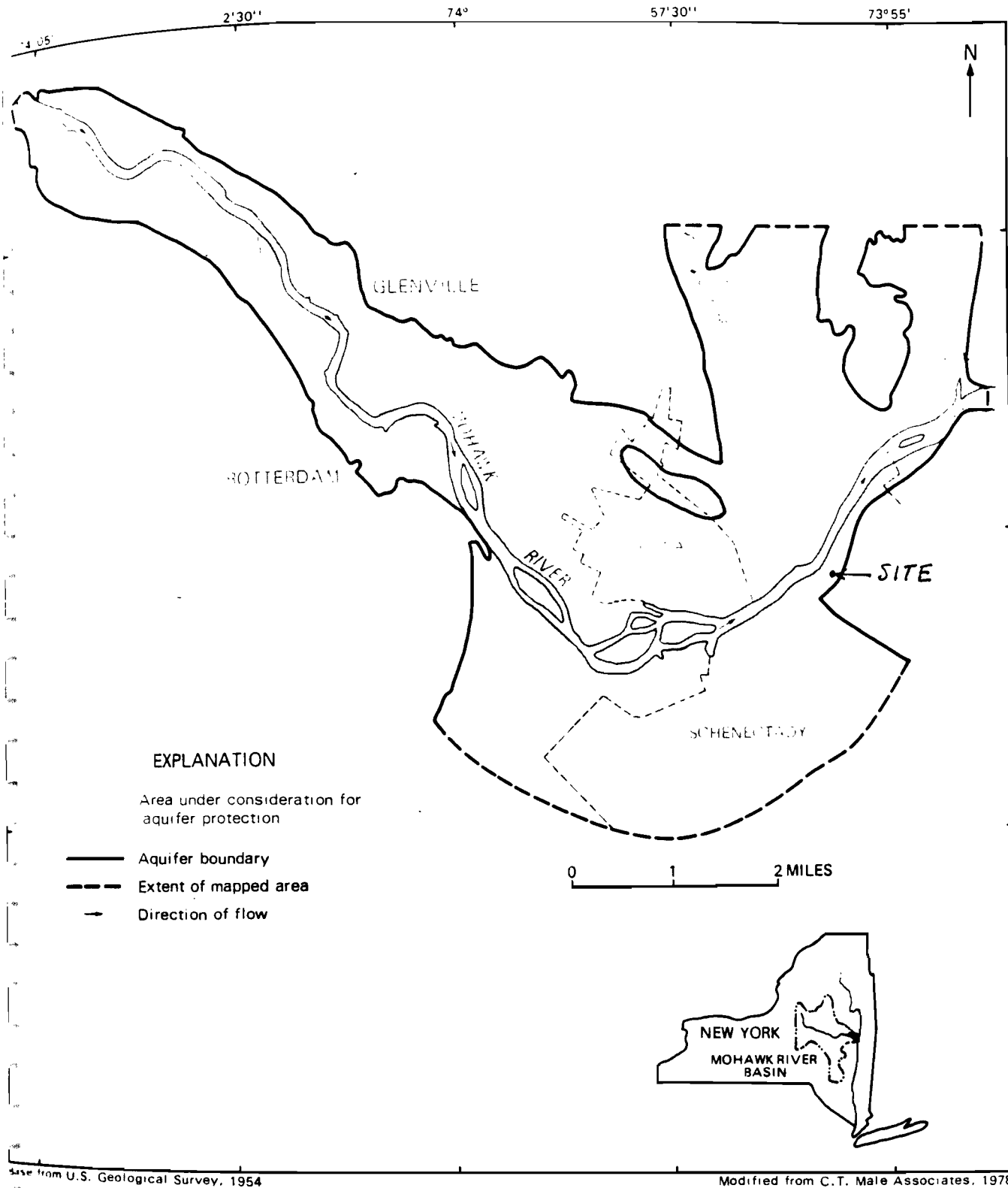
In 1961, the U.S. Geological survey sampled water from the Schenectady well field for tritium and beta radioactivity in an effort to study the possible contamination of the aquifer by fallout in the Mohawk River from nuclear weapons testing (Winslow and others, 1965). Results indicated that the movement of water from the river through the aquifer to the wells filtered the water and reduced the radioactivity to nonhazardous levels.

C.T. Male Associates, P.C. (1978) reported that the only substances in ground water that had exceeded State-recommended maximum levels were iron, manganese, and phenols. The phenols, which had probably infiltrated to the wells from the Mohawk River, were detected only in very small concentrations and on rare occasions.

Kim and Stone (1979) reported that small quantities of organic contaminants may be present in the water supplies. The Schenectady supply had 46 µg/L (combined) bis(2-ethylhexyl)phthalate, toluene, and trichloroethylene; the Rotterdam supply had 4 µg/L (combined) ethylbenzene, phenol, toluene, and trichloroethylene. Schroeder and Snavely (1981) concluded that the reported concentrations were within the range of laboratory error.

Allen and Waller (1981) reported an increase in chloride concentrations in water from the Schenectady city well field from 6 mg/L in the 1940's to 18 mg/L in the 1970's. The source was judged to be road salt, a conclusion supported by Peters and Turk (1981), who reported that the salting of roads accounted for virtually all the increase in sodium and chloride in the Mohawk River since 1952-53. Higher values of chloride were reported in water from other wells (Allen and Waller, 1981); for example, chloride in water from the Rotterdam Junction well fields increased from 27 to 68 mg/L during 1960-73.

FIGURE 2K SCHENECTADY AREA
Present and potential problems



2 SCHENECTADY AREA

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2 SCHENECTADY AREA

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REFERENCE NO. 10

000000
02-9012-15

OSRIRF 10/12/87
Page 1 of 5

PRELIMINARY ASSESSMENT
OFF SITE RECONNAISSANCE
INFORMATION REPORTING FORM

Date: 12-17-90

Site Name: United Plating, Inc TDD: 02-9012-15

Site Address: 1776 Foster Ave
Street, Box, etc.

Schenectady
Town

Schenectady
County

New York
State

NUS Personnel:	Name	Discipline
	<u>Bob Kirkjian</u>	
	<u>Nick Kiles</u>	

Weather Conditions (clear, cloudy, rain, snow, etc.):

Clear, approx. 40-45°F

Estimated wind direction and wind speed: Winds from the west at 10-15 MPH

Estimated temperatures: 40-45°F

Signature: B. Kirkjian Date: 12-17-90

Countersigned: N.D. Kiles Date: 12/17/90

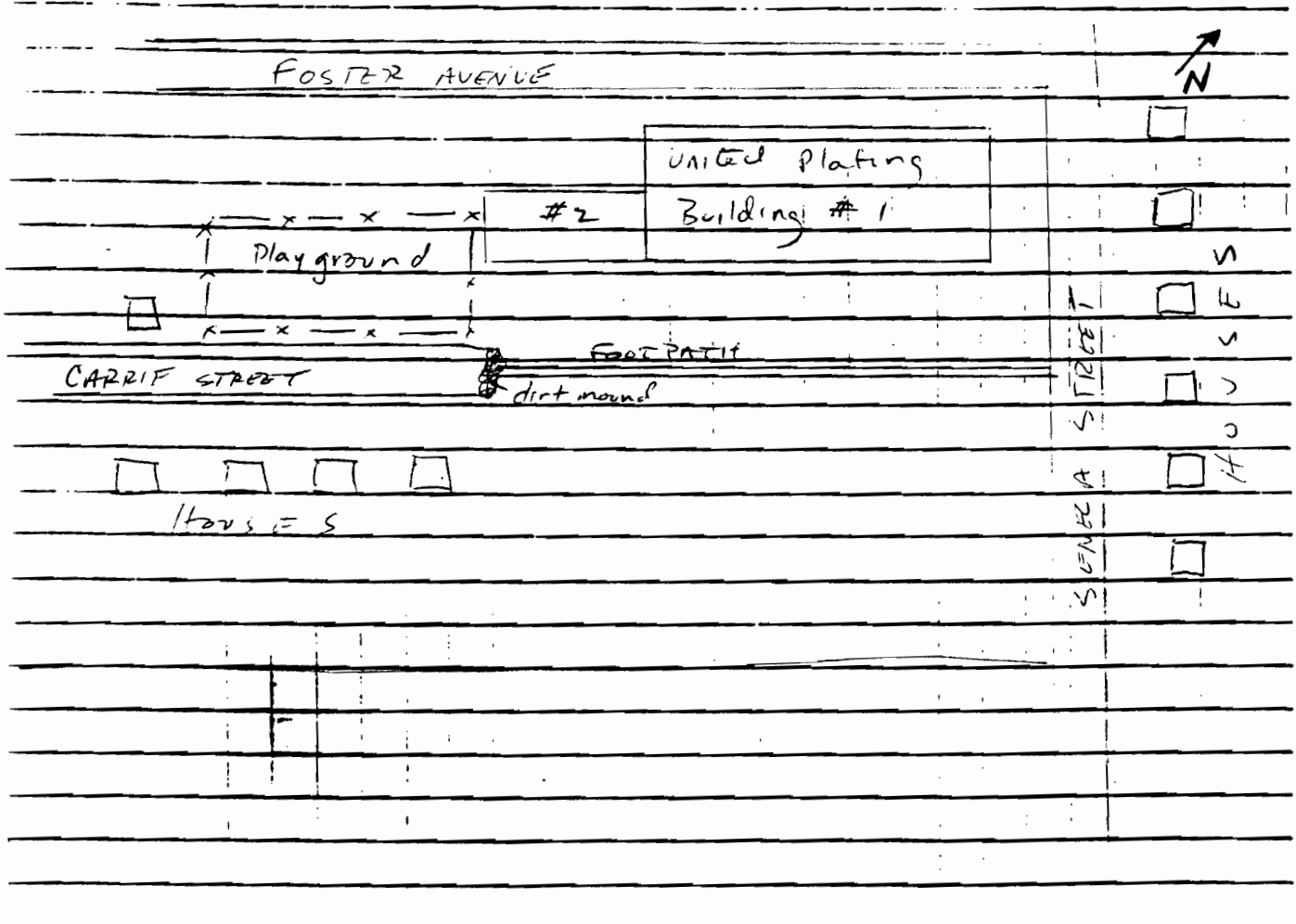
PRELIMINARY ASSESSMENT
INFORMATION REPORTING FORM

Date: 12-13-90

Site Name: United Plating, Inc TDD: 02-9012-18

Site Sketch:

Indicate relative landmark locations (streets, buildings, streams, etc.).
Provide locations from which photos are taken.



Signature: R. Kennedy

Date: 12-17-90

Countersigned: N.D. Wi

Date: 12/17/90

PRELIMINARY ASSESSMENT
INFORMATION REPORTING FORM

Date: 12-13-90

Site Name: United Plating, Inc.

TDD: 112-9012-18

Notes (Periodically indicate time of entries in military time):

Arrival time : 1140

Drove around site noting surrounding areas -
playground to the S.W., houses along Seneca street, the
field adjacent and in the rear of the facility. Took
Photographs P1- P5.

1158 Met with Charlie Fitzsimmons - photographed
his files.

Met with representatives of OHM
Walked perimeter of site taking photos
P-6 - P10

1300 left site

Signature: B. Kim [Signature]

Countersignature: N.W. [Signature]

Date: 12-17-90

Date: 12/17/90

PRELIMINARY ASSESSMENT
INFORMATION REPORTING FORM

Date: 12-13-90

Site Name: United Plating, Inc

TDD: 02-9012-18

Notes (Cont'd):

[The following section contains 15 horizontal lines for notes. A diagonal line is drawn across these lines from the bottom left to the top right.]

Attach additional sheets if necessary. Provide site name, TDD number, signature, and countersignature on each.

Signature: B. Van Hise

Date: 12-17-90

Countersignature: NJ-Kr

Date: 12/17/90

PRELIMINARY ASSESSMENT
INFORMATION REPORTING FORM

Date: 12-13-90

Site Name: United Plating, Inc.

TDD: 02-9012-18

Photolog:

Frame/Photo Number	Date	Time	Photographer	Description
<u>P1</u>	<u>12-13</u>	<u>1146</u>	<u>N. Kides</u>	<u>Looking N at back of United Plating, Inc. building.</u>
<u>P2</u>	<u>12-13</u>	<u>1147</u>	<u>N. Kides</u>	<u>Looking NW at back of United Plating, Inc. building.</u>
<u>P3</u>	<u>12-13</u>	<u>1148</u>	<u>N. Kides</u>	<u>Looking N at 30° counter clockwise at back of building.</u>
<u>P4</u>	<u>12-13</u>	<u>1150</u>	<u>N. Kides</u>	<u>Looking N at 30° clockwise across field in back of UPE building.</u>
<u>P5</u>	<u>12-13</u>	<u>1151</u>	<u>N. Kides</u>	<u>Looking N at playground adjacent to UPE building.</u>
<u>P6</u>	<u>12-13</u>	<u>1236</u>	<u>N. Kides</u>	<u>Looking SW at metal shed.</u>
<u>P7</u>	<u>12-13</u>	<u>1237</u>	<u>N. Kides</u>	<u>Looking NW at back of UPE building.</u>
<u>P8</u>	<u>12-13</u>	<u>1243</u>	<u>N. Kides</u>	<u>Looking East debris in back of UPE building.</u>
<u>P9</u>	<u>12-13</u>	<u>1246</u>	<u>N. Kides</u>	<u>Looking S at front of westernmost building.</u>
<u>P10</u>	<u>12-13</u>	<u>1248</u>	<u>N. Kides</u>	<u>Looking NE at front of UPE building.</u>

Attach additional sheets if necessary. Provide site name, TDD number, signature, and countersignature on each.

Signature: B. Kimbrian

Date: 12-17-90

Countersignature: NJ. Kimbrian

Date: 12/17/90

REFERENCE NO. 11

TO: United Plating, Inc. DATE: 3/22/91
FROM: Valerie Mathers COPIES:
SUBJECT: Wetlands in vicinity of site and within 15 miles of the point of surface water entry.
REFERENCE: File

The NYSDEC regards information identifying the location of sensitive environments, including wetlands, to be confidential and unavailable to the general public. The purpose of this project note, therefore, is to define the wetlands that exist within 200 feet of the site United Plating, Inc. in Schenectady, New York, and within 15 miles downstream on the Mohawk River from the point where runoff from the site would be expected to ^{enter} the river. The reference for this information is in the file for United Plating, Inc., TDD No. 02-9012-18-PA.

Within 200 feet of the site, there are no wetlands. From the point of site runoff entry into the Mohawk River to a distance 15 miles downstream, there are 8 wetland areas either in or adjacent ^{to the} river of varying classification and frontage. All are greater than 12.4 acres in area. These are listed as follows from the closest wetland to the farthest ~~from~~ (VAM) downstream:

	<u>Classification</u>	<u>Wetland Frontage (miles)</u>
1	S-112	0.19
2	S-107	0.08
3	S-108	0.30
4	N-101	1.14
5	N-102	0.83
6	N-17	1.40
7	N-4	2.35
8	N-7	0.68

Note that there are only wetlands identified in Region 4 of the NYSDEC, the closest of which is 0.6 miles from the point of surface

water entry of runoff from the site.

VAM 3/22/91

REFERENCE NO. 12



Water Resources Data New York Water Year 1988

Volume 1. Eastern New York excluding Long Island

by Gary D. Firda, Richard Lumia and Patricia M. Burke



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT NY-88-1
Prepared in cooperation with the State of New York
and with other agencies

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16. Abstract (Limit: 200 words) Water resources data for the 1988 water year for New York consist of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and water levels in observation wells. This volume contains records of water discharge at 93 gaging stations; stage only at 4 gaging stations; and stage and contents at 4 gaging stations, and 19 other lakes and reservoirs; water quality at 37 gaging stations; and water levels at 25 observation wells. Locations of these sites are shown on figures 7A and 7B. Also included are data for 29 crest-stage partial-record stations. Additional water data were collected at various sites not in the systematic data-collection program and are published as miscellaneous measurements. These data, together with the data in volumes 2 and 3, represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in New York.			
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GAGING STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

[Letter after station name designates type of data: (d) discharge, (e) elevation, (g) gage height, (v) contents, (c) chemical, (b) biological, (s) sediment, (m) minor element, (n) nutrient, (o) organic, (r) radiochemical, (t) water temperature]

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HUDSON RIVER BASIN

01347000 MOHAWK RIVER NEAR LITTLE FALLS, NY

LOCATION.--Lat 43°00'52", long 74°46'48", Herkimer County, Hydrologic Unit 02020004, on left bank 1,800 ft downstream from Rocky Rift Dam, 2.1 mi upstream from East Canada Creek, and 4.5 mi southeast of city of Little Falls.

DRAINAGE AREA.--1,342 mi².

PERIOD OF RECORD.--October 1927 to current year.

REVISED RECORDS.--WSP 741: 1929(M). WSP 1302: 1901, 1932(M). WSP 1432: 1928-30. WDR NY-85-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 308.84 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Records good except those for estimated daily discharges, which are poor. Records of daily discharge do not include diversion at Rocky Rift Dam into Erie (Barge) Canal for lockages at lock 16, near St. Johnsville. Monthly and annual figures of diversion at Rocky Rift Dam are published separately below. During canal navigation season, water is received from Black River basin through Black River Canal flowing south, and from Chenango River basin through Oriskany Creek feeder. Water is diverted into (or may occasionally be received from) Oswego River basin through summit level of Erie (Barge) Canal between New London and Utica. Diurnal fluctuation caused by powerplants and locks and dams on Erie (Barge) Canal. Regulation by Delta and Hinckley Reservoirs (combined usable capacity, 6,120 mil ft³) (see Reservoirs in Hudson River Basin). Telephone gage-height telemeter at station.

COOPERATION.--Figures of diversions at Rocky Rift Dam into Erie (Barge) Canal provided by New York State Department of Transportation.

AVERAGE DISCHARGE.--61 years, 2,793 ft³/s. *

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (river channel only), 33,100 ft³/s, Mar. 14, 1977, gage height, 19.17 ft, from floodmark in gage house; minimum discharge (river channel only), 214 ft³/s, Aug. 18, 1949, gage height, 3.75 ft; minimum daily discharge (including canal), probably not less than 463 ft³/s, Sept. 2, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 16,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 26	0915	*14,100	*12.71				

Minimum discharge (river channel only), 468 ft³/s, June 20, 22, July 4, 9, gage height, 4.37 ft; minimum daily (river channel only), 687 ft³/s, Sept. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1370	2850	5320	1550	4920	1650	4100	4070	1050	977	1000	878
2	1470	2680	5330	1540	8090	1300	3850	3250	1130	854	879	687
3	1230	2740	4180	1320	5600	1410	4200	3130	1130	829	745	826
4	1610	3320	3710	1380	3680	1440	6500	2580	1060	758	808	787
5	1240	3470	3550	1450	2700	1240	7790	2450	991	736	905	932
6	1510	3570	3340	e1000	2030	1330	6870	2080	921	1040	1160	956
7	1930	3490	2480	e1200	1880	1410	6020	1930	1060	696	1620	918
8	2070	3660	1820	e1000	1750	1470	6140	1820	1050	737	1150	957
9	2090	5480	2000	e900	1780	1690	6360	1730	1070	728	907	1170
10	2000	5720	3830	e840	1770	3990	5160	1770	1060	779	862	1260
11	2130	4310	2960	e980	1700	4360	4160	1930	1050	730	810	1240
12	2490	3690	2400	e920	1650	3410	3680	1850	959	735	815	1280
13	2310	3630	2500	e1100	1640	3000	3350	1730	955	750	787	1340
14	2140	3620	2520	e980	1670	3270	3080	1710	850	787	744	1370
15	2040	3400	2410	e900	1660	3000	2660	1570	916	1510	814	1310
16	1970	3300	2470	e800	1720	2610	2480	1920	850	1100	888	1290
17	1970	3040	2390	e1000	1640	2180	2800	2280	746	948	783	1300
18	1960	2940	2090	1540	1590	2080	2050	1750	875	1060	763	1440
19	1910	3290	2070	2420	1640	2010	1920	1970	817	853	759	1380
20	1920	3090	2100	2750	1730	1880	2190	3170	795	823	808	1150
21	2260	2940	3140	3130	1860	1620	2120	4420	797	1780	716	1290
22	2350	2640	3300	3060	1680	1500	2020	4400	849	4460	706	1730
23	2290	1660	2710	2240	1780	1420	1840	2410	1210	2170	714	1890
24	2380	1650	2360	1870	1990	2360	1910	2240	1240	1420	1010	2150
25	2470	1610	2630	1720	1870	5620	2240	2040	919	1040	1310	1700
26	2470	1890	3530	1610	1850	11700	2190	2180	869	1000	1180	1500
27	2310	1930	2950	1500	1830	10500	2040	1720	965	1020	986	1430
28	6380	1740	2400	1440	1760	7870	4760	1430	776	973	915	1180
29	5090	1700	2100	1400	1690	5680	4500	1140	825	913	1480	1070
30	3720	5390	1660	1400	---	4430	4450	1200	839	841	1750	1030
31	3200	---	1330	1820	---	4220	---	1060	---	1090	1210	---
TOTAL	72280	94440	87580	46760	67150	101650	113430	68930	28624	34137	29984	37441
MEAN	2332	3148	2825	1508	2316	3279	3781	2224	954	1101	967	1248
MAX	6380	5720	5330	3130	8090	11700	7790	4420	1240	4460	1750	2150
MIN	1230	1610	1330	800	1590	1240	1840	1060	746	696	706	687
±	16.9	4.5	0.1	0	0	0	0.2	26.3	24.9	28.4	26.2	25.9

CAL YR 1987 TOTAL 882590 MEAN 2418 MAX 12400 MIN 841 ± 12.6
WTR YR 1988 TOTAL 782406 MEAN 2138 MAX 11700 MIN 687 ± 12.8

e Estimated

± Diversion, equivalent in cubic feet per second, at Rocky Rift Dam into Erie (Barge) Canal for lockages at Lock 16.

HUDSON RIVER BASIN

01357500 MOHAWK RIVER AT COHOES, NY

LOCATION.--Lat 42°47'07", long 73°42'29", Albany County, Hydrologic Unit 02020004, on right bank at Niagara Mohawk Power Corp. School Street powerplant in Cohoes, and 2.0 mi upstream from mouth.

DRAINAGE AREA.--3,456 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1917 to current year. Monthly discharge only for some periods, published in WSP 1302. Prior to July 17, 1925, published as "at Crescent Dam".

REVISED RECORDS.--WSP 741: Drainage area. WSP 1302: 1919-23 (M).

GAGE.--Water-stage recorder. Datum of gage is 49.13 ft above National Geodetic Vertical Datum of 1929. Dec. 1, 1917, to July 16, 1925, water-stage recorder at site 1.7 mi upstream at Crescent Dam at datum 130.87 ft higher. July 17 to Oct. 19, 1925, powerplant gage at present site.

REMARKS.--No estimated daily discharges. Records good. Total flow of Mohawk River equals flow published at Cohoes which includes small diversion for Cohoes water supply, plus flow diverted at Crescent Dam to Barge Canal through Lock 6. Prior to 1926 records published as total flow. See Diversions in Hudson River Basin for regulation and diversions upstream from this station. Telephone gage-height telemeter at station.

COOPERATION.--Diversions through Barge Canal at Lock 6 provided by New York State Department of Transportation.

AVERAGE DISCHARGE.--7 years (water years 1919-25), 5,820 ft³/s, includes diversion at Lock 6; 63 years (water years 1926-88), 5,666 ft³/s, unadjusted. *

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 143,000 ft³/s, Mar. 6, 1964, result of release from ice jam, gage height, 23.15 ft, from rating curve extended above 110,000 ft³/s; minimum discharge, 6 ft³/s, Sept. 18, 1941, gage height, 3.40 ft; minimum daily, 23 ft³/s, Aug. 24, 1941.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 41,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 28	1234	*40,000	*16.93				

Minimum discharge, 149 ft³/s, June 30, gage height, 4.76 ft; minimum daily discharge, 274 ft³/s, July 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2520	8230	14800	1870	3440	2670	10200	6690	2960	990	1100	2030
2	2230	5670	12600	3120	13500	2710	10500	4900	2810	560	949	1930
3	2570	6750	10100	2990	16000	2470	9920	4850	2510	1020	1100	1400
4	4900	6340	8430	2940	10300	2430	11600	4620	2390	1030	921	995
5	8250	6550	6470	2500	6570	2430	16400	3530	2490	993	691	2030
6	8050	6490	5820	2000	5110	2440	14800	3540	1890	904	1020	2700
7	7480	6280	5210	1340	4120	2360	12200	3350	1080	890	1070	1460
8	10900	5990	4400	2250	3530	2500	10700	3140	1100	834	1790	1320
9	6540	6310	3710	1910	3720	3100	10200	2740	1320	881	1410	1420
10	5680	8670	3940	1910	3500	4940	9290	2460	1510	431	520	1370
11	5070	8110	6330	1640	3540	10100	7630	3030	1150	274	899	1450
12	6670	6970	5470	2030	3220	9080	6470	2170	1160	501	911	1020
13	6490	5620	4670	1930	3010	7650	5030	2600	1250	1060	873	1380
14	4980	5960	4690	2350	3100	8730	2480	2510	1180	656	820	2130
15	4210	6380	4640	1880	2990	8320	2880	2550	940	870	1090	1640
16	4370	5980	4630	1840	3020	6640	3230	2190	1340	1400	1250	1110
17	3810	5280	4620	1810	3490	5360	3690	2890	1010	1640	535	1060
18	2860	4340	4210	1990	3460	4710	3840	3960	894	1340	634	1800
19	3420	6220	3700	2270	3320	4430	2500	3280	441	1220	597	2400
20	3430	6550	3570	3220	3190	4020	1130	7250	559	1050	671	1290
21	3590	5990	3590	5110	3410	3520	865	13200	1240	1890	634	1470
22	4260	5260	4850	5500	3580	2970	999	15800	807	7640	576	1300
23	4460	4420	5150	4980	3360	2780	1580	8670	1080	4450	656	2150
24	4400	3540	4580	3980	3390	2910	2880	6280	1220	3480	924	2490
25	4220	2780	4210	3250	3450	6540	2660	7560	1120	1870	945	3130
26	4000	4680	6080	3030	3210	22100	1800	13300	1150	1970	1590	1480
27	4150	3980	6510	2790	3140	32100	2330	8280	1140	1390	1490	1540
28	25600	4160	5170	2050	2960	23100	7050	6120	969	1280	1340	1700
29	25800	4750	4350	2360	2630	15200	12900	4220	1150	1000	2960	1660
30	12900	7330	2510	2260	---	11700	9360	3540	686	1000	7920	1510
31	8330	---	2210	2460	---	10500	---	2980	---	1360	4230	---
TOTAL	206140	175580	171220	81560	131260	230510	197114	162200	40546	45874	42116	50365
MEAN	6650	5853	5523	2631	4526	7436	6570	5232	1352	1480	1359	1679
MAX	25800	8670	14800	5500	16000	32100	16400	15800	2960	7640	7920	3130
MIN	2230	2780	2210	1340	2630	2360	865	2170	441	274	520	995

CAL YR 1987 TOTAL 1943393 MEAN 5324 MAX 67400 MIN 510
WTR YR 1988 TOTAL 1534485 MEAN 4193 MAX 32100 MIN 274

REFERENCE NO. 13

CONTROL NO.:

02-9012-18

DATE:

2/21/91

TIME:

13:45

DISTRIBUTION:

United Plating, Inc. NYPIPA

BETWEEN:

Tax and Zoning Clerks

OF:

City of Schenectady
New York

PHONE:

(518) 382-5016

AND:

Valerie Mathers

(NUS)

DISCUSSION:

Contacted the Tax and Zoning offices of the City of Schenectady, New York to obtain information on the Block and Lot Numbers of United Plating, Inc. and how the site and nearby properties are zoned. According to the tax clerk, the actual street address of United Plating, Inc. is 1740-42 Foster Avenue. The postal address, however, can differ from that used for tax purposes by the City. This may explain why the mailing address, 1776 Foster Avenue, for United Plating, Inc. differs from that of the address listed by the tax office. The tax Block and Lot numbers for the site, United Plating, Inc., were given as follows:

Section	Subsection	Block	Lot	Sublot
↓	↓	↓	↓	↓
39.43	-	1	-	1.11

ACTION ITEMS:

According to the zoning clerk, the actual location of United Plating, Inc. is zoned "Light Industrial (G)". At the intersection of Seneca and Foster Avenue, the corner west of United Plating is also zoned G, while the corners north and northwest of the site are zoned "Two Family (B-2)".

REFERENCE NO. 14

NUS CORPORATION AND SUBSIDIARIES

TELECON NOTE

CONTROL NO.:

02-9012-18

DATE:

3/13/91

TIME:

16:05

DISTRIBUTION:

United Plating, Inc. NY PIPA

BETWEEN:

Carl S. Derwig / Asst. Chief

OF:

Schenectady Fire
Dept., Schenectady, NY

PHONE:

(518) 382-5741

AND:

Valerie Mathers

(NUS)

DISCUSSION:

Contacted the Schenectady Fire Department to inquire about industries or commercial operations, essentially places where people be employed, that would be within 200 ft. of the property boundaries of ~~G~~^{UN} United Plating, Inc. According to Carl Derwig, the Assistant Chief of the fire department, there are homes across the street from the site along Seneca Street and the Schenectady City Garage on Foster Ave., also across the street from the site but perpendicular to Seneca St. Municipal vehicles are repaired at the garage which employs approximately 40 people.

ACTION ITEMS:

VAM
3/13/91

REFERENCE NO. 15



October 10, 1990

*New York State Department of
Environmental Conservation
Gary Johnston
2176 Guilderland Avenue
Schenectady, New York 12306*

Dear Ms. Johnston:

Due to the extreme difficulties that United Plating Corp. has incurred, we no longer have the funds to continue to operate. As far as I know we have operated United Plating under the same acceptable guidelines as all other metal finishing and plating operations. I am available to answer any questions or to assist any government agencies concerning the clean-up of my company. If you have an futher questions, please do not hesitate to contact me.

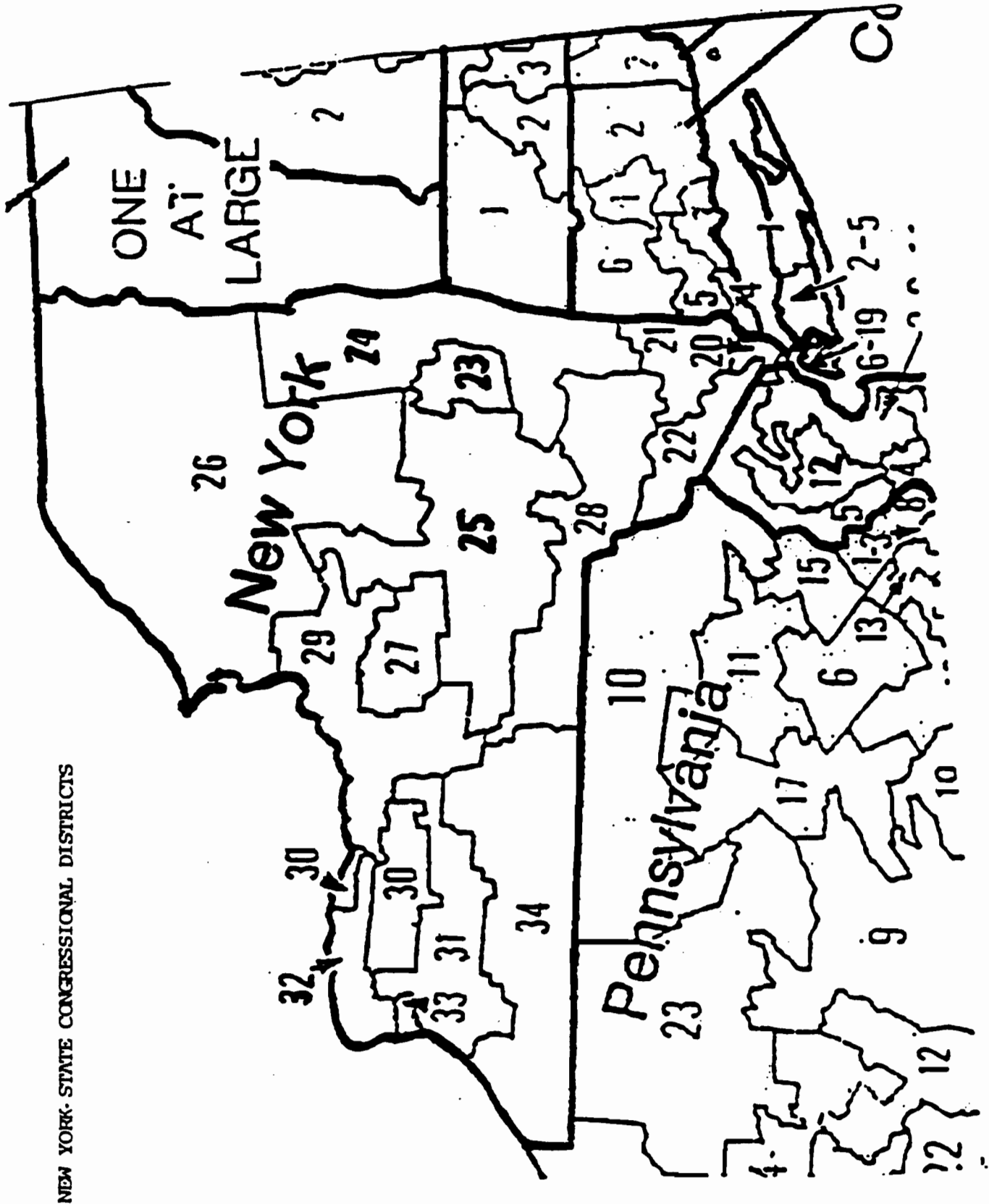
This letter is confirming my telephone conference with Gary Johnston of the Department of Environmental Conservation on October 2, 1990 at his home.

Very truly yours,

A handwritten signature in cursive script, appearing to read 'Chris LeGere'.
Chris LeGere

REFERENCE NO. 16

Reference: New York State Board of Elections, New York State
Legislative Task Force on Demographic Research and
Reapportionment, New York State Congressional Districts,
1984.



NEW YORK

Congressional District Identification—Continued

Table 1A. COUNTY SUBDIVISIONS—Continued

County	Congressional district	County subdivision	Congressional district
ALBANY	22	DIX TOWN	34
ALBANY	24	DOVER TOWN	21
ALBANY	26	DRESDEN TOWN	24
ALBANY	30	DRYDEN TOWN	25
ALBANY	27	DUANE TOWN	25
ALBANY	25	DUNESBURG TOWN	23
ALBANY	26	DUNKIRK TOWN	24
ALBANY	31	DURHAM TOWN	24
ALBANY	32	EAGLE TOWN	31
ALBANY	30	EAST BLOOMFIELD TOWN	24
ALBANY	22	EASTCHESTER TOWN	20
ALBANY	34	EAST FISHKILL TOWN	21
ALBANY	24	EAST GREENBUSH TOWN	24
ALBANY	27	EAST HAMPTON TOWN	1
ALBANY	26	EASTON TOWN	24
ALBANY	24	EAST OTTO TOWN	34
ALBANY	26	EATON TOWN	27
ALBANY	24	EDEN TOWN	31
ALBANY	26	EDINBURG TOWN	24
ALBANY	28	EDMISTON TOWN	25
ALBANY	34	EDWARDS TOWN	26
ALBANY	25	ELBA TOWN	20
ALBANY	22	ELBRIDGE TOWN	27
ALBANY	23	ELIZABETH TOWN	26
ALBANY	34	ELLENBURG TOWN	24
ALBANY	28	ELLERY TOWN	34
ALBANY	31	ELLICOTT TOWN	34
ALBANY	34	ELLICOTTVILLE TOWN	34
ALBANY	28	ELLINGTON TOWN	34
ALBANY	31	ELLISBURG TOWN	24
ALBANY	23	ELMA TOWN	31
ALBANY	26	ELMIRA TOWN	34
ALBANY	26	ENFIELD TOWN	34
ALBANY	24	EPHRAIM TOWN	26
ALBANY	31	ERIN TOWN	34
ALBANY	31	ERWIN TOWN	34
ALBANY	25	ESOPUS TOWN	28
ALBANY	34	ESPERANCE TOWN	25
ALBANY	28	ESSEX TOWN	25
ALBANY	29	EVANS TOWN	31
ALBANY	26	EXETER TOWN	25
ALBANY	29	FARIUS TOWN	27
ALBANY	24	FARFIELD TOWN	26
ALBANY	24	FALLSBURG TOWN	28
ALBANY	34	FARMERSVILLE TOWN	34
ALBANY	21	FARMINGTON TOWN	30
ALBANY	21	FAYETTE TOWN	29
ALBANY	25	FENNER TOWN	27
ALBANY	25	FENTON TOWN	28
ALBANY	27	FINE TOWN	26
ALBANY	31	FISHKILL TOWN	21
ALBANY	24	FLEMING TOWN	29
ALBANY	27	FLORENCE TOWN	29
ALBANY	25	FLORIDA TOWN	23
ALBANY	25	FLOYD TOWN	25
ALBANY	34	FORESTBURGH TOWN	22
ALBANY	25	FORESTPORT TOWN	25
ALBANY	28	FORT ANN TOWN	24
ALBANY	26	FORT COVINGTON TOWN	26
ALBANY	34	FORT FOWARD TOWN	24
ALBANY	26	FOULDER TOWN	26
ALBANY	30	FRANKFORT TOWN	26
ALBANY	25	FRANKLIN TOWN	25
ALBANY	24	FRANKLIN TOWN	26
ALBANY	34	FRANKLINVILLE TOWN	34
ALBANY	25	FREEDOM TOWN	31
ALBANY	25	FREETOWN TOWN	25
ALBANY	27	FREMONT TOWN	34
ALBANY	26	FRENCH CREEK TOWN	28
ALBANY	27	FRIENDSHIP TOWN	34
ALBANY	25	FULTON TOWN	25
ALBANY	28	GAINES TOWN	32
ALBANY	26	GAINESVILLE TOWN	31
ALBANY	28	GALLEN TOWN	29
ALBANY	27	GALLATIN TOWN	24
ALBANY	27	GALWAY TOWN	24
ALBANY	28	GARDINER TOWN	28
ALBANY	28	GATES TOWN	32
ALBANY	26	GEDDES TOWN	27
ALBANY	24	SCHUYLER	34
ALBANY	24	DUTCHESS	21
ALBANY	24	WASHINGTON	24
ALBANY	25	TOMPKINS	25
ALBANY	25	FRANKLIN	25
ALBANY	25	SCHENECTADY	23
ALBANY	24	CHAUTAUGUS	24
ALBANY	24	GREENE	24
ALBANY	31	WYOMING	31
ALBANY	24	ONTARIO	24
ALBANY	20	WESTCHESTER	20
ALBANY	21	DUTCHESS	21
ALBANY	24	PENNSELAR	24
ALBANY	1	SUFFOLK	1
ALBANY	24	WASHINGTON	24
ALBANY	34	CATTARAUGUS	34
ALBANY	27	MADISON	27
ALBANY	31	ERIE	31
ALBANY	24	SARATOGA	24
ALBANY	25	OTSEGO	25
ALBANY	26	ST. LAWRENCE	26
ALBANY	20	GENESEE	20
ALBANY	27	ONONDAGA	27
ALBANY	26	ESSEX	26
ALBANY	24	CLINTON	24
ALBANY	34	CHAUTAUGUS	34
ALBANY	34	CHAUTAUGUS	34
ALBANY	34	CATTARAUGUS	34
ALBANY	34	CHAUTAUGUS	34
ALBANY	34	JEFFERSON	24
ALBANY	31	ERIE	31
ALBANY	34	CHENANGO	34
ALBANY	34	TOMPKINS	34
ALBANY	26	FULTON	26
ALBANY	34	CHENANGO	34
ALBANY	34	STUBEN	34
ALBANY	28	ULSTER	28
ALBANY	25	SCHOMARIE	25
ALBANY	25	ESSEX	25
ALBANY	31	FRIE	31
ALBANY	25	OTSEGO	25
ALBANY	27	ONONDAGA	27
ALBANY	26	HEMLOCK	26
ALBANY	28	SULLIVAN	28
ALBANY	34	CATTARAUGUS	34
ALBANY	30	ONTARIO	30
ALBANY	29	SENECA	29
ALBANY	27	MADISON	27
ALBANY	28	ORIOLE	28
ALBANY	26	ST. LAWRENCE	26
ALBANY	21	DUTCHESS	21
ALBANY	29	CAYUGA	29
ALBANY	29	CNFIDA	29
ALBANY	23	MONTGOMERY	23
ALBANY	25	CNFIDA	25
ALBANY	22	SULLIVAN	22
ALBANY	25	ONEIDA	25
ALBANY	24	WASHINGTON	24
ALBANY	26	FRANKLIN	26
ALBANY	24	WASHINGTON	24
ALBANY	26	ST. LAWRENCE	26
ALBANY	26	HEMLOCK	26
ALBANY	25	DELAWARE	25
ALBANY	26	FRANKLIN	26
ALBANY	34	CATTARAUGUS	34
ALBANY	31	CATTARAUGUS	31
ALBANY	25	CUMTAND	25
ALBANY	34	STUBEN	34
ALBANY	28	SULLIVAN	28
ALBANY	34	CHAUTAUGUS	34
ALBANY	34	ALLEGANY	34
ALBANY	25	SCHOMARIE	25
ALBANY	32	ORLEANS	32
ALBANY	31	WYOMING	31
ALBANY	29	WAYNE	29
ALBANY	27	MADISON	27
ALBANY	27	ONONDAGA	27
ALBANY	28	LEWIS	28
ALBANY	28	BOONE	28
ALBANY	26	FRANKLIN	26

REFERENCE NO. 17

File
ATTORNEY WORK PRODUCT

MEMORANDUM

CONFIDENTIAL
PREPARED FOR LITIGATION

TO: JIM SEVINSKY
VAL WASHINGTON
JO KATZ
INGRID HANSEN
JOHN PRIVITERA

FROM: DEAN S. SOMMER

RE: UNITED PLATING

DATE: May 11, 1990

9- **CONFIDENTIAL**

write to Dean w/
details of field sampling
done 5/14 - WRITE!

R

On Friday, May 11, I met with DOH and DEC staff at the Region IV office in Schenectady. Among other people were both regional attorneys, Gary Bowitch from DEE, DHWR staff including Eric Hamilton, Rich Fedigan from the Health Department, Bruce Knapp from RCRA, as well as another RCRA inspector, and someone from Hazardous Substance Regulation and Debra Drake from the Schenectady City Public Works and Sanitation Department. This memo will be somewhat disjointed because I am dictating it off my notes. Basically some of the information that was provided to me was that chemicals are seeping out of the building through both bricks and cracks in the walls. These chemical liquids contain chrome, copper and lead. It is suspected that there are floor drains that simply discharge right outside the building. The soil in the area does contain elevated amounts of cyanide. The Health Department, however, did not feel that the cyanide amounts amounted to a significant public health threat.

In the inside, there was great concern about drums of cyanide being stored next to drums of acid and that was really the major concern of most of the people at the meeting. They felt that the drum storage area contained chemical containers without any labels and there appeared to be leaking drums on the 5th and 6th floors. As far as SPDES problems, the latest pretreatment discharge exceedance was on February 14 with the exceedances consisting of both chrome and copper. The past persistent pretreatment violations have led to two pass-through violations for the City in September and December of 1989. It's worth noting that on June 13 the permits that the facility has with the city government come up for renewal and the company owes the City \$9,300 for past sampling fees. They have not paid that

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CONFIDENTIAL

2.

and the City is going to deny them a permit if they don't get the money.

There are several trenches that were dug on the site for footings for an expansion of the facility. Several feet down those trenches began to fill up with greenish colored water which when sampled indicated heavy metal contamination. The DEC people are prepared to call that groundwater and so they have already identified groundwater contamination at the site.

*

I discussed with the attorneys there whether they believed that an administrative approach would be worthwhile. They had several responses:

1. They don't consider United Plating as a major health problem and therefore it is not the priority site.
2. There is no current plan of action which they have and they anticipate getting to the site sometime by Fall.
3. They don't believe the administrative approach will work because of the associated delays dealing with the company's attorneys and because the company, whether it signs an order or not, will not comply with it.

After additional discussion with regard to the need to get a better idea as to the soil contamination at the site and the movement toward listing the site on the registry, we all agreed on the following approach. [I request that people let me know as soon as possible whether they agree or disagree and we should have an in-house meeting since everyone is going to be moving ahead.]

1. Mike Grecco, the Assistant Regional Attorney, will send a violation letter to the company listing the September 1989 RCRA violations. He will give the company 30 days to correct these 30-odd violations.

2. At the end of this 30-day period I agreed to proceed with an administrative search warrant as a follow-up to determine whether or not the RCRA violations have been corrected.

3. During this period I proposed to have our criminal prosecutors move the criminal court to release the soil results so that the DHWR people can evaluate the significant threat which the site poses.

4. The DHWR people will be gathering all the information that they have on the facility and will proceed with listing it on the registry. Parenthetically we should, once we get the warrant results, send it to them.

CONFIDENTIAL

3.

5. The City will proceed, if they do not get their money, with revoking the permits. (This may very well result in the shutdown of the facility.)

6. Based upon the search warrant results, the chemical results from the pits on the property and the observations during the administrative warrant search, we would consider bringing a lawsuit under CERCLA, nuisance and RCRA. (Note that this would be our first civil RCRA action.) It was discussed that the multitude of violations here might present a very nice scenario for seeking an injunction which would compel the company to come into RCRA compliance within a very short period of time, and if they could not, it could result in a shutdown of the plant. This may very well be a successful way of ceasing operations there; i.e. if can't comply with all RCRA mandates.

Please let me know what your thoughts are with regard to this matter. John Privitera is our point person and Gary Bowitch or Mike Grecco are our DEC contacts.

- My recommendation:

1. Proceeding getting warrant data;
2. Proceed with administrative follow-up search warrant;
3. Reconsider situation after follow-up search;
4. If RCRA violations persist and/or DOH says "go", we file RCRA or RCRA/nuisance action.

DSS

REFERENCE NO. 18

R. Allan Freeze

Department of Geological Sciences
University of British Columbia
Vancouver, British Columbia

John A. Cherry

Department of Earth Sciences
University of Waterloo
Waterloo, Ontario

GROUNDWATER

Prentice-Hall, Inc.
Englewood Cliffs, New Jersey 07632

Library of Congress Cataloging in Publication Data

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fluid-free conductance
very small, so petroleum
Eq. (2.28) is substituted

(2.29)

ability that will lead to
flop under a hydraulic
one darcy is approxi-

ely used for hydraulic
calculated in terms of Eq.

may with regard to this
coefficient. However,
as discarded this formal
temperature of measure-
ment can influence
Eq. (2.28). The effect is
ed. It still makes good
nits have been carried
measurement are very
ay be dependent on the
tical rather than con-

conductivity and perme-
of geological materials.
s' (1969) review. The
hydraulic conductivity
parameters that take on
property implies that
ay can be very useful.
ivity value probably has

arious common units
cm² can be converted to
conversion from ft² to

Table 2.2 Range of Values of Hydraulic Conductivity and Permeability

		k (darcy)	k (cm ²)	K (cm/s)	K (m/s)	K (gal/day/ft ²)
Rocks						
Unconsolidated deposits						
Karst limestone Permeable basalt Fractured igneous and metamorphic rocks Limestone and dolomite Sandstone	Gravel	10 ⁵	10 ⁻³	10 ²	1	10 ⁶
		10 ⁴	10 ⁻⁴	10	10 ⁻¹	10 ⁵
		10 ³	10 ⁻⁵	1	10 ⁻²	10 ⁴
		10 ²	10 ⁻⁶	10 ⁻¹	10 ⁻³	10 ³
		10	10 ⁻⁷	10 ⁻²	10 ⁻⁴	10 ²
		1	10 ⁻⁸	10 ⁻³	10 ⁻⁵	10
		10 ⁻¹	10 ⁻⁹	10 ⁻⁴	10 ⁻⁶	1
		10 ⁻²	10 ⁻¹⁰	10 ⁻⁵	10 ⁻⁷	10 ⁻¹
		10 ⁻³	10 ⁻¹¹	10 ⁻⁶	10 ⁻⁸	10 ⁻²
		10 ⁻⁴	10 ⁻¹²	10 ⁻⁷	10 ⁻⁹	10 ⁻³
Unfractured metamorphic and igneous rocks Shale Unweathered marine clay Glacial till Silt, loess Silty sand Clean sand	Gravel	10 ⁻⁵	10 ⁻¹³	10 ⁻⁸	10 ⁻¹⁰	10 ⁻⁴
		10 ⁻⁶	10 ⁻¹⁴	10 ⁻⁹	10 ⁻¹¹	10 ⁻⁵
		10 ⁻⁷	10 ⁻¹⁵	10 ⁻¹⁰	10 ⁻¹²	10 ⁻⁶
		10 ⁻⁸	10 ⁻¹⁶	10 ⁻¹¹	10 ⁻¹³	10 ⁻⁷

Table 2.3 Conversion Factors for Permeability and Hydraulic Conductivity Units

	Permeability, k^*			Hydraulic conductivity, K		
	cm ²	ft ²	darcy	m/s	ft/s	U.S. gal/day/ft ²
cm ²	1	1.08×10^{-3}	1.01×10^8	9.80×10^2	3.22×10^3	1.85×10^9
ft ²	9.29×10^2	1	9.42×10^{10}	9.11×10^5	2.99×10^6	1.71×10^{12}
darcy	9.87×10^{-9}	1.06×10^{-11}	1	9.66×10^{-6}	3.17×10^{-5}	1.82×10^1
m/s	1.02×10^{-3}	1.10×10^{-6}	1.04×10^3	1	3.28	2.12×10^6
ft/s	3.11×10^{-4}	3.35×10^{-7}	3.15×10^4	3.05×10^{-3}	1	6.46×10^5
U.S. gal/day/ft ²	5.42×10^{-10}	5.83×10^{-13}	5.49×10^{-2}	4.72×10^{-7}	1.55×10^{-6}	1

*To obtain k in ft², multiply k in cm² by 1.08×10^{-3} .

REFERENCE NO. 19

NUS CORPORATION AND SUBSIDIARIES

TELECON NOTE

CONTROL NO.:

02-9012-18

DATE:

3/13/91

TIME:

9:20

DISTRIBUTION:

United Plating, Inc NYPIPA

BETWEEN:

Doug Connor/Director

OF: Dept. of Water & Waste
Water Trmt., City of Schenectady

PHONE:

(518) 382-5020

AND:

Valerie Mathers

(NUS)

DISCUSSION:

Contacted the Department of Water and Wastewater Treatment, City of Schenectady, New York to inquire about their potable water supply. According to Doug Connor, the Director of the department, the City of Schenectady draws all of its potable water from ground water. The city has 12 wells located on Rice Road adjacent to the Mohawk River and west of Schenectady. Water from these wells supplies all of Schenectady, approximately 65,000 people, and provides a portion of supplies to Niskayuna and Rotterdam. Rotterdam also has 4 wells within the same well field location. The population served by these wells, however, was unknown to Mr. Connor. Depth of the wells range from 56 to 72 feet.

ACTION ITEMS:

VAM 3/13/91

REFERENCE NO. 20

NUS CORPORATION AND SUBSIDIARIES

TELECON NOTE

CONTROL NO.:

02-9012-18

DATE:

3/13/91

TIME:

10:15

DISTRIBUTION:

United Plating, Inc. NYPIPA

BETWEEN:

Richard Keller / Chief
Operator

OF:

Water Dept, City of
Niskayuna, NY

PHONE:

(518) 377-7400

AND:

Valerie Mathers

(NUS)

DISCUSSION:

Contacted the Water Department, City of Niskayuna, New York to inquire about their potable water supply. According to Richard Keller, Chief Operator at the Water Department, all potable supply for the city of Niskayuna, approximately 20,000 people, is drawn from groundwater. The city well field is located along the shore of the Mohawk River within 1 mile downstream of Lock No. 7. About half the potable water for Niskayuna is supplied by the City of Schenectady well field. ^(NYS) Potable water drawn from the Niskayuna well field is mixed with that supplied by Schenectady prior to distribution. Depth of the wells in the Niskayuna well field are approximately 60 feet.

ACTION ITEMS:

✓ Am 3/13/91

REFERENCE NO. 21

NUS CORPORATION AND SUBSIDIARIES

TELECON NOTE

CONTROL NO.:

02-9012-18

DATE:

3/13/91

TIME:

11:15

DISTRIBUTION:

United Plating, Inc. NYPIPA

BETWEEN:

Charles Straight / Plant
Operator

OF:

City of Glenville,
Water Dept.

PHONE:

382-1401 or
(518) 384-3501

AND:

Valerie Mathers

(NUS)

DISCUSSION:

Contacted the Water Department, City of Glenville, New York to inquire about their potable water supply. According to Charles Straight, the Plant Operator of the Water Department, all potable supply of Glenville is derived from groundwater. A portion of Glenville's well withdrawals also supply Burnt Hills, the Town of Charlton and the Village of Rexford. This includes a total population of 14,000 people. The well field for the City of Glenville consists of 4 wells to a depth of 51 feet, and is located approximately 1000 ft. inland from the north bank of the Mohawk River and 2 miles downstream from Lock No. 9.

ACTION ITEMS:

✓AM 3/13/91

REFERENCE NO. 22

NUS CORPORATION AND SUBSIDIARIES

TELECON NOTE

CONTROL NO.:

02-9012-18

DATE:

3/14/91

TIME:

10:00

DISTRIBUTION:

United Plating, Inc. NYPIPA

BETWEEN:

Mr. Paul Simmons / Supervisor

OF:

Dept. of Water & Sewers
City of Rotterdam, NY

PHONE:

(518) 355-9520

AND:

Valerie Mathers

(NUS)

DISCUSSION:

Contacted the Department of Water & Sewers, City of Rotterdam, New York to inquire about their potable water supply. According to Paul Simmons, Supervisor of the Department, the City of Rotterdam and Rotterdam Junction withdraw all potable supply from groundwater. There are two well fields, one located on Ricci Rd. adjacent to the South bank of the Mohawk River in Water District 5, and the second also located adjacent to the Mohawk River upstream in Water District 3. The well field in water district 5 serves the City of Rotterdam, ~28,000 people. Private wells within this district are used for "lawn sprinkling", while those outside the district may also be used for potable water supply. The well field in District 3 consisting of only 2 wells, serves approximately 1500 people in Rotterdam Junction. The depth of all wells ~~are~~ ^(VMA) is about 75 feet. ~~and~~ ^(VMA) They supply only Rotterdam Junction and the City of Rotterdam. No other adjacent cities or townships purchase water from

ACTION ITEMS:

Rotterdam.

/AM 3/14/91

REFERENCE NO. 23

[illegible][illegible]

Case	Age	Sex	Occupation	Duration of illness	Site of lesion	Pathological changes	Microscopic findings	Diagnosis
1	45	M	Farmer	10 years	Brain	Chronic	Neuronal loss, gliosis	Alzheimer's disease
2	65	F	Teacher	5 years	Brain	Chronic	Neuronal loss, amyloid plaques	Alzheimer's disease
3	75	M	Retired	3 years	Brain	Chronic	Neuronal loss, neurofibrillary tangles	Alzheimer's disease
4	55	F	Homemaker	8 years	Brain	Chronic	Neuronal loss, gliosis	Alzheimer's disease
5	60	M	Engineer	12 years	Brain	Chronic	Neuronal loss, amyloid plaques	Alzheimer's disease
6	70	F	Librarian	6 years	Brain	Chronic	Neuronal loss, neurofibrillary tangles	Alzheimer's disease
7	80	M	Retired	4 years	Brain	Chronic	Neuronal loss, gliosis	Alzheimer's disease
8	68	F	Homemaker	7 years	Brain	Chronic	Neuronal loss, amyloid plaques	Alzheimer's disease
9	72	M	Engineer	9 years	Brain	Chronic	Neuronal loss, neurofibrillary tangles	Alzheimer's disease
10	78	F	Retired	5 years	Brain	Chronic	Neuronal loss, gliosis	Alzheimer's disease

[illegible]

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File Last Modified: 91-05-10:05:23.FRI

Spooled: 91-03-15.10:05:55. Fri

Started: 91-07-15.10:00. Fri

LATITUDE (DEGREES)	LONGITUDE (DEGREES)	OWNER	DEPTH DRILLED (FEET)	STAT WATER LEVEL (FEET)	TC OPEN INTERVAL (FEET)	TC OPEN INTERVAL (FEET)	ACCLIFER CODE	LITH- CLOGY CODE
424613	0735547	PUBLIC WKS NYS DEPT	--	--	--	--	112SAND	SDST
424625	0735534	WODKINS MS.	--	--	--	--	36CODVC	SHLE
424636	0735566	PALAZINI P.	--	--	--	--	36CROCK	SHLE
			--	--	--	--	36CODVC	SHLE
			--	--	--	--	36CROCK	SHLE
424636	0735544	PALAZINI P.	--	--	--	--	11CQRMF	CLAY
424640	0735533	SWANLEY M. S	--	--	--	--	36CODVC	SHLE
424643	0735527	SCHOOL POTTERDAM	--	--	--	--	36CROCK	SHLE
			--	--	--	--	112SAND	SAND
424649	0735533	PUBLIC WKS NYS DEPT	--	--	--	--	--	--
424653	0735570	ADAMS MS	--	--	--	--	112SAND	SDST
424700	0735510	PUBLIC WKS NYS DEPT	--	--	--	--	36CODVC	SHLE
424700	0735535	KVERER M.	--	--	--	--	36CROCK	SHLE
424703	0735537	PUBLIC WKS NYS DEPT	--	--	--	--	36CODVC	SHLE
424703	0735525	FAIR S.	--	--	--	--	36CROCK	SHLE
			--	--	--	--	36CODVC	SHLE
424710	0735520	POHL S.	--	--	--	--	36CROCK	SHLE
424713	0735535		--	--	--	--	112SDGV	GPVL
424721	0735510	POPLINERY CONRFLY	--	--	--	--	--	--
			--	--	--	--	112SDGV	CRVL
424720	0735524	ICE CO. POLAR	--	--	--	--	--	--
424722	0735524	ICE CO. POLAR	--	--	--	--	112SAND	SAND
			--	--	--	--	--	--
			--	--	--	--	--	--
424731	0735520	PUBLIC WKS NYS DEPT	--	--	--	--	112SAND	SDST
424744	0735521	POLLAK J.	--	--	--	--	112TILL	TILL
424745	0735520	SWRIGHT M. J	--	--	--	--	--	--
			--	--	--	--	36CODVC	SHLE
			--	--	--	--	36CROCK	SHLE
424745	0735545	PUBLIC WKS NYS DEPT	--	--	--	--	36CODVC	SHLE
424745	0735551	WIRTH F.	--	--	--	--	36CROCK	SHLE
424746	0735522	UNKNOWN MS	--	--	--	--	36CODVC	SHLE
			--	--	--	--	112SAND	SAND

LAITILLE (0-5K623)	LONGITUDE (0-5K623)	DISCUSSION (0-5K623)	CF MATE	OTM-F IDENTIFIER
424613	0735547	--	U	246-355-3
424625	0735547	4.00	F	246-355-3
		--		SN 315
424637	0735544	--	U	246-355-1
		--		SN 210
424650	0735544	--	U	246-355-0
		--		SN 211
424660	0735533	1.00	F	246-357-2
		--		SN 30
424665	0735537	1.00	F	246-357-1
		--		SN 30
424667	0735533	--	U	246-355-1
		--		SN 32
424670	0735533	4.00	F	246-357-3
		--		SN 41
424700	0735513	--	U	247-355-2
424709	0735535	--	F	247-357-1
		--		SN 32
424703	0735537	--	U	247-355-1
		--		SN 32
424703	0735535	7.00	F	247-357-1
		--		SN 31
424717	0735523	5.00	F	247-355-0
		--		SN 175
424718	0735554	--	-	NOTTERCAP
424721	0735530	3.00	F	247-355-1
		--		SN 52
424722	0735524	45.0	K	247-355-0
		--		SN 208
424722	0735523	--	U	247-355-0
		--		SN 203
424731	0735533	--	U	247-355-0
424744	0735541	--	F	247-355-1
		--		SN 311
424745	0735530	2.00	F	247-355-0
		--		SN 317
424745	0735545	--	U	247-355-5
		--		SN 317
424746	0735531	--	U	247-355-4
		--		SN 296
424746	0735532	3.00	U	247-355-0

LATITUDE (DEGREES)	LONGITUDE (DEGREES)	CNAME	DEPTH DRILLED (FEET)	STAT WATER LEVEL (FEET)	TC OPEN INTERVAL (FEET)	CM OPEN INTERVAL (FEET)	ACLIFER CCODE	LITH- CLOGY CODE
424746	0735532	FRYE G. W.	--	--	--	--	112SAND	SDCL
424747	0735513		--	--	--	--	--	--
424747	0735512	SHOOTSLEYS T.	--	--	--	--	110GRA	CLAY
424747	0735523		--	--	--	--	--	--
424747	0735523	MACNAE R.	--	--	--	--	112SAND	SAND
424747	0735503	GRINER R. H. L.	--	--	--	--	112SAND	SAND
424747	0735523	SALANORE D.	--	--	--	--	360ODVC	SHLE
424747	0735544	PUBLIC WKS NYS DEPT	--	--	--	--	BEDROCK	SHLE
424748	0735515	SPILKMAN L.	--	--	--	--	112SAND	SDST
424750	0735552	HOWARTH P. J.	--	--	--	--	112SAND	SAND
424750	0735552		--	--	--	--	360ODVC	SHLE
424750	0735553	SCHWARTZHUPT P. J.	--	--	--	--	BEDROCK	SHLE
424751	0735554	PUBLIC WKS NYS DEPT	--	--	--	--	112SAND	SAND
424752	0735553	PUBLIC WKS NYS DEPT	--	--	--	--	112SAND	SDST
424753	0735504	PUBLIC WKS NYS DEPT	--	--	--	--	112LAKE	SILT
424756	0735516	PUBLIC WKS NYS DEPT	--	--	--	--	112SAND	SDST
424757	0735512	PALEVIN R.	--	--	--	--	112SAND	SAND
424757	0735512	PUBLIC WKS NYS DEPT	--	--	--	--	112SAND	SAND
424800	0735516	SALEHIN R.	--	--	--	--	112SDGV	GRVL
424803	0735512	WHITMYER C.	--	--	--	--	360ODVC	SHLE
424806	0735513	WARNER J.	--	--	--	--	BEDROCK	SHLE
424807	0735516	STRESEN A.	--	--	--	--	112TILL	TILL
424810	0735513	WHITMYER C.	--	--	--	--	360ODVC	SHLE
424812	0735515	CUMMINGS M.	--	--	--	--	112TILL	TILL
424812	0735513	INSULATAKCO MICA	--	--	--	--	360ODVC	SHLE
424813	0735512	ELECTRIC CO GENERAL	--	--	--	--	360ODVC	SHLE
			--	--	--	--	BEDROCK	SHLE
			--	--	--	--	360ODVC	SHLE
			--	--	--	--	360ODVC	SHLE
			--	--	--	--	BEDROCK	SHLE
			--	--	--	--	112SDGV	GPVL

LATITUDE (EQUATORIAL)	LONGITUDE (EQUATORIAL)	CRATER	DEPTH METER (FEET)	WATER LEVEL (FEET)	OPEN INTERVAL (FEET)	OPEN INTERVAL (FEET)	AQUIFER CODE	LITHOLOGY CODE
424813	073517	INSULTACIO MICA	--	--	--	--	SECROCK	GPVL
424814	073518		--	--	--	112TILL	TILL	
424815	073519	FLOWERS J. FL-AT-1000 GENERAL	--	--	--	--	112SAND	SAND
424816	073520		--	--	--	112SAND	SDST	
424817	073521	SHL F. FL-AT-1000 GENERAL	--	--	--	--	112SAND	SAND
424818	073522		--	--	--	112SDGV	SDGL	
424819	073523	SOLDORELLI V. FL-AT-1000 GENERAL	--	--	--	--	360ODVC	SHLE
424820	073524		--	--	--	SECROCK	SHLE	
424821	073525	PUBLIC MRS NYS DEPT FL-AT-1000 GENERAL	--	--	--	--	112SAND	SDST
424822	073526		--	--	--	360ODVC	SHLE	
424823	073527	JACKSON L. FL-AT-1000 GENERAL	--	--	--	--	SECROCK	SAND
424824	073528		--	--	--	112SAND	SAND	
424825	073529	ELECTRIC CO. GENERAL JACKSON L.	--	--	--	--	360ODVC	SHLE
424826	073530		--	--	--	SECROCK	SHLE	
424827	073531	PUBLIC MRS NYS DEPT CO. COL-100	--	--	--	--	112SAND	SDST
424828	073532		--	--	--	112SDGV	SDGL	
424829	073533	WINTERHAM TOWN OF	--	--	--	--	360ODVC	SHLE
424830	073534		--	--	--	SECROCK	SHLE	
424831	073535	SOLDORELLI V.	--	--	--	--	360ODVC	SHLE
424832	073536		--	--	--	SECROCK	SHLE	
424833	073537	LOMINI W. WINTERHAM TOWN OF	--	--	--	--	112SDGV	SDGL
424834	073538		--	--	--	112SAND	CLAY	
424835	073539	SOLDORELLI S.	--	--	--	--	112SDGV	SDGL
424836	073540		--	--	--	112SDGV	SDGL	
424837	073541	LOMINI W. SOLDORELLI GENERAL	--	--	--	--	360ODVC	SHLE
424838	073542		--	--	--	SECROCK	SHLE	
424839	073543	PUBLIC MRS NYS DEPT FL-AT-1000 GENERAL	--	--	--	--	112SAND	SAND
424840	073544		--	--	--	360ODVC	SHLE	
424841	073545	PUBLIC MRS NYS DEPT FL-AT-1000 GENERAL	--	--	--	--	SECROCK	SHLE
424842	073546		--	--	--	112TILL	TILL	

LATITUDE (DEGREES)	LONGITUDE (DEGREES)	DISCHARGE (GPM)	US GAL OF WATER	STATION IDENTIFICATION
424813	073551	--	N	SA 274
424814	073552	--	L	SA 275
424815	073553	--	F	SA 276
424816	073554	--	L	SA 277
424818	073557	--	F	SA 278
424819	073558	5.00	L	SA 279
424820	073559	--	F	SA 280
424821	073560	5.00	F	SA 281
424822	073561	--	L	SA 282
424823	073562	--	L	SA 283
424824	073563	4.00	F	SA 284
424825	073564	--	L	SA 285
424826	073565	--	L	SA 286
424827	073566	--	L	SA 287
424828	073567	--	L	SA 288
424829	073568	1.00	L	SA 289
424830	073569	--	L	SA 290
424831	073570	--	L	SA 291
424832	073571	1.00	L	SA 292
424833	073572	3.00	F	SA 293
424834	073573	--	F	SA 294
424835	073574	--	L	SA 295
424836	073575	1.00	L	SA 296
424837	073576	--	L	SA 297
424838	073577	--	L	SA 298
424839	073578	4.00	S	SA 299
424840	073579	--	L	SA 300
424841	073580	--	N	SA 301
424842	073581	4.00	L	SA 302
424843	073582	--	L	SA 303
424844	073583	--	L	SA 304
424845	073584	4.00	F	SA 305
424846	073585	--	L	SA 306
424847	073586	1.00	L	SA 307
424848	073587	--	L	SA 308
424849	073588	--	L	SA 309
424850	073589	4.00	F	SA 310
424851	073590	--	L	SA 311
424852	073591	--	L	SA 312
424853	073592	1.00	L	SA 313
424854	073593	--	L	SA 314
424855	073594	4.00	F	SA 315
424856	073595	--	L	SA 316
424857	073596	--	L	SA 317
424858	073597	--	L	SA 318
424859	073598	1.00	L	SA 319
424900	073600	--	L	SA 320

LATITUDE (DECIMALS)	LONGITUDE (DECIMALS)	CARRIER	STATION LEVEL (FEET)	INTERVAL (FEET)	SECTION INTERVAL (FEET)	4CLIFIER CODE	LOG CODE
424952	073553	--	--	--	--	--	--
424953	073554	ILLINOIS WBS EYE CITY	--	--	--	112SAND	SDST
424954	073555	SCHENECTADY CITY OF	--	--	--	BEDROCK	SDST
424955	073556	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424956	073557	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424957	073558	GENERAL	--	--	--	112SAND	SAND
424958	073559	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424959	073560	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424960	073561	GENERAL	--	--	--	112TILL	TILL
424961	073562	SCHENECTADY CITY OF	--	--	--	112SAND	SAND
424962	073563	SCHENECTADY CITY OF	--	--	--	112SAND	SAND
424963	073564	SCHENECTADY CITY OF	--	--	--	112TILL	TILL
424964	073565	GENERAL	--	--	--	112SDGV	GRVL
424965	073566	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424966	073567	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424967	073568	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424968	073569	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424969	073570	GENERAL	--	--	--	112SDGV	GRVL
424970	073571	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424971	073572	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424972	073573	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424973	073574	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424974	073575	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424975	073576	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424976	073577	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424977	073578	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424978	073579	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424979	073580	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424980	073581	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424981	073582	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424982	073583	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424983	073584	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424984	073585	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424985	073586	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424986	073587	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424987	073588	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424988	073589	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424989	073590	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424990	073591	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424991	073592	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424992	073593	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424993	073594	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424994	073595	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424995	073596	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424996	073597	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424997	073598	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424998	073599	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL
424999	073600	SCHENECTADY CITY OF	--	--	--	112SDGV	GRVL

[illegible]

LATITUDE (DECIMALS)	LONGITUDE (DECIMALS)	CITY	DEPTH BOILED (FEET)	WATER LEVEL (FEET)	IC OPEN INTERVAL (FEET)	OPEN INTERVAL (FEET)	ACLIFER CODE	LITH- CLOGY CODE
424911	0735917	SCHENECTADY CITY CF	--	--	--	--	112SDGV	GRVL
424911	0735917	SCHENECTADY CITY CF	--	--	--	--	112SDGV	GRVL
424911	0735917	SCHENECTADY CITY CF	--	--	--	--	112SDGV	GRVL
424911	0735931	SCHENECTADY CITY CF	--	--	--	--	112SDGV	GRVL
424911	0735921	SCHENECTADY CITY CF	--	--	--	--	112SDGV	GRVL
424911	0735925	SCHENECTADY CITY CF	--	--	--	--	112SAND	SAND
424912	0735935	PUBLIC WORKS NYS DEPT	--	--	--	--	112SDGV	SDGL
424912	0735917	SCHENECTADY CITY CF	--	--	--	--	112SDGV	SPVL
424912	0735920	SCHENECTADY CITY CF	--	--	--	--	112SDGV	SDGL
424913	0735911	SCHENECTADY CITY CF	--	--	--	--	112SDGV	SDGL
424913	0735915	SCHENECTADY CITY CF	--	--	--	--	112SDGV	GRVL
424914	0735902	SCHENECTADY CITY CF	--	--	--	--	112SDGV	SDGL
424914	0735902	PAYLE H.	--	--	--	--	112SDGV	GRVL
424914	0735913	SCHENECTADY CITY CF	--	--	--	--	112SDGV	GRVL
424914	0735915	SCHENECTADY CITY CF	--	--	--	--	112SDGV	GRVL
424914	0735919	SCHENECTADY CITY CF	--	--	--	--	112SDGV	GRVL
424914	0735937	WHEATIE J.	--	--	--	--	112SAND	SAND
424915	0735911	SCHENECTADY CITY CF	--	--	--	--	112SDGV	GRVL
424916	0735901	PUBLIC WORKS NYS DEPT	--	--	--	--	112SDGV	SDGL
424916	0735907	WHEELER TOWN CF	--	--	--	--	112SDGV	SDGL
424916	0735917	SCHENECTADY CITY CF	--	--	--	--	112SDGV	SDGL
424916	0735919	SCHENECTADY CITY CF	--	--	--	--	112SDGV	GRVL
424916	0735920	SCHENECTADY CITY CF	--	--	--	--	112SDGV	GRVL
424916	0735920	SCHENECTADY CITY CF	--	--	--	--	112SDGV	SDGL
424917	0735929	WINDY H.	--	--	--	--	3600DVC	SHLF
424917	0735924	WHEELER TOWN	--	--	--	--	3600DVC	SHLF
424917	0735901	WHEELER TOWN	--	--	--	--	3600DVC	SHLF
424917	0735901	WHEELER TOWN	--	--	--	--	3600DVC	SHLF
424917	0735911	SCHENECTADY CITY CF	--	--	--	--	112SDGV	GRVL
424917	0735914	SCHENECTADY CITY CF	--	--	--	--	112SDGV	GRVL
424917	0735905	SCHENECTADY CITY CF	--	--	--	--	112SDGV	GRVL
424917	0735910	WHEELER TOWN	--	--	--	--	112SDGV	GRVL

LATITUDE (ELEVATION)	LONGITUDE (ELEVATION)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	1221	1222	1223	1224	1225	1226	1227	1228	1229	1230	1231	1232	1233	1234	1235	1236	1237	1238	1239	1240	1241	1242	1243	1244	1245	1246	1247	1248	1249	1250	1251	1252	1253	1254	1255	1256	1257	1258	1259	1260	1261	1262	1263	1264	1265	1266	1267	1268	1269	1270	1271	1272	1273	1274	1275	1276	1277	1278	1279	1280	1281	1282	1283	1284	1285	1286	1287	1288	1289	1290	1291	1292	1293	1294	1295	1296	1297	1298	1299	1300	1301	1302	1303	1304	1305	1306	1307	1308	1309	1310	1311	1312	1313	1314	1315	1316	1317	1318	1319	1320	1321	1322	1323	1324	1325	1326	1327	1328	1329	1330	1331	1332	1333	1334	1335	1336	1337	1338	1339	1340	1341	1342	1343	1344	1345	1346	1347	1348	1349	1350	1351	1352	1353	1354	1355	1356	1357	1358	1359	1360	1361	1362	1363	1364	1365	1366	1367	1368	1369	1370	1371	1372	1373	1374	1375	1376	1377	1378	1379	1380	1381	1382	1383	1384	1385	1386	1387	1388	1389	1390	1391	1392	1393	1394	1395	1396	1397	1398	1399	1400	1401	1402	1403	1404	1405	1406	1407	1408	1409	1410	1411	1412	1413	1414	1415	1416	1417	1418	1419	1420	1421	1422	1423	1424	1425	1426	1427	1428	1429	1430	1431	1432	1433	1434	1435	1436	1437	1438	1439	1440	1441	1442	1443	1444	1445	1446	1447	1448	1449	1450	1451	1452	1453	1454	1455	1456	1457	1458	1459	1460	1461	1462	1463	1464	1465	1466	1467	1468	1469	1470	1471	1472	1473	1474	1475	1476	1477	1478	1479	1480	1481	1482	1483	1484	1485	1486	1487	1488	1489	1490	1491	1492	149
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LATITUDE (DEGREES)	LONGITUDE (DEGREES)	DISCHARGE (GPM)	WATER LEVEL	OTHER IDENTIFIER
424926	073323	--	-	SN 128
424926	073323	--	U	249-359-127
424926	073323	--	U	249-359-128
424927	073324	--	U	249-359-117
424927	073324	--	U	--
424927	073324	--	U	249-359-129
424927	073324	--	U	249-359-130
424927	073324	--	U	249-359-131
424927	073324	--	U	249-359-132
424927	073324	--	U	249-359-133
424927	073324	--	U	249-359-134
424927	073324	--	U	249-359-135
424927	073324	--	U	249-359-136
424927	073324	--	U	249-359-137
424927	073324	--	U	249-359-138
424927	073324	--	U	249-359-139
424927	073324	--	U	249-359-140
424927	073324	--	U	249-359-141
424927	073324	--	U	249-359-142
424927	073324	--	U	249-359-143
424927	073324	--	U	249-359-144
424927	073324	--	U	249-359-145
424927	073324	--	U	249-359-146
424927	073324	--	U	249-359-147
424927	073324	--	U	249-359-148
424927	073324	--	U	249-359-149
424927	073324	--	U	249-359-150
424927	073324	--	U	249-359-151
424927	073324	--	U	249-359-152
424927	073324	--	U	249-359-153
424927	073324	--	U	249-359-154
424927	073324	--	U	249-359-155
424927	073324	--	U	249-359-156
424927	073324	--	U	249-359-157
424927	073324	--	U	249-359-158
424927	073324	--	U	249-359-159
424927	073324	--	U	249-359-160
424927	073324	--	U	249-359-161
424927	073324	--	U	249-359-162
424927	073324	--	U	249-359-163
424927	073324	--	U	249-359-164
424927	073324	--	U	249-359-165
424927	073324	--	U	249-359-166
424927	073324	--	U	249-359-167
424927	073324	--	U	249-359-168
424927	073324	--	U	249-359-169
424927	073324	--	U	249-359-170
424927	073324	--	U	249-359-171
424927	073324	--	U	249-359-172
424927	073324	--	U	249-359-173
424927	073324	--	U	249-359-174
424927	073324	--	U	249-359-175
424927	073324	--	U	249-359-176
424927	073324	--	U	249-359-177
424927	073324	--	U	249-359-178
424927	073324	--	U	249-359-179
424927	073324	--	U	249-359-180
424927	073324	--	U	249-359-181
424927	073324	--	U	249-359-182
424927	073324	--	U	249-359-183
424927	073324	--	U	249-359-184
424927	073324	--	U	249-359-185
424927	073324	--	U	249-359-186
424927	073324	--	U	249-359-187
424927	073324	--	U	249-359-188
424927	073324	--	U	249-359-189
424927	073324	--	U	249-359-190
424927	073324	--	U	249-359-191
424927	073324	--	U	249-359-192
424927	073324	--	U	249-359-193
424927	073324	--	U	249-359-194
424927	073324	--	U	249-359-195
424927	073324	--	U	249-359-196
424927	073324	--	U	249-359-197
424927	073324	--	U	249-359-198
424927	073324	--	U	249-359-199
424927	073324	--	U	249-359-200

LATITUDE (DEGREES)	LONGITUDE (DEGREES)	OWNER	DEPTH DRILLED (FEET)	WATER LEVEL (FEET)	TOUGH OPEN INTERVAL (FEET)	TOUGH OPEN INTERVAL (FEET)	ACCLIFER CODE	LITH- CLOGY CODE
424942	0735329	PUBLIC WKS NYS DEPT	--	--	--	--	112SDGV	SDGL
424943	0735330	LEGGER, P.	--	--	--	--	112TILL	TILL
424945	0735350	SPURGIASZ, L.	--	--	--	--	112SAND	SAND
424946	0735331	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424948	0735331	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424949	0735331	PUBLIC WKS NYS DEPT	--	--	--	--	112SDGV	SDGL
424950	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424951	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424952	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424953	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424954	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424955	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424956	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424957	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424958	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424959	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424960	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424961	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424962	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424963	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424964	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424965	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424966	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424967	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424968	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424969	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424970	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424971	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424972	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424973	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424974	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424975	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424976	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424977	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424978	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424979	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424980	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424981	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424982	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424983	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424984	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424985	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424986	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424987	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424988	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424989	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424990	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424991	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424992	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424993	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424994	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424995	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424996	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424997	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424998	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE
424999	0735330	PUBLIC WKS NYS DEPT	--	--	--	--	360DVC	SHLE

LATITUDE (NAD83)	LONGITUDE (NAD83)	CWREF	DEPTH DRILLED (FEET)	STATION WATER LEVEL (FEET)	TC OPEN INTERVAL (FEET)	CM OPEN INTERVAL (FEET)	AQUIFER CODE	LITHOLOGY CODE
425036	0735220	--	--	--	--	--	36C0DVC	SHLF
425035	0735220	--	--	--	--	--	36C0DVC	SHLF
425037	0735240	--	--	--	--	--	36C0DVC	SHLF
425038	0735240	--	--	--	--	--	112SDGV	SDGL
425039	0735254	--	--	--	--	--	112SDGV	SDGL
425040	0735270	--	--	--	--	--	112SAND	SAND
425041	0735270	--	--	--	--	--	112SAND	--
425042	0735270	--	--	--	--	--	112SAND	SAND
425043	0735270	--	--	--	--	--	112SAND	--
425044	0735270	--	--	--	--	--	112SAND	SAND
425045	0735270	--	--	--	--	--	112SAND	SAND
425046	0735270	--	--	--	--	--	112SAND	SAND
425047	0735270	--	--	--	--	--	112SAND	SAND
425048	0735270	--	--	--	--	--	112SAND	SAND
425049	0735270	--	--	--	--	--	112SAND	SAND
425050	0735270	--	--	--	--	--	112SAND	SAND
425051	0735270	--	--	--	--	--	112SAND	SAND
425052	0735270	--	--	--	--	--	112SAND	SAND
425053	0735270	--	--	--	--	--	112SAND	SAND
425054	0735270	--	--	--	--	--	112SAND	SAND
425055	0735270	--	--	--	--	--	112SAND	SAND
425056	0735270	--	--	--	--	--	112SAND	SAND
425057	0735270	--	--	--	--	--	112SAND	SAND
425058	0735270	--	--	--	--	--	112SAND	SAND
425059	0735270	--	--	--	--	--	112SAND	SAND
425060	0735270	--	--	--	--	--	112SAND	SAND
425061	0735270	--	--	--	--	--	112SAND	SAND
425062	0735270	--	--	--	--	--	112SAND	SAND
425063	0735270	--	--	--	--	--	112SAND	SAND
425064	0735270	--	--	--	--	--	112SAND	SAND
425065	0735270	--	--	--	--	--	112SAND	SAND
425066	0735270	--	--	--	--	--	112SAND	SAND
425067	0735270	--	--	--	--	--	112SAND	SAND
425068	0735270	--	--	--	--	--	112SAND	SAND
425069	0735270	--	--	--	--	--	112SAND	SAND
425070	0735270	--	--	--	--	--	112SAND	SAND
425071	0735270	--	--	--	--	--	112SAND	SAND
425072	0735270	--	--	--	--	--	112SAND	SAND
425073	0735270	--	--	--	--	--	112SAND	SAND
425074	0735270	--	--	--	--	--	112SAND	SAND
425075	0735270	--	--	--	--	--	112SAND	SAND
425076	0735270	--	--	--	--	--	112SAND	SAND
425077	0735270	--	--	--	--	--	112SAND	SAND
425078	0735270	--	--	--	--	--	112SAND	SAND
425079	0735270	--	--	--	--	--	112SAND	SAND
425080	0735270	--	--	--	--	--	112SAND	SAND
425081	0735270	--	--	--	--	--	112SAND	SAND
425082	0735270	--	--	--	--	--	112SAND	SAND
425083	0735270	--	--	--	--	--	112SAND	SAND
425084	0735270	--	--	--	--	--	112SAND	SAND
425085	0735270	--	--	--	--	--	112SAND	SAND
425086	0735270	--	--	--	--	--	112SAND	SAND
425087	0735270	--	--	--	--	--	112SAND	SAND
425088	0735270	--	--	--	--	--	112SAND	SAND
425089	0735270	--	--	--	--	--	112SAND	SAND
425090	0735270	--	--	--	--	--	112SAND	SAND
425091	0735270	--	--	--	--	--	112SAND	SAND
425092	0735270	--	--	--	--	--	112SAND	SAND
425093	0735270	--	--	--	--	--	112SAND	SAND
425094	0735270	--	--	--	--	--	112SAND	SAND
425095	0735270	--	--	--	--	--	112SAND	SAND
425096	0735270	--	--	--	--	--	112SAND	SAND
425097	0735270	--	--	--	--	--	112SAND	SAND
425098	0735270	--	--	--	--	--	112SAND	SAND
425099	0735270	--	--	--	--	--	112SAND	SAND
425100	0735270	--	--	--	--	--	112SAND	SAND

[illegible]

[illegible]

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1950	1	2	10:00	1000	1000	1000
1950	1	3	10:00	1000	1000	1000
1950	1	4	10:00	1000	1000	1000
1950	1	5	10:00	1000	1000	1000
1950	1	6	10:00	1000	1000	1000
1950	1	7	10:00	1000	1000	1000
1950	1	8	10:00	1000	1000	1000
1950	1	9	10:00	1000	1000	1000
1950	1	10	10:00	1000	1000	1000
1950	1	11	10:00	1000	1000	1000
1950	1	12	10:00	1000	1000	1000
1950	1	13	10:00	1000	1000	1000
1950	1	14	10:00	1000	1000	1000
1950	1	15	10:00	1000	1000	1000
1950	1	16	10:00	1000	1000	1000
1950	1	17	10:00	1000	1000	1000
1950	1	18	10:00	1000	1000	1000
1950	1	19	10:00	1000	1000	1000
1950	1	20	10:00	1000	1000	1000
1950	1	21	10:00	1000	1000	1000
1950	1	22	10:00	1000	1000	1000
1950	1	23	10:00	1000	1000	1000
1950	1	24	10:00	1000	1000	1000
1950	1	25	10:00	1000	1000	1000
1950	1	26	10:00	1000	1000	1000
1950	1	27	10:00	1000	1000	1000
1950	1	28	10:00	1000	1000	1000
1950	1	29	10:00	1000	1000	1000
1950	1	30	10:00	1000	1000	1000
1950	1	31	10:00	1000	1000	1000

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Using [spooler Environment: PRQ]
Print Request Attributes: PRQ
Spool Options: -FTP
Total Size: 3 records

Pathname: <ADMIN1>DISIRICI.USERS>MPHILLIPS>GWSIS>NUS>ALS.UPLAT.2.MILE
File Last Modified: 91-03-15.10:07:28.Fri

Spooled: 91-03-15.10:07:44.Fri
Started: 91-03-15.10:07:50.Fri

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LATITUDE (DEGREES)	LONGITUDE (DEGREES)	CANAL	DEPTH DRILLED (FEET)	WATER LEVEL (FEET)	TO OPEN INTERVAL (FEET)	TO OPEN INTERVAL (FEET)	AQUIFER CODE	LITH- OLOGY CODE
424751	0735554	PUBLIC WKS NYS DEPT	--	--	--	--	112SAND BEDROCK	SDST
424752	0735553	PUBLIC WKS NYS DEPT	--	--	--	--	112SAND	SDST
424753	0735604	PUBLIC WKS NYS DEPT	--	--	--	--	112LAKE	SILT
424750	0735615	PUBLIC WKS NYS DEPT	--	--	--	--	112SAND	SDST
424757	0735619	PUBLIC WKS NYS DEPT	--	--	--	--	112SAND	SAND
424814	0735704	INSULATED MICA	--	--	--	--	112TILL	TILL
424815	0735654	PUBLIC WKS NYS DEPT	--	--	--	--	112SAND	SDST
424823	0735659	PUBLIC WKS NYS DEPT	--	--	--	--	112SAND	SDST
424831	0735702	PUBLIC WKS NYS DEPT	--	--	--	--	112SAND	SAND
424839	0735703	PUBLIC WKS NYS DEPT	--	--	--	--	112SAND	SDST
424842	0735749	CO. COL-106	--	--	--	--	112SDGV	SDGL
424849	0735609	TOFCREANCO GENERAL	--	--	--	--	36CDDVC	SHLE
424905	0735621	DAIRY FINE GROVE	--	--	--	--	BEDROCK	SHLE
424917	0735734	DELZETTO F.	--	--	--	--	112SDGV	GPVL
424921	0735733	DELZETTO F.	--	--	--	--	BEDROCK	GPVL
424939	0735717	DELZETTO J.	--	--	--	--	112SDGV	GPVL
424946	0735921	REJACK W.	--	--	--	--	BEDROCK	GPVL
424942	0735925	REJACK A.	--	--	--	--	36CDDVC	SHLE
424943	0735929	LOGSSE F.	--	--	--	--	BEDROCK	SHLE
424943	0735950	SPURDASZ F.	--	--	--	--	36CDDVC	SHLE
424945	0735936	QUACKNEUSH E. J	--	--	--	--	BEDROCK	SHLE
424953	0735939	MURRAY B.	--	--	--	--	112TILL	TILL
424954	0735921	SHOENYER J.	--	--	--	--	36CDDVC	SHLE
424954	0735935	GEFISHER F.	--	--	--	--	BEDROCK	SHLE
424956	0735939	WELCH G.	--	--	--	--	36CDDVC	SHLE
424957	0735939	WELCH G.	--	--	--	--	112TILL	TILL

LATITUDE (DEGREES)	LONGITUDE (DEGREES)	DISCHARGE (GPM)	CF WATER	OTHER IDENTIFIER
424751	073554	--	U	247-355-2 SN 335
424752	073553	--	U	247-355-3 SN 336
424753	073554	--	U	247-355-4 SN 34
424755	073555	--	U	247-356-5
424757	073556	--	U	247-356-6
424814	073557	--	U	248-357-2 SN 34
424816	073558	--	U	248-357-4
424823	073559	--	U	249-357-2
424831	073560	--	U	249-357-4
424834	073561	--	U	249-357-11
424842	073561	500	A	249-357-3 SN 37
424849	073562	100	U	248-356-1 SN 57
424855	073563	60.0	A	249-356-3 SN 32
424857	073564	1.00	F	249-357-14
424921	073565	1.00	F	SN 321 249-353-10
424934	073566	--	F	SN 320 249-355-2 SN 370
424942	073567	--	F	249-355-2
424944	073568	--	F	SN 269 249-353-2
424947	073569	--	F	SN 268 249-355-2
424949	073570	--	U	249-356-1
424953	073570	--	F	249-357-2 SN 245
424954	073571	--	F	249-355-1 249-357-4
424954	073573	--	F	-- 249-357-3
424956	073573	--	F	SN 244 249-357-3
424957	073574	--	F	249-357-1

WELL ID	WELL NAME	WELL TYPE	WELL STATUS	WELL DEPTH (FEET)	WELL WATER LEVEL (FEET)	WELL OPEN INTERVAL (FEET)	WELL CLOSED INTERVAL (FEET)	WELL CODE	WELL LOG CODE	WELL LOG DATE
425002	LAWSON P.			--	--	--	--	3600DVC	SHLE	
425004	C-112511P MS.			--	--	--	--	3600DVC	SHLE	
425009	SAROWSKI K.			--	--	--	--	112SDGV	SDGL	
425010	CHAMBERS P.			--	--	--	--	112SDGV	SDGL	
425012	WADSWORTH P.			--	--	--	--	3600DVC	SHLE	
425014	PICROWSKI I.			--	--	--	--	112SAND	SAND	
425016	BLACKBURN L. C.			--	--	--	--	3600DVC	SHLE	
425021	CHAMBERS P.			--	--	--	--	3600DVC	SHLE	
425023	HASTINGS J.			--	--	--	--	3600DVC	SHLE	
425025	SCHULTZ W.			--	--	--	--	3600DVC	SHLE	
425030	SAROWSKI K.			--	--	--	--	3600DVC	SHLE	
425034	NACHTIGAL S.			--	--	--	--	3600DVC	SHLE	
425035	FRANKLIN P.			--	--	--	--	3600DVC	SHLE	
425036	RIEDENBERG V.			--	--	--	--	3600DVC	SHLE	
425039	COMPANY' PPSI-COLA			--	--	--	--	112SAND	SAND	
425040	COMPANY' PPSI-COLA			--	--	--	--	112SAND	SAND	
425041	COMPANY' PPSI-COLA			--	--	--	--	112SAND	SAND	
425042	COMPANY' PPSI-COLA			--	--	--	--	112SAND	SAND	
425043	COMPANY' PPSI-COLA			--	--	--	--	112SAND	SAND	
425044	COMPANY' PPSI-COLA			--	--	--	--	112SAND	SAND	
425047	COMPANY' PPSI-COLA			--	--	--	--	112SAND	SAND	
425048	COMPANY' PPSI-COLA			--	--	--	--	112SAND	SAND	
425049	COMPANY' PPSI-COLA			--	--	--	--	112SAND	SAND	
425050	COMPANY' PPSI-COLA			--	--	--	--	112SAND	SAND	
425051	COMPANY' PPSI-COLA			--	--	--	--	112SAND	SAND	
425052	COMPANY' PPSI-COLA			--	--	--	--	112SAND	SAND	
425053	COMPANY' PPSI-COLA			--	--	--	--	112SAND	SAND	
425054	COMPANY' PPSI-COLA			--	--	--	--	112SAND	SAND	
425055	COMPANY' PPSI-COLA			--	--	--	--	112SAND	SAND	

Latitude (CGS683)	Longitude (CGS683)	Wavelength (GPM)	Depth (m)	US CF	US WATER	STAFF IDENTIFIER
425002	073332	--	--	F	F	250-357-17 SN 304
425004	073332	--	--	F	F	250-358-12 SN 305
425009	073353	--	--	F	F	250-359-2 *
425012	073353	5.00	--	F	F	250-359-1
425013	073353	5.00	--	C	C	250-359-11 SN 143
425016	073353	--	--	F	F	250-359-7
425019	073353	--	--	F	F	250-359-4
425019	073353	--	--	F	F	--
425019	073353	--	--	F	F	250-359-10
425021	073353	--	--	F	F	SN 307
425021	073353	--	--	F	F	250-359-1
425022	073353	--	--	F	F	--
425023	073353	4.00	--	F	F	250-359-5
425023	073353	--	--	F	F	SN 307
425023	073353	--	--	F	F	250-359-6
425023	073353	--	--	F	F	SN 137
425023	073353	--	--	C	C	250-359-11
425029	073353	--	--	C	C	SN 306
425030	073353	0.00	--	C	C	250-359-3
425034	073353	--	--	F	F	250-359-2
425035	073353	--	--	F	F	250-359-1
425035	073353	--	--	F	F	250-359-7
425039	073353	1.00	--	N	N	250-359-12
425039	073353	--	--	F	F	SN 144
425039	073353	1.00	--	F	F	250-359-13
425039	073353	1.00	--	F	F	SN 145
425039	073353	1.00	--	F	F	250-359-14
425040	073353	--	--	F	F	SN 146
425040	073353	--	--	F	F	250-359-2
425047	073353	--	--	F	F	250-359-11
425047	073353	--	--	F	F	SN 14
425047	073353	2.00	--	F	F	250-359-3
425050	073353	--	--	F	F	250-359-4
425053	073353	0.00	--	F	F	250-359-2
425053	073353	0.00	--	F	F	SN 12
425053	073353	0.00	--	F	F	250-359-7
425053	073353	0.00	--	F	F	SN 12

LATITUDE (CL 66113)	LONGITUDE (CL 66113)	CANAL	DEPTH DRIILLED (FEET)	WATER LEVEL (FEET)	TO OPEN INTERVAL (FEET)	OPEN INTERVAL (FEET)	AQUIFER CODE	LITH- CLOGY CODE
425099	0735554	BOYMAN T.	--	--	--	--	112SDGV	SDGL
425057	0735631	SLERVILLE TOWNSHIP	--	--	--	--	112SDGV	SDGL
425059	0735509	WILLS E. F.	--	--	--	--	3600DVC	SHLE
425110	0735501	CO. AIRPORT SCHENECTAY	--	--	--	--	3600DVC	SHLE
425112	0735504	SLERVILLE TOWNSHIP	--	--	--	--	112SDGV	SDGL
425116	0735493	SPRINGFIELD	--	--	--	--	112SAND	SAND
425107	0735492	SPRINGFIELD	--	--	--	--	112SAND	SAND
425113	0735504	CO. AIRPORT SCHENECTAY	--	--	--	--	3600DVC	SHLE
			--	--	--	--	3600DVC	SHLE

GROUND-WATER SITE DATA

DATA RELIABILITY (C3)	C L M U field checked, location, poor, minimal data, un-checked, checked	SITE TYPE (C2)	C D E F H I M O P T W X collector, drain, excavation, sink-hole, connector well, multiple wells, outcrop, pond, tunnel, well, test hole
DATE OF CONSTRUCTION (C21)		- - 19 month day year	
USE OF SITE (C23)	A C D E G H M O P R S V X Z anode, standby, drain, geo-thermal, seismic, heat reservoir, mine, obser-vation, oil or gas, recharge, repres-surize, test, unused, with-drawel, waste, des-royed	SECONDARY USE OF SITE (C301) (SEE USE OF SITE)	☐ TERTIARY USE OF SITE (C302) (SEE USE OF SITE)
USE OF WATER (C24)	A B C D E F H I J K M N P Q R S T U Y Z air cond., bot-tling, commer-cial, de-water, power, fire, domes-tic, irri-gation, industrial mining, medi-cinal, indus-trial, public supply, aqua-culture, recrea-tion, stock, insti-tutional, unused, desalin-ation, other		
SECONDARY USE OF WATER (C25) (SEE USE OF WATER)	☐	TERTIARY USE OF WATER (C26) (SEE USE OF WATER)	☐
AQUIFER TYPE (C713)	U N C M X unconfined, single, unconfined, multiple, confined, single, confined, multiple, mixed	PRIMARY AQUIFER (C714)	
WELL DEPTH (C27)	-	WELL DEPTH (C28)	-
SOURCE OF DEPTH DATA (C29)	A D G L M O R S Z other gov't., driller, geol-ogist, logs, memory, owner, other reported, other agency		
WATER LEVEL (C30)	-	DATE WATER LEVEL MEASURED (C31) (Mandatory if C30, water level, has a value)	- - 19 month day year

METHOD OF WATER-LEVEL MEASUREMENT (C34)	A B C E G H L M N R S T V Z airline, analog, calibrated airline, estimated, pressure gage, calibrated pres. gage, geophys-ical logs, manometer, non-rec. gage, reported, steel tape, electric tape, calibrated elec. tape, other		
SITE STATUS FOR WATER LEVEL (C37)	D E F G H I J N O P R S T V W X Z dry, recently flowing, flowing, nearby flowing, nearby recently flowing, injector site, injector site monitor, measure-ment discon., obstruc-tion, pumping, recently pumped, nearby pumping, nearby recently pumped, foreign sub-stance, well des-royed, surface water effects, other		
SOURCE OF WATER-LEVEL DATA (C33)	A D G L M O R S Z other gov't., driller, geologist, logs, memory, owner, other reported, other agency		

CONSTRUCTION DATA

RECORD TYPE (C754)	☐	RECORD SEQUENCE NO. (C723)	☐	DATE OF CONSTRUCTION (C60)	- - 19 month day year
NAME OF CONTRACTOR (C63)			SOURCE OF DATA (C64)	A D G L M O R S Z other gov't., driller, geol-ogist, logs, memory, owner, other reported, other agency	
METHOD OF CONSTRUCTION (C85)	A B C D H J P R T V W Z air-rotary, bored or augered, cable tool, dug, hydraulic rotary, jetted, air per-cussion, reverse rotary, trenching, driven, drive wash, other				
TYPE OF FINISH (C66)	C F G H O P S T W X Z porous concrete, gravel w/perf., gravel screen, horiz. gallery, open end, perf. or slotted, screen, sand point, welled, open hole, other			TYPE OF SEAL (C67)	B C G N Z benton-ite, clay, cement grout, none, other
BOTTOM OF SEAL (C68)			METHOD OF DEVELOPMENT (C69)	A B C J N P S Z air-lift pump, bailed, compressed air, jetted, none, pumped, surged, other	
HOURS OF DEVELOPMENT (C70)			SPECIAL TREATMENT (C71)	C D E F H M Z chem-icals, dry ice, explo-sives, deflo-culent, hydro-frao-turing, mech-anical, other	

National Water Information System
Ground-Water File

6.7.1.2 DEPTH TO BOTTOM OF UNIT
(LGBOT/C92 - CHAR X(8) in 47-54):

Enter the depth to the bottom of this lithologic unit, in feet below land surface. This field should be specified for all units except the last one in the hole.

6.7.1.3 UNIT IDENTIFIER
(LGAQFR/C93 - MANDATORY SECONDARY-KEY CHAR X(8) in 55-62):

Enter the eight-character code identifying the lithologic unit (see App. F in the WATSTORE User's Guide). (The terms BASEMENT and BEDROCK will be accepted as legal values.) The unit identifier is mandatory.

6.7.1.4 LITHOLOGY
(LGLITH/C96 - SECONDARY-KEY CHAR X(4) in 63-66):

Enter the code indicating the principal lithology of this unit. The codes are:

Rock Term	Abbreviation
-----	-----
Alluvium	ALVM
Anhydrite	ANDR
Anorthosite	ANRS
Arkose	ARKS
Basalt	BSLT
Bentonite	BNTN
Boulders	BLDR
Boulders and sand	BLSD
Boulders, silt, and clay	BLSC
Breccia	BRCC
Calcite	CLCT
Caliche (hard pan)	CLCH
Chalk	CHLK
Chert	CHRT
Clay	CLAY
Clay, some sand	CLSD
Claystone	CLSN
Coal	COAL
Cobbles	COBB

National Water Information System
Ground-Water File

Cobbles and sand	COSD
Cobbles, silt, and clay	COSC
Colluvium	CLVM
Conglomerate	CGLM
Coquina	CQUN
Diabase	DIBS
Diorite	DORT
Dolomite	DLMT
Drift	DRFT
Evaporite	EVPR
Gabbro	GBBR
Glacial (undifferentiated)	GLCL
Gneiss	GNSS
Granite	GRNT
Granite, gneiss	GRGN
Gravel	GRVL
Gravel and clay	GRCL
Gravel, cemented	GRCM
Gravel, sand, and silt	GRDS
Gravel, silt and clay	GRSC
Graywacke	GRCK
Greenstone	GNST
Gypsum	GPSM
Hard pan	HRDP
Igneous (undifferentiated)	IGNS
Lignite	LGNT
Limestone	LMSN
Limestone and Dolomite	LMDM
Loam	LOAM
Loess	LOSS
Marble	MRBL
Marl	MARL
Marlstone	MRLS
Metamorphis (undifferentiated)	MMPC
Muck	MUCK
Mud	MUD
Mudstone	MDSN
Other	OTHR
Outwash	OTSH
Overburden	OBDN
Peat	PEAT
Quartzite	QRTZ
Residium	RSDM
Rhyolite	RYLT
Rock	ROCK
Rubble	RBBL
Sand	SAND
Sand and clay	SDCL

National Water Information System
Ground-Water File

Sand and gravel	SDGL
Sand and silt	SDST
Sand, gravel, and clay	SGVC
Sand, some clay	SNCL
Sandstone	SNDS
Sandstone and shale	SDSL
Saprolite	SPRL
Schist	SCST
Sedimentary (undifferentiated)	SDMN
Serpentine	SRPN
Shale	SHLE
Silt	SILT
Silt and clay	STCL
Siltstone	SLSN
Slate	SLTE
Soil	SOIL
Syenite	SYNT
Till	TILL
Travertine	TRVR
Tuff	TUFF
Volcanic (undifferentiated)	VLCC

6.7.1.5 CONTRIBUTING UNIT
(LGCONT/C304 - CHAR X in 67):

Enter the following code to indicate whether the unit is to be considered the principal aquifer. If this field is left blank, the edit program will value this component with a default of "U" and will print a warning message to that effect.

P - Principal contributing aquifer (only one per site)
S - Secondary contributing aquifer
N - Contributes no water
U - Unknown contribution

If C93 (aquifer code in geohydrology file) exists and C304 (contributing unit) is equal to "P", then C714 (aquifer code) is set equal to C93.

6.7.1.6 RESERVED FOR FUTURE USE (LGRESV - CHAR X(10) in 68-77):

NEW YORK

CENOZOIC

CENOZOIC ERATHEM..... 100CNZC

QUATERNARY

QUATERNARY SYSTEM..... 110QNRH

HOLOCENE

ALLUVIUM..... 111ALVM
 BAY-BOTTOM DEPOSITS..... 111BBTM
 BEACH (SHORE) DEPOSITS..... 111BECH
 DUNE (AEOLIAN) DEPOSITS..... 111DUNE
 FILL..... 111FILL
 HOLOCENE SERIES..... 111HLCN
 LAKE DEPOSITS..... 111LAKE
 SALT-MAKSH DEPOSITS..... 111SLMR
 TERRACE DEPOSITS..... 111TRRC

PLEISTOCENE

GLACIAL DELTA DEPOSITS..... 112GLCD
 GLACIAL AQUIFER, UPPER..... 112GLCLU
 GARDINERS CLAY..... 112GRDR
 HARBOR HILL DRIFT..... 112HBDH
 HARBOR HILL OUTWASH..... 112HBDH
 HARBOR HILL TILL..... 112HBMT
 HARBOR HILL GROUND MORaine..... 112HHGM
 HARBOR HILL TERMINAL MORaine..... 112HHTM
 ICE-CONTACT DEPOSITS..... 112ICNC
 JAMECO AQUIFER..... 112JMCQ
 KAME TERRACE DEPOSITS..... 112KMTG
 LAKE DEPOSITS..... 112LAKE
 OUTWASH..... 112OTSH
 RONKONKOMA GROUND MORaine..... 112RKGM
 RONKONKOMA DRIFT..... 112RKKO
 RONKONKOMA OUTWASH..... 112RKKO
 RONKONKOMA TILL..... 112RKKT
 RONKONKOMA TERMINAL MORaine..... 112RKTG
 SAND..... 112SAND
 SAND AND GRAVEL..... 112SDGV
 SMITHTOWN CLAY..... 112SMTN
 TILL..... 112TILL
 20-FOOT CLAY..... 1122OCL

TERTIARY

PLIOCENE

MANNETTO GRAVEL..... 121MNNT

MESOZOIC

MESOZOIC ERATHEM..... 200MSZC

CRETACEOUS

CRETACEOUS SYSTEM..... 210CRCS

UPPER CRETACEOUS

UPPER CRETACEOUS SERIES..... 211CRCSU

LLOYD AQUIFER..... 211LLYD

MAGOTHY AQUIFER..... 211MGTY

MONMOUTH GREENSAND..... 211MMGD

MATAWAN GROUP-MAGOTHY FORMATION..... 211MNMG

MONMOUTH GROUP..... 211MNMT

MATAWAN FORMATION..... 211MTWN

RAKITAN FORMATION..... 211RRTN

TRIASSIC

TRIASSIC SYSTEM..... 230TRSC

UPPER TRIASSIC

BRUNSWICK FORMATION..... 231BRCK

NEWARK GROUP..... 231NWRK

PALISADE DIABASE..... 231PLSD

STOCKTON FORMATION..... 231STCN

UPPER TRIASSIC SERIES..... 231TRSCU

PALEOZOIC

PALEOZOIC ERATHEM..... 300PLZC

PENNSYLVANIAN

PENNSYLVANIAN SYSTEM..... 320PSLV

MIDDLE PENNSYLVANIAN

POTTSVILLE FORMATION..... 324PSVL

MISSISSIPPIAN

MISSISSIPPIAN SYSTEM..... 330MSSP

LOWER MISSISSIPPIAN

POCONO GROUP..... 337POCN

DEVONIAN

DEVONIAN SYSTEM..... 340DVNN

UPPER DEVONIAN

CANADAWAY GROUP.....	341CNDY
CONEWANGU GROUP.....	341QNNG
CONNEAUT GROUP.....	341CNNT
UPPER DEVONIAN SERIES.....	341DVNNU
GENESEE FORMATION.....	341GENS
JAVA-WEST FALLS FORMATION.....	341JVWF
SONYEA FORMATION.....	341SONY

MIDDLE DEVONIAN

MIDDLE DEVONIAN SERIES.....	344DVNNM
ESOPUS SHALE.....	344ESPS
HAMILTON GROUP.....	344HMLN
ONONDAGA LIMESTONE.....	344ONOG
TULLY LIMESTONE.....	344TLLY

LOWER DEVONIAN

LOWER DEVONIAN SERIES.....	347OVNNL
HELOERBERG GROUP.....	347HDBG
ORISKANY SANDSTONE.....	347ORSK

SILURIAN

GREEN POND CONGLOMERATE.....	350GRPD
SILURIAN SYSTEM.....	350SLRN

UPPER SILURIAN

AKRON-COBLESVILLE-BERTIE FORMATIONS, UNDIFFERENTIATED.....	351ACBB
AKRON DOLOMITE.....	351AKRN
BINNEWATER SANDSTONE.....	351BNTH
BERTIE LIMESTONE.....	351BRTI
COBLESKILL LIMESTONE.....	351CBLK
CAMILLUS SHALE.....	351CMLS
LONGWOOD SHALE.....	351LNOD
SALINA GROUP.....	351SLIN
UPPER SILURIAN SERIES.....	351SLRNU
SYRACUSE SALT.....	351SRCS
VERNON SHALE.....	351VRNN

MIDDLE SILURIAN

CLINTON GROUP.....	354CLNN
MIDDLE SILURIAN SERIES.....	354SLRNM
SHAWANGUNK CONGLOMERATE.....	354SNGK

NIAGARAN

LOCKPORT DOLOMITE.....	355LCKP
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LOWER SILURIAN

ALBION GROUP.....	357ALBN
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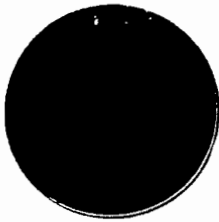
LOWER SILURIAN SERIES.....	357SLRNL
ORDOVICIAN	
ORDOVICIAN SYSTEM.....	3600DVC
UPPER ORDOVICIAN	
LORRAINE SHALE.....	361LRRN
UPPER ORDOVICIAN SERIES.....	3610DVCU
OSWEGO SANDSTONE.....	3610SWG
QUEENSTON SHALE.....	361QNSN
UTICA SHALE.....	361UTIC
MIDDLE ORDOVICIAN	
BERKSHIRE SCHIST.....	364BRKR
CHAZY GROUP.....	364CHZY
CANAJOHARIE SHALE.....	364CNJR
NORMANSKILL FORMATION.....	364NMKL
MIDDLE ORDOVICIAN SERIES.....	3640DVCM
SNAKE HILL FORMATION.....	364SKHL
TRENTON-BLACK RIVER GROUP.....	364TBRV
TRENTON GROUP.....	364TRNN
WALLOOMSAC SLATE.....	364WLMC
LOWER ORDOVICIAN	
BEEKMANTOWN GROUP.....	367BKMN
LOWER ORDOVICIAN SERIES.....	3670DVCL
POULTNEY SLATE.....	367PLTN
TRIBES HILL LIMESTONE.....	367TBHL
CAMBRIAN	
CAMBRIAN SYSTEM.....	370CMBR
UPPER CAMBRIAN	
MIDDLE CAMBRIAN SERIES.....	371CMBRM
UPPER CAMBRIAN SERIES.....	371CMBRU
LITTLE FALLS DOLOMITE.....	371LLFL
POTSDAM SANDSTONE.....	371PSDM
TACONIC SEQUENCE.....	371TCSQ
THERESA DOLOMITE.....	371THRS
MIDDLE CAMBRIAN	
MIDDLE CAMBRIAN SERIES.....	374CMBRM
STOCKBRIDGE GROUP.....	374SKBG
LOWER CAMBRIAN	
BULL SLATE.....	377BULL
LOWER CAMBRIAN SERIES.....	377CMBRU
DALTON FORMATION.....	377DLTN

ELIZAVILLE AND BERKSHIRE FORMATIONS.....	377EZVB
NASSAU FORMATION.....	377NSSU
POUGHQUAY QUARTZITE.....	377PGUY
SCHODACK FORMATION.....	377SCCK
STISSING DOLOMITE.....	377SSNG

PRECAMBRIAN

BASEMENT COMPLEX.....	400BCPX
PRECAMBRIAN ERATHEM.....	400PCMB

REFERENCE NO. 24



Karen B. Johnson
MAYOR

CITY OF SCHENECTADY

October 9, 1990

Thomas C. Jorling
Commissioner of the Department
of Environmental Conservation
50 Wolf Road
Albany, New York

Dear Commissioner Jorling:

I am writing to you in regard to United Plating, Inc., a business located at 1776 Foster Avenue in the City of Schenectady. As you know, the City is joined together with you and the State of New York bringing a civil action against this business upon our discovery that there was serious contamination at the site of hazardous chemicals and improper storage and disposal of hazardous chemicals. Additionally, there are many safety related code violations at the site that increase the immediate risk of a very serious health hazard to the surrounding neighborhood.

I am requesting immediate consideration by your Department for a funded barrel removal through New York State Superfund monies. In support of this request, enclosed please find report from the City's Environmental Health Director indicating that the site poses an imminent health hazard and a report from our Building Inspector and Fire Chief indicating the potential for serious fire at the site. Also enclosed please find the report from Gary Johnston of your office indicating the extent of improper hazardous chemical storage that exists on the site. My discussion with local and state officials has lead me to believe that there is a serious risk of contamination of the neighborhood from vandalism or fire, or from freezing and rupture of these tanks and barrels in the coming winter months. Any of these possible events would result not only in a risk to the citizens of the City of Schenectady but also, due to the site's close proximity immediately above the Mohawk River, in a severe contamination of the river with serious consequences for all users downstream.

October 9, 1990

I firmly believe that immediate State assistance is required because the defendant, although made aware of the problem more than two months ago, has taken no steps to mitigate the problem and I believe that he is without funds to undertake this task. He owes \$10,000.00 to the City for monitoring and testing of discharges into the city sewer system as well as \$17,500.00 in back taxes for over the last year and a half. He has shown no ability to even preserve the property to the extent that the City recently spent additional monies to secure the perimeter of the property when defendant failed to do so.

If you require additional information, you may contact the Deputy Corporation Counsel William W. Oliver at 382-5073.

While I recognize that there are limited funds available and many demands from other localities to be included in the Superfund budget, I trust that the urgency and the severity of this matter will enable you to provide necessary funds for removal of hazardous material stored at this site.

Very truly yours,

KAREN B. JOHNSON
Mayor

ja

cc: William W. Oliver, Esq.
Deputy Corporation Counsel
City of Schenectady

Jane McGee, Esq.
EnCon Region 4 Office
2176 Guilderland Avenue
Schenectady, New York 12306

RECEIVER'S
FILE NO. _____

CITY OF SCHENECTADY

SENDER'S
FILE NO. _____

INTER-DEPARTMENT CORRESPONDENCE SHEET

June 22, 1990

To: William Oliver, Corporation Counsel's Office
From: Stephanie L. Scuderi, Director of Public Health
Jack Parisi, Director of Environmental Health
Copies To:
Subject: United Plating Inspection

This is being submitted to document the observations and recommendations regarding implications to the health of the public at the site of the United Plating Co. at 1776 Foster Ave. In my capacity as Public Health Director, I have been charged by both the City of Schenectady and the State of New York, to manage the public health programs within the City. This includes the responsibility to ensure that all individuals, businesses, etc. uphold the City Code of Ordinances as they relate to public health, and to ensure that any violations of the State Sanitary Code are promptly abated, or otherwise brought into compliance as required by regulation.

On Tuesday, June 19, at 10:15 a.m. the Director of the Bureau of Environmental Health and I made a joint inspection to the above-mentioned facility with representatives from the Fire and Water/Wastewater Departments, and the New York State DEC. The inspection team was accompanied by Mr. Chris LeGere, owner of the plant.

From the perspective of the City Health Department, there were several specific violations observed at the site which are contrary to City Ordinances and the New York State Sanitary Code.

City Ordinance 208-15 (relating to Garbage, Rubbish and Junk) and 208-16 (relating to Lumber, Barrels, Bottles and Containers) are both in clear violation at the site in the rear of the building outside. There is a veritable dump site of about one-half acre in size consisting of a large quantity of discarded materials, 10-12 empty vats, 50-70 variously sized containers (including empty 55-gallon drums and 30-gallon barrels) and other equipment relating to the operation

of the facility which has been placed haphazardly on the grounds, and unsecured from public access, as there is no fence around the property to prevent such access.

City Ordinance 208-14 (relating to Waste Animal or Vegetable Matter) is also in violation. It was observed that there were dead pigeon carcasses, and significant accumulations of feces both outside the building, and especially noted on the fourth, fifth, and sixth floors.

New York State Sanitary Code Part 1, Chapter 8 (relating to Nuisances Which May Affect Life and Health) also can be cited to be in violation, for the following reasons:

1) At least one recent complaint has been received by the Bureau of Environmental Health regarding the unsecured dumping area at the rear of the building. On observation, it was noted that the large quantity of tanks and other materials used in the plating process appeared to contain residues of unknown substances to which the public can come easily into contact, as there is no fencing around the property (as was mentioned above) to prevent this access. In this area, there is a definite potential for accidental injury and/or possible toxic exposure to the public.

2) Mosquito breeding areas are observed in the tanks and on the grounds at the rear of the building.

3) Inside the building, a large quantity and variety of containers of known and unknown chemicals was observed. The owner reported that many of these chemicals had been in the building in excess of twenty years. The dangerous potential for a severe public health crisis is clearly present, especially if another fire or other combustion were to occur, or if non-compatible chemicals were to come in contact, due to improper handling.

4) In the section of the building which is reportedly used for Chrome plating, there is a marked haze which can be observed in the air, and several of the individuals inspecting the premises later reported some health-related complaints, including eye irritations, after visiting the site.

In sum, because of the multiple types and varieties of hazardous conditions observed at the site of the United Plating building and grounds, it would be the recommendation

of the City Health Department that immediate abatement of all of the violations be fully completed and approved before this facility is allowed to operate again.. Additionally, we would like to see a full environmental assessment performed both outside and inside the building, including soil sampling, etc.

Full access to the building should be allowed to ensure that continuous inspection and evaluation can be made by the City Health Department and all other City services to monitor the abatement of the observed health and other Code violations.

RECEIVER'S
FILE NO. _____

CITY OF SCHENECTADY

SENDER'S
FILE NO. _____

INTER-DEPARTMENT CORRESPONDENCE SHEET

DATE June 25, 1990

To: William Oliver, Deputy Corporation Counsel

From: Arthur Choquette, Plumbing Inspector

Copies To: Mayor Johnson- John Camileo, Building Inspector

Subject: Re: 1776 Foster Avenue- United Plating Co

An inspection was made of the subject property on June 20, 1990 and the following violations were found to exist in the plumbing system:

1. The 1½" water service lacks a back flow preventer.
2. Plastic tubing has been installed in the water supply system to various hose bibb and processing tank piping throughout the building.
3. The water supply piping to the chemical processing tanks lack back flow prevention.
4. The 4" cast iron vent stack from the 4" sanitary building drain installed during the month of November, 1989 has not been extended through the roof, thus allowing for the emission of sewer gas.
5. A 3" PVC plastic drain has been installed from the second floor floor drains which discharges into a plastic barrel on the ground floor.
6. The 4" C.I. roof leader piping is pitched in the wrong direction. This piping had previously discharged into the sanitary sewer. It is now capped off with 3" PVC plastic into the existing 4" cast iron at the floor level. This roof leader piping now discharges to the rear of the building and is back pitched.
7. The roof leader piping has been reduced to 3" PVC plastic for a back yard discharge.
8. There is a non-functionable water closet located in the former Coca Cola building.
9. There is a 2" PVC plastic drain from the second floor to the 4" vent stack located at the Coca Cola room.
10. The 4" plastic tubing drains from the chemical processing tanks (which carries toxic drainage overhead) lack proper hanger support.
11. The air scrubber located in the generator room has plastic tubing serving as the water supply piping.
12. There are numerous non-functionable drains and water piping serving no fixtures through the building.

RECEIVER'S
FILE NO. _____

CITY OF SCHENECTADY

SENDER'S
FILE NO. _____

INTER-DEPARTMENT CORRESPONDENCE SHEET

DATE _____

to: _____

from: _____

Copies To: _____

Subject: Re: 1776 Foster Road- United Plating Co.

13. The roof drain (5th floor) leaks and has 3" galvanized corrugated piping serving as roof leader piping within the building.

14. The roof drain from the 6th floor also has 3" galvanized corrugated down-spout piping serving as roof leader piping within the building.

15. The 3rd floor and 4th floors have 3" PVC plastic tubing drains discharging into an open fiber-glass tank on the ground floor.

The following corrections must be made:

1. Install a reduced pressure zone back flow preventer to the water service piping at its entrance to the building.

2. Plastic tubing has not been approved for the water distribution system in the City of Schenectady. Replace this plastic piping with type "L" copper tubing or galvanized pipe.

3. Install watts #288a atmosphere vacuum breaker (or equal) on all piping to the chemical processing tanks with an air gap.

4. Extend the 4" cast iron vent stack through the roof.

5. Remove this drain or repipe to the sanitary drain as per city code, using approved materials.

6 & 7. Repipe this cast iron roof leader piping using proper pitch and flow in the proper direction. This drain must be the original 4" diameter piping.

8. Remove the water closet and caulk a clean out into the sanitary drain to plug off.

9. Remove this 2" PVC plastic drain and properly cap off at the vent stack.

10. Re-hang this over head toxic drain using clevis hangers and 3/8" threaded rod and support at proper intervals according to code.

11. Replace as per (2) .

12. Remove all dead-end drains & water piping back to its source and properly cap off.

RECEIVER'S
FILE NO. _____

CITY OF SCHENECTADY

SENDER'S
FILE NO. _____

INTER-DEPARTMENT CORRESPONDENCE SHEET

DATE _____

From: _____

Copies To: _____

Subject: Re: 1776 Foster Avenue United Plating Co.

13 & 14 Replace the 3" corrugated roof drain piping within the building with 4" cast iron.

15. Plastic tubing has not been approved for commercial use. Remove this improper PVC drain piping.

A permit must be obtained by a licensed plumber before commencing any work.

Items (1)(2)(3) are to be considered as possible high hazard cross connections as the potable water system is supplying water to chemical tanks, containing highly toxic chemicals.

If the water supply were to be turned off, it may be possible under certain conditions, to syphon these chemicals back into the building and city water main.

Therefore, because of this condition, I feel that the protective devices discussed, must be installed and items (1)(2)(3) corrected immediately before allowing this business to continued to operate.

Items 4 thru 15 may be given the normal 30 days period for completion.

I have been the City of Schenectady Plumbing Inspector for approximately 11 years, and have served as a plumber since 1946, installing plumbing, heating and air conditioning systems.


Arthur Choquette
Plumbing Inspector

db

PROJECT GRID

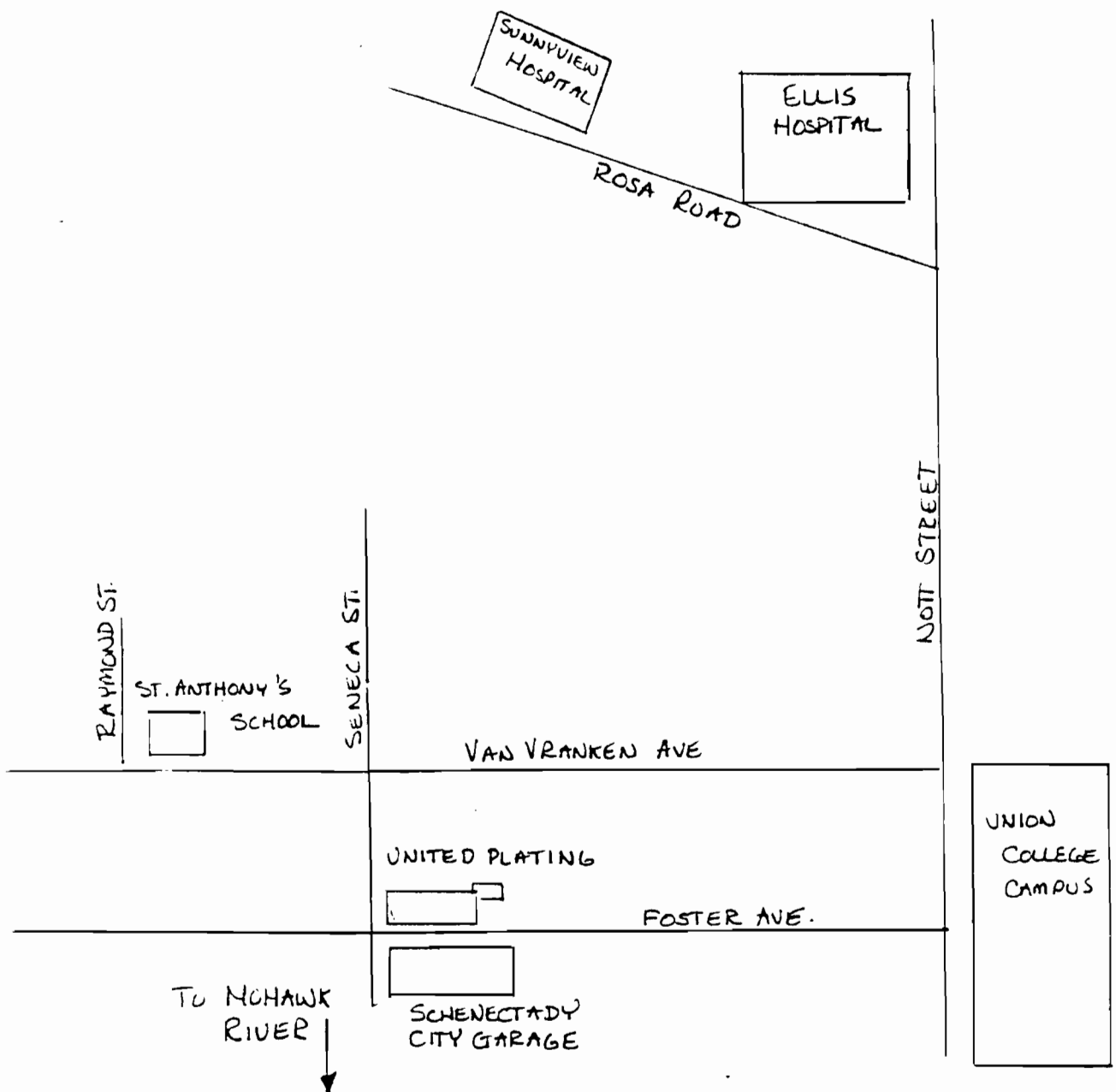


UNITED PLATING

4

DATE 11/07/90

← NORTH



RECEIVER'S
FILE NO. _____

CITY OF SCHENECTADY

SENDER'S
FILE NO. _____

INTER-DEPARTMENT CORRESPONDENCE SHEET

DATE June 25, 1990

To: William Oliver, Corporation Counsel

From: Carl S. Derwig, Assistant Chief - Department of Fire *150/50*

Copies To: _____

Subject: United Plating Company

On Tuesday, June 19, 1990 Assistant Chief Johnson and I inspected the United Plating Company located at 1776 Foster Avenue, accompanied by officials from other interested city agencies. We were taken on a tour of the six story structure by the business owner Chris Le Gere.

Fire inspection involved the following points:

- Housekeeping (Fire Prevention)
- Firefighting Problems (Environmental Concerns)

HOUSEKEEPING (FIRE PREVENTION):

We found deplorable housekeeping conditions. Most of the building interior could best be described as an indoor junk yard. Stored material varied from room to room/floor to floor. We found areas stacked with barrels of chemical sludge and corroded barrels were evident.

Poor lighting and ventilation were the norm. In the first floor manufacturing area the air was laced with a heavy chemical smell and color. The helter/skelter and cluttered placement/storage of chemicals, unused equipment and junk point to an irresponsible and sloppy operation - not to be tolerated in a business dealing with hazardous chemicals.

Rotted roof planks were observed with one end dropped and supported by an electrical conduit running below. Electrical equipment was poorly maintained and corroded. No fire detection system was noted.

Outside the rear of the building was being used as a catch-all for additional junk and empty plastic chemical barrels - an attractive nuisance for children. Holes were observed in the roof, allowing for rain water and pigeons to enter the building.

FIRE FIGHTING PROBLEMS (ENVIRONMENTAL CONCERNS)

Due to the sheer size of the structure, a former brewery, the building would pose a major extinguishment and environmental problem should fire strike. The nature of the business conducted at the site presents significant problems for our public safety agencies:

United Plating (cont'd)

- The large amount of chemicals used and stored on the premises would preclude firefighters from entering the structure on anything other than a minor fire.
- A major fire in a structure of this size would generate large amounts of toxic smoke, especially if it were to involve the areas of chemical processing and storage.
- Atmospheric conditions may present a significant problem during fire operations.

HOT HUMID HAZY WEATHER (No Breeze)

Smoke would settle out along the Foster Avenue, Carrie Street and Maxon Road areas.

NORMAL WESTERLY WIND OR BREEZE

Smoke will be blown up and across the Van Vranken Avenue, Avenue A & B and the Lenox Road areas.

- Water/chemical runoff during firefighting operations would present an environmental problem in the immediate area and the Mohawk River.

To sum up, from a Fire Department view-point, the building and the plating business poses a firefighting and environmental nightmare under major fire conditions. The building being much larger than needed, presents a fire load all out of proportion to a structure properly designed to house a business of this type.

Evacuation of homes in the area will be a must during any major fire involving this structure.

REFERENCE NO. 25

INITIAL POLREP

I. HEADING

DATE: November 21, 1990
FROM: Charles Fitzsimmons, OSC
U.S. EPA Region II Response and Prevention Branch
TO: R. Caspe, EPA M. Mentzer, EPA-ORC
R. Salkie, EPA S. Becker, EPA-PS
J. Marshall, EPA E. Hamilton, NYSDEC
M. O'Toole, NYSDEC
ERD, (E-Mail)
TAT
SUBJECT: United Plating, Schenectady, New York
POLREP: POLREP 1

II. BACKGROUND

Site No.: 6W
D.O. No.: N/A
Respond Authority: CERCLA/SARA
NPL Status: Non NPL
Start Date: November 17, 1990
Approval Status: Pending
Status of Action Memorandum: Under preparation

III. INCIDENT INFORMATION

A. SITUATION

United Plating Company is an electro plating facility located at Schenectady, New York, which was closed in July by court order. The buildings on site have been abandoned and contain hundreds of drum filled with cyanide solutions, acids and caustic solutions. It has been estimated that there exists approximately 2000 containers (over 7,000 gallons) of unknown, unlabeled hazardous waste. Numerous health and safety violations as well as poor storage of chemicals were reportedly present on-site. This situation projected the request from the New York State Department of Environmental Conservation (NYSDEC) for EPA-RAB assistance by the U.S. Environmental Protection Agency.

B. ACTION TAKEN

1. On Saturday, November 17, 1990, EPA, TAT, NYSDEC and ERCS, conducted a site assessment of the building in protective clothing (Level B).
2. Air monitoring was conducted throughout the facility with a organic vapor analyzer (OVA) a combustible gas indicator and oxygen meter (CGI/O₂) AND A radiation Survey meter. There were no readings above

background on the CGI/O₂, or the Radiation Survey meter. The OVA had a reading of one unit above background throughout the facility.

3. Site was bordered up to prevent trespasses access and round-the-clock security was initiated.

The building contained the following items:

1. 30 vats of unknown liquid on the first floor approximately 10,000 gallons.
2. 150 drums of zinc cyanide or sulfur cyanide solutions approximately 8,000 gallons.
3. Oxidizers and bases were stored adjacent to each other - 76 gallons of hydroflouricacid 15 gallons of chromic acid, 20 gallons of containers of unknown acids, 19 containers of unknowns and 142 containers of various sizes of chemicals (unknown)
4. A very large quantity (over five shelves 10 feet long) of a variety of lab chemicals in small bottles.

TAT also photodocumented the interior of the building.

C. NEXT STEPS

1. An Action Memorandum is currently being drafted to address the immediate danger to human health, welfare, and the environment.
2. The proposed action will include separation of like chemicals, overpacking of deteriorated drums, sampling the unknown container and vats, and the removal of all hazardous materials on site.

D. KEY ISSUES

The site represents an imminent threat through direct contact or inhalation should a fire ensue.

IV. FUTURE PLANS AND RECOMMENDATIONS:

- A. Removal action will commence on or about 12/05/90.

V. COST INFORMATION

A. Not available at this time.

FURTHER
POLREPS
FINAL POLREP FORTHCOMING X SUBMITTED BY Ch. Fitzsimmons
Charles Fitzsimmons, OSC
Bonita Green, OSC
Response and Prevention
Branch

DATE RELEASED 12-4-80

REFERENCE NO. 26

To Gen

Request for a Removal Action at United Plating Inc., Site, City of Schenectady, County of Schenectady, New York - ACTION MEMORANDUM

Charles E. Fitzsimmons, On-Scene Coordinator
Response and Prevention Branch

Constantine Sidamon-Eristoff
Regional Administrator

Richard L. Caspe, P.E., Director
Emergency and Remedial Response Division

SITE ID NO.: 6W

I. PURPOSE

The purpose of this Action Memorandum is to request and document approval of the proposed removal action described herein for the United Plating, Inc., site, at 1776 Foster Avenue, City of Schenectady, County of Schenectady, New York. On November 17, 1990, a removal action was initiated under the On-Scene Coordinator's (OSC's) \$50,000 authority by mobilizing site security. There are no nationally significant or precedent setting issues associated with this response.

II. SITE CONDITIONS AND BACKGROUND

The site is an abandoned metal plating facility. The site consists of a five story cement block building and a two story cement block building located in a semi-residential area with several thousand residents located within a half mile of the site. The building is in disrepair and the structural integrity of floors is questionable. Large quantities of drums, tanks and laboratory chemicals are haphazardly stored within the building. Labels on some of the containers indicate the contents to be predominantly solvents, metal oxides, oxidizers and corrosives. Many of these materials are reactive, corrosive and/or poisonous and present the potential for human exposure through direct contact or discharge into the environment. Several of these containers and tanks are in extremely poor condition and/or

CORRECTED 11/29/90-ldavide
FILE: W/Fitzsimmons-United Plating, Schenectady, NY
2ERR:RPB:FITZSIMMONS:340-6608:TP:AM#2:11/27/90:TP:Fin.11/28/90

2ERR-RPB 2ERR-RPB 2ERR-ADREPP 2ERR-ADNYCP
FITZSIMMONS SPRAGUE SALKIE PAVLOU

2ERR-DD 2ORC 2ERR 2OEP 2DRA 2RA
CALLAHAN SCHAAF CASPE MARSHALL MUSZYNSKI SIDAMON-ERISTOFF

(2)

are leaking their contents onto the building floor. Some of the materials are incompatible and may present a serious fire hazard under their present storage conditions. Based on these findings, the site was found to meet the criteria for a time critical removal action.

A. Site Description

1. Removal Site Evaluation

In July of 1990, United Plating Company was ordered to shut down its manufacturing operation by the NYSDEC. Following this closure, several thousand containers were left behind. A preliminary assessment was conducted on November 17, 1990. This inspection revealed approximately 30,000 gallons of bulked liquids contained in various tanks and open plating baths. An estimated 750 drums and 2,000 lab containers are stored haphazardly, irrespective of their contents or condition.

2. Physical Location

This site is located in a commercial/residential area of Schenectady, New York. Several thousand residents live within a half mile of the site. A grammar school and hospital are within a half mile, and the Mohawk River is within a quarter mile of the site. The Mohawk River is a source of drinking water for residents downstream.

3. Site Characteristics

This site is an abandoned metal plating facility. The past operators of this facility have claimed that they were monetarily unable to initiate a removal action or abate the threat in a timely manner. During the manufacturing process United Plating utilized large quantities of corrosive, toxic, flammable and reactive materials.

This will be the first removal action ever conducted at this site.

4. Release or Threatened Release into the Environment of a Hazardous Substance, or Pollutant or Contaminant

Approximately 30,000 gallons of bulked liquids, 750 drums and 2,000 lab containers are stored at the site. Based on information obtained from container labels and drum inventories during EPA's preliminary assessment the following hazardous substances have been tentatively identified at the facility:

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<u>Compound</u>	<u>Statutory Source of Designation as a Hazardous Substance</u>
Copper Cyanide	RCRA § 3001
Nickel Cyanide	RCRA § 3001
Zinc Cyanide	CWA § 311(b)(4)
Nitric Acid	CWA § 311(b)(4)
Sulfuric Acid	CWA § 311(b)(4)
Hydrochloric Acid	CWA § 311(b)(4)
Trichloroethane	CWA § 311(b)(4)
Hydrogen Fluoride	CWA § 311(b)(4)

These hazardous substances are acutely toxic, chronically toxic, corrosive, reactive and/or flammable.

Although most containers on-site are clearly identified, markings and labels on some containers have either been removed or are illegible due to residues on the sides of the containers. These containers will be treated as unknown substances.

The potential health affects from the compounds are identified in the following chart:

Summary of Potential Toxicological Effects of Selected Identified Compounds

COMPOUND	Carcinogenicity Teratogenic Mutagenic Toxic by Inhalation, Ingestion or Dermal Contact Central Nervous System Effects Eye, Skin, Respiratory, or Mucous Membrane Irritant					
Copper Cyanide				X	X	
Nickel Cyanide				X	X	
Zinc Cyanide				X	X	
Nitric Acid				X		X
Sulfuric Acid				X		X
Hydrochloric Acid				X		X
Trichloroethane	X	X	X	X		
Hydrogen Fluoride				X		X

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The mechanism for the most significant release at this site would be through a fire or explosion. The routes of exposure include direct human contact and/or discharge of hazardous substances into the environment. The runoff produced from firefighting operations could contaminate nearby properties, the Mohawk River, and ultimately the groundwater. The Mohawk River is a drinking water source for people downstream. Wind conditions present during a fire or runaway chemical reaction could cause vapors to migrate off-site and with it create the potential for human exposure through inhalation.

5. NPL Status

This site is currently not listed and is currently not proposed for listing on the NPL. This site has not received a Hazard Ranking System rating as yet, but is now being given priority for a preliminary assessment.

B. Other Actions to Date

1. Previous Actions

To date, no actions have been taken by the owner, other Potential Responsible Parties (PRP's), New York State Department of Environmental Conservation (NYSDEC), or Environmental Protection Agency (EPA) to secure or remove any of the hazardous materials from the site.

2. Current Actions

There are no other government or private actions currently being performed at this site.

C. State and Local Authorities' Roles

1. State and Local Actions to Date

On November 15, 1990, Mr. Michael J. O'Toole, Jr., Director of the Division of Hazardous Waste Remediation of the NYSDEC requested that the EPA undertake a removal action under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA) at the subject site. Site security was initiated by NYSDEC following a declaration by the owner of the facility that he could not undertake any type of abatement.

Site security was terminated by NYSDEC following the EPA's preliminary assessment and initiation of site security measures, including 24 hour site security. Future actions by any state or local authority is not anticipated.

2. Potential for Continued State/Local Response

The NYSDEC will not be able to obtain contract services to effect a removal of hazardous substances from this site. Therefore, the State will act in a support role throughout the duration of this removal.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

A. Threat to Public Health and Welfare

Hazardous substances, pollutants or contaminants presently stored in drums, tanks, open vats, and laboratory containers represent a threat to public health and welfare as defined by Section 300.415(b)(2) of the National Contingency Plan (NCP), in that there is an actual ongoing release and/or there is a strong potential for such. The substances, which include but are not limited to, cyanide metal solutions i.e., zinc cyanide, copper cyanide, nickel cyanide, chromium cyanide, strong corrosive solutions i.e., hydrofluoric, hydrochloric, nitric, sulfuric etc., solvent solutions i.e., trichloroethane, alcohols and other degreasers, all represent a threat to the health and welfare of the community. These materials are considered to be highly toxic, corrosive and flammable, in characteristic, by the Resource Conservation and Recovery Act (RCRA). It is estimated that 30,000 gallons of bulked liquids are contained in various tanks and open plating baths. Another approximately 750 drums and 2,000 lab containers are stored without regard to compatibility and in various stages of deterioration.

The facility is located on the western edge of a highly populated commercial/residential neighborhood (prevailing winds are from the west), within a quarter mile of the Mohawk River, and an elementary school. The site is also located approximately one mile from one of Schenectady's major hospitals, all of which could experience a serious health threat should a fire develop. It is also anticipated that firefighters would not be able to avoid contamination from toxic smoke during firefighting efforts. All runoff produced would contaminate nearby properties and directly discharge into groundwater.

There is a potential for direct contact exposure through acts of vandalism or from trespassers. Although the site has 24 hour security, the potential for illegal entry is still very real.

B. Threats to the Environment

There is a potential for discharge into the environment and therefore, this site does meet the criteria for such as described in Section 300.415(b)(2) of the NCP. There is obvious evidence

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of leakage of materials onto the floors. When tested, during EPA's preliminary assessment, with pH paper the stains and puddles registered pH levels of 12 and 2 in most cases, thereby meeting the corrosive characteristic as defined under RCRA.

Floor drains collect this runoff and direct it to an unlined sump area underneath the chrome plating solutions. Presently, this collected material is sitting and may be infiltrating groundwater resources. The groundwater table abuts the building foundation.

C. Evidence of Extent of Release

Evidence of past spill and ongoing releases from deteriorated drums and open containers, is best characterized by stains, puddles and corrosion. Air monitoring performed during EPA's preliminary assessment detected levels of organic vapors above background, in some areas of the building.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

Removal of hazardous substances, pollutants and contaminants and off-site RCRA disposal is the only feasible solution for mitigating threats posed by the situation. Site stabilization without disposal would provide only a temporary solution to the threats posed by the site.

A. Proposed Actions

1. Proposed Action Description

The removal can be broken up into two phases. Phase I activities include overpacking containers, segregating and sampling. Leaking or unsecure containers will be overpacked as necessary. All materials will be staged on premises in a secure area. Containers will be segregated by existing identification labels and container condition to ensure proper separation of incompatible materials. Materials will be sampled as needed for compatibility and disposal purposes. Manufacturers will be solicited to reclaim drums and containers which appear to contain useable product for recycling and reuse. Phase II activities include bulking where feasible, transportation and disposal at approved off-site RCRA facilities.

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Compatible materials will be bulked as deemed practical for transportation and disposal purposes. Post removal site control activities will not be necessary.

2. Contribution to Remedial Performance

The proposed action will, to the extent practicable, contribute to the efficient performance of any long term remedial action with respect to the release or threatened release concerned. Remedial plans, at this time are unknown, however it is anticipated that an investigation into potential groundwater contamination will be required. This removal action is consistent with any long-term remedy action to be taken at this site by removal of the source of the potential groundwater contamination.

3. Description of Alternative Technologies

It is anticipated that recycling and treatment will be the primary disposal options. Recycling of the liquid wastes is the least expensive disposal option. Treatment will include neutralization of the corrosives and will occur off-site. Other disposal options include burning, as fuel, of high BTU and low halogenated organic liquids. Incineration, being the most costly method, would be the disposal option chosen for the non-recyclable material.

4. Applicable or Relevant and Appropriate Requirements (ARARs)

ARARs within the scope of this project, including RCRA and CERCLA regulations that pertain to the disposal of hazardous wastes, will be met to the extent practicable.

5. Project Schedule

Phase I stabilization activities can be initiated within one week of approval of the request for fund authorization. Phase I activities can be completed within four to six weeks. Disposal analysis turnaround time is estimated to take another six weeks. Final removal and disposal should be complete within ten weeks of receipt of the disposal analysis results. The entire project should take twenty two weeks to complete. Notifying and coordinating with manufacturers to reclaim materials should add or delete two to four weeks.

B. Estimated Costs**1. Extramural Costs**

Regional allowance costs \$1,200,000
 (Total cleanup contractor costs
 include labor, equipment, materials,
 laboratory disposal analysis, transportation
 and disposal) includes 20% contingency.

Other extramural costs not funded from the regional
 allowance

Total TAT, including multiplier costs \$75,000

Total ERT/REAC \$25,000

Subtotal, Extramural costs \$1,300,000

Extramural costs contingency \$260,000
 (20% of subtotal)

TOTAL EXTRAMURAL COSTS \$1,560,000

2. Intramural Costs

Intramural direct costs \$50,000

Intramural indirect costs \$25,000

TOTAL INTRAMURAL COSTS \$75,000

3. TOTAL REMOVAL PROJECT CEILING \$1,635,000

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Delayed action will increase public health risks to the adjacent population through prolonged exposure to airborne contaminants in the event of vandalism or fire.

VII. OUTSTANDING POLICY ISSUES

There are no outstanding policy issues associated with the site.

VIII. ENFORCEMENT

By letter dated October 10, 1990, the president and owner of United Plating Inc., notified the NYSDEC that funding was not available to effect a proper removal of the hazardous waste left behind. Due to the urgency of this action, a fund lead time critical removal is necessary, while a PRP search and

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negotiations continue by EPA, Region II. A site access agreement between EPA and the owner of United Plating was signed on November 16, 1990.

IX. RECOMMENDATION

This decision document represents the selected removal action for the United Plating Inc., site, in Schenectady, New York, developed in accordance with CERCLA as amended, and not inconsistent with the NCP. This decision is based on the Administrative Record and visual inspections for the site.

Conditions at the site meet the NCP section 300.415(b)(2) criteria for a removal and I recommend your approval of the proposed removal action. The total project ceiling, if approved, will be \$1,635,000. Of this an estimated \$1,200,000 comes from the regional removal allowance. The estimated costs are within the Regional Advice of Allowance for the first quarter of FY '91.

Please indicate your approval and authorization of funding for the United Plating Inc. site, per your authority pursuant to Assistant Administrator J. Winston Porter's May 25, 1988 Redelegation Memorandum, Delegation Number R-14-1-A.

Approval: _____ Date _____
Constantine Sidamon-Eristoff
Regional Administrator

Disapproval: _____ Date _____
Constantine Sidamon-Eristoff
Regional Administrator

cc: (After approval is obtained)

R. Caspe, 2ERR
R. Salkie, 2ERR-ADREPP
G. Pavlou, 2ERR-ADNYCP
V. Pitruzzello, 2ERR-PS
J. Marshall, 2OEP
W. Mugdan, 2ORC
B. Sprague, 2ERR-RPB
C. Moyik, 2ERR-PS
R. Gherardi, 2OPM-FIN
S. Anderson, PM-214F (Express Mail)
S. Luftig, OS-210
M. Mjoness, OS-210
P. McKechnie, 2IG
T. Mignone, 2TATL

REFERENCE NO. 27

STATE OF NEW YORK
SUPREME COURT : COUNTY OF SCHENECTADY

THE STATE OF NEW YORK and THOMAS C.
JORLING, Commissioner of the
Department of Environmental
Conservation of the State of New York,
and the CITY OF SCHENECTADY,

Plaintiffs,

v.

CHRISTOPHER LEGERE, sometimes d/b/a
Mountain Top Distribution Company and
J.G. DONADIO ENTERPRISES, INC.,
d/b/a/ United Plating,

Defendants.

ORDER TO SHOW CAUSE,
TEMPORARY RESTRAINING
ORDER AND INSPECTION
WARRANT

Index No. 90-1510

Upon the annexed Verified Complaint and the accompanying affidavits and affirmations of John J. Privitera, Stephanie L. Scuderi, Gary Johnston, Stanley Johnson, Douglas Connor, Arthur Choquette and James Kalohn, and sufficient cause and reason appearing therefore,

NOW, on joint motion of Robert Abrams, Attorney General of the State of New York, attorney for plaintiffs New York State and the Commissioner of the Department of Environmental Conservation, and plaintiff City of Schenectady, it is hereby

ORDERED that the defendants show cause before this Court at _____, New York, on the _____ day of July, 1990, at _____ a.m., or as soon thereafter as counsel may be heard, why an order granting a preliminary injunction pursuant to CPLR § 6311 should not be entered with the following relief:

1. Preliminarily and permanently enjoining the defendants from further maintenance of a public nuisance at the defendants' business premises at 1740-42 Foster Avenue in the City of Schenectady ("the United Plating facility"); and

2. Preliminarily and permanently enjoining defendants from operating the United Plating facility until it comes within full compliance with all State and local rules and regulations relating to public health, safety and the environment; and

3. Preliminarily and permanently enjoining defendants to retain the services of an independent, licensed professional engineer to certify compliance with all State and local laws and regulations relating to public health, safety and the environment and that no business be conducted at the United Plating facility until such certification is filed with the Court and approved by plaintiffs; and

4. Preliminarily and permanently enjoining defendants to bring the United Plating facility into full compliance with all Environmental Conservation laws and regulations relating to the storage, generation, handling, labeling and treatment of hazardous waste; and

5. Preliminarily and permanently enjoining defendants to promptly bring the United Plating facility into compliance with local fire, health, zoning, building, electric and plumbing codes; and

6. Preliminary and permanently enjoining defendants from discharging any liquids to the City of Schenectady sewer system until defendants obtain a pretreatment permit from the City of Schenectady; and

7. Granting such other and further relief as the Court deems just and appropriate, together with the costs and disbursements of this proceeding.

Sufficient cause and reason appearing that defendants' activity, if occurring during the pendency of this action, would result in injury to plaintiffs' rights to public safety and environmental protection; and that defendants' ongoing activities at the United Plating facility could result in a hazardous event that would threaten the public safety and local environment which are the very interests sought to be protected by this action and thus could render the judgment sought ineffectual; and that defendants' activities as stated in the verified complaint and accompanying affidavits and affirmations referenced above indicate ongoing and continuing violations of the laws of New York and the City of Schenectady relating to public safety and environmental protection; and that the plaintiffs will suffer immediate and irreparable injury, loss and damage unless defendants are restrained prior to a hearing on plaintiffs' motion for a preliminary injunction; and that defendants have threatened or are about to engage in acts in violation of plaintiffs' rights respecting the subject of this action intending to render the judgment ineffectual; and that plaintiffs

have demanded and appear entitled to a judgment restraining defendants from the continuance of environmental and safety conditions at the United Plating facility which, if permitted during the pendency of this action, would produce injury to plaintiffs and would constitute continuing violation of law relating to public safety and environmental protection, it is hereby

ORDERED that:

1. Defendants, together with their officials, directors, agents, employees, representatives, successors and assigns, are hereby immediately restrained from doing further electroplating operations at the United Plating facility; and

2. Defendants are directed to immediately cease all discharges to the City of Schenectady public sewer system; and

3. Defendants are directed to immediately install a fence and other security measures at the United Plating facility and grounds to protect the public from the conditions at the site;

4. The City of Schenectady is permitted to turn off the supply of public water to the United Plating facility; and

5. The City of Schenectady is permitted to arrange for the disconnection of all electrical power to United Plating facility; and

6. Pursuant to the provisions of Title 9 of the New York State Environmental Conservation Law, §§ 27-0915(1) and 3-0301(2)(g), and the provisions of Section 167-53(b) of the Code of Ordinances of the City of Schenectady, representative of the New York State Department of Environmental Conservation and representatives of the City of Schenectady Building Inspector are hereby authorized onto the grounds and premises of the United Plating facility for the purposes of conducting inspections pursuant to Title 9 of the ECL and City of Schenectady Building Code, Plumbing Code, Fire Prevention Code and Zoning Ordinance, which inspections shall be reasonable in manner and may include the taking of photographs and samples of waste, soil, water and background and the removal, review and copying of records relating to hazardous waste generation, storage, treatment or disposal.

Such inspections shall be undertaken during normal business hours and as soon as practicable after the date of this temporary restraining order and warrant is issued but in no event later than ten (10) days thereafter and shall be executed with reasonable promptness.

Persons making the inspection, collecting the samples, taking photographs, and removing, reviewing and copying records shall state their purpose and state to the owner, operator or agent in control of the premises appropriate credentials and a copy of this temporary restraining order and inspection warrant.

A Return on the inspection shall be made to this Court showing that the inspection has been completed and that if any samples are taken, split samples have been provided to the defendants and the date thereof.

Sufficient cause and reason further appearing, let service of a copy of this Order to Show Cause, Temporary Restraining Order and Inspection Warrant, together with supporting affidavits, and the verified complaint, and other papers upon which it is granted be served upon defendants on or before July 2, 1990 be deemed good and sufficient notice and service hereof on defendants, and that the provisions of this temporary restraining order are to take effect immediately at the time of service upon any one of the defendants.

JUSTICE OF THE SUPREME COURT

Dated this ____ day of June, 1990
at Chambers in Schenectady, New York.

STATE OF NEW YORK
SUPREME COURT : COUNTY OF SCHENECTADY

THE STATE OF NEW YORK and THOMAS C.
JORLING, Commissioner of the
Department of Environmental
Conservation of the State of New York,
and the CITY OF SCHENECTADY,

Plaintiffs,

v.

SUMMONS

CHRISTOPHER LEGERE, sometimes d/b/a
Mountain Top Distribution Company and
J.G. DONADIO ENTERPRISES, INC.,
d/b/a/ United Plating,

Index No. 90-1510

Defendants.

TO THE ABOVE NAMED DEFENDANTS:

YOU ARE HEREBY SUMMONED and required to serve upon
plaintiffs' attorney an answer to the complaint in this action
within 20 days of this summons, exclusive of the date of service,
or within thirty (30) days after service is complete if this
summons is not personally delivered to you within the State of
New York. In case of your failure to answer, judgment will be
taken against you by default for the relief demanded in the
complaint.

The basis for venue in this action is that the property at
issue in this action is situated in the County of Schenectady.

Dated: June 29, 1990

ROBERT ABRAMS
Attorney General of the State
of New York
Attorney for State Plaintiffs
New York State Department
of Law
The Capitol
Albany, New York 12224
(518) 473-6486

STATE OF NEW YORK
SUPREME COURT : COUNTY OF SCHENECTADY

THE STATE OF NEW YORK and THOMAS C.
JORLING, Commissioner of the
Department of Environmental
Conservation of the State of New York,
and the CITY OF SCHENECTADY,

Plaintiffs,

v.

CHRISTOPHER LEGERE, sometimes d/b/a
Mountain Top Distribution Company and
J.G. DONADIO ENTERPRISES, INC.,
d/b/a/ United Plating,

Defendants.

VERIFIED
COMPLAINT

Index No. 90-1510

Plaintiffs, by Robert Abrams, Attorney General of the State
of New York, as and for their Verified Complaint herein, allege
as follows:

PARTIES

1. Plaintiff State of New York ("State") is a body politic
and sovereign entity and brings this action on behalf of itself
and as parens patriae, trustee, guardian of the environment, and
representative on behalf of all residents and citizens of the
State of New York.

2. Plaintiff Thomas C. Jorling, is the duly appointed
Commissioner of the New York State Department of Environmental
Conservation ("DEC"), authorized by Section 71-2705(1) and other
provisions of the New York State Environmental Conservation Law
("ECL") to commence this action.

3. Plaintiff City of Schenectady is a municipal corporation duly organized and existing under the laws of the State of New York.

4. Defendant Christopher LeGere is a citizen of New York State and a resident of the County of Schenectady. Defendant LeGere sometimes does business as Mountain Top.

5. Defendant J.G. Don Adio Enterprises, Inc. is a corporation organized and existing under the laws of the State of New York which does business at 1740-42 Foster Avenue, Schenectady, New York. Defendant J.G. Don Adio Enterprises sometimes does business as United Plating. It previously held the corporate names J.G.D. Plating, Inc., Universal Litho Corporation and Capital Plating Works, Inc.

VENUE

6. This action arises out of certain environmental violations and conditions existing at the business property located at 1740-1742 Foster Avenue in the City of Schenectady, County of Schenectady. This property is sometimes referenced by the address 1776 Foster Avenue.

JURISDICTION

7. Plaintiff Jorling has requested the Attorney General, Robert Abrams to pursue this enforcement action. This Court has jurisdiction pursuant to ECL § 71-2727(1) and (2).

FACTS

8. The defendant J.G. Don Adio Enterprises, Inc. owns the business property located at 1740-1742 Foster Avenue in the City of Schenectady, County of Schenectady and sometimes does business as United Plating from this address.

9. Christopher LeGere operates and controls the business property located at 1740-1742 Foster Avenue, City of Schenectady, County of Schenectady.

10. Christopher LeGere sometimes does business as Mountain Top Distributors, operating out of the 1740-1742 Foster Avenue address.

11. The defendants are sometimes jointly referred to as United Plating in this complaint.

12. United Plating is generally engaged in the business of electroplating and metal finishing at the Foster Avenue property. The operation uses hazardous substances, including but not limited to acids and cyanide.

13. In 1978, New York State adopted Title 9 of Article 27 of the ECL, regulating hazardous waste management as the systematic control of its collection, source separation, storage, transportation, processing, treatment, recovery and disposal. New York imposed this regulatory scheme in order to reduce the potentially devastating risk of exposure of New York citizens to toxic chemicals, finding that the mismanagement of hazardous waste has resulted in public health problems and environmental contamination.

14. Pursuant to ECL § 27-0907, plaintiff DEC was authorized to promulgate regulations establishing standards applicable to generators of hazardous waste. Specifically, DEC was authorized to establish requirements respecting hazardous waste recordkeeping practices, labeling practices, container specifications, chemical information, the submission of annual reports, among other things.

15. Plaintiff DEC duly promulgated such regulations pertaining to generators of hazardous waste, which regulations are set forth at 6 NYCRR Parts 372 and 373, et seq.

16. United Plating is a generator of hazardous waste.

17. United Plating has failed and continues to fail to comply with the regulatory provisions relating to generators of hazardous waste set forth at 6 NYCRR Parts 372 and 373, including but not limited to labeling, separating, reporting, training, and sampling requirements.

18. According to the provisions of ECL § 27-0913, no person shall engage in the storage or treatment of hazardous waste without first having obtained a permit pursuant to Title 7 of Article 27 of the ECL.

19. United Plating has not obtained a permit for the storage, treatment or disposal of hazardous waste.

20. United Plating is engaged in the storage of hazardous waste at the Foster Avenue property.

21. United Plating is engaged in the treatment of hazardous waste at the Foster Avenue property.

22. Thousands of gallons of hazardous liquid are stored throughout the Foster Avenue property in tanks, drums and other containers. Many of these containers are open and/or leaking. The containers are not sufficiently labeled so as to identify the contents. Incompatible materials are stored adjacent to each other.

23. On June 7, 1990 there was a fire at the United Plating facility. This fire was caused by a jerry-built hazardous waste "oven" for which United Plating does not have a permit.

24. At the United Plating facility, acids are being stored adjacent to cyanides in insecure containers. The mixing of these materials would result in the generation of hydrogen cyanide gas, which can be fatal when inhaled. This storage practice carries the risk of great harm to the community.

25. Defendant LeGere has expressed an intention to rebuild and continue using an illegal hazardous waste "oven" similar to that which caused the fire on June 7, 1990. A fire of larger magnitude than what occurred on June 7, 1990 could result in a toxic cloud which would harm or threaten the neighboring community. Contaminated water runoff from fighting the fire would enter the storm sewers and eventually enter the Mohawk River.

26. The provisions of ECL § 17-0825 and the Code of Ordinances of the City of Schenectady require that the United Plating facility obtain a permit from the City of Schenectady

prior to discharging hazardous materials to the City of Schenectady sewage treatment system. Code § 220-80, et seq.

27. The United Plating facility does not possess a permit to discharge to the City of Schenectady sewage treatment plant.

28. The chemical storage conditions at the United Plating facility present a substantial risk of an unpermitted discharge of hazardous materials to the City of Schenectady sewage treatment plant.

29. According to the Schenectady Code, the United Plating facility must comply with a series of regulations relating to the maintenance of a safe and functional electrical system.

30. The United Plating facility does not comply with Schenectady Code insofar as it includes wiring, exposed wiring, open junction boxes and other unsafe electrical conditions.

31. The condition of the electrical system at the United Plating facility exacerbates the risk of fire.

32. In the yard outside the United Plating facility, a dangerous dump including chemical barrels is maintained which is not fenced off to prevent neighboring children from playing in or wandering into the area.

33. The United Plating facility contains trenches and holes near the exterior of the building which may contain hazardous materials and which are not cordoned off from the neighboring community.

34. The chemical storage practices and conditions at the United Plating facility preclude firefighters from entering the

structure during a major fire. The fire would have to be fought from the outside of the building, generating large amounts of toxic smoke and requiring evacuation of homes in the area.

35. The United Plating facility contains no fire protection system or fire alarm.

36. According to the Schenectady Code, the United Plating facility must comply with certain requirements relating to the functioning and safety of the plumbing system.

37. The United Plating facility contains a series of plumbing code violations including, but not limited to, the lack of a back flow preventer on the water service to the building; the lack of a back flow preventer on the chemical processing tanks at the facility, the existence of plastic tubing, processing tank piping which lacks sufficient integrity and plastic tubing drains from chemical processing tanks which carry toxic drainage overhead and lack proper hanger support.

38. Plumbing conditions at the United Plating facility present a risk that toxic chemicals within the structure could be siphoned back into the City water main, threatening the integrity of the City water supply.

39. The defendants' storage, handling and treatment of hazardous materials and the improper maintenance of the facility's plumbing and electrical systems has created a risk to public safety and has offended, interfered with, and caused damage to the public in the exercise of rights common to all in a

manner such as to endanger and injure the property, safety and comfort of a considerable number of persons.

40. The hazardous conditions at the United Plating facility as set forth above cause harm and threaten greater harm to the safety of the people of the State of New York and the City of Schenectady and cause harm and threaten greater harm to the environment of the State of New York.

FIRST CAUSE OF ACTION -- PUBLIC NUISANCE
(ON BEHALF OF PLAINTIFF STATE OF NEW YORK)

41. Plaintiff State of New York repeats and realleges paragraphs "1" through "40" above.

42. The general storage, handling and treatment of chemicals and refuse at and around United Plating facility, as well as the condition of the plumbing and electrical systems, creates a public nuisance as described above which continues to this day.

43. By failure to abate the public nuisance, the defendants have caused and contributed to and continue to cause and contribute to the maintenance of a public nuisance.

44. The defendants are strictly, jointly and severally liable to the State for the abatement of the public nuisance under common law and must be enjoined to do so.

SECOND CAUSE OF ACTION -- UNLAWFUL GENERATION
OF HAZARDOUS WASTE (ON BEHALF OF PLAINTIFFS
STATE OF NEW YORK AND JORLING)

45. Plaintiffs repeat and reallege paragraphs "1" through "44" above.

46. According to the ECL and implementing regulations, generators of hazardous waste must comport with certain recordkeeping, labeling, dating, training, and reporting requirements. ECL § 27-0907; 6 NYCRR Part 372, et seq., 373, et seq.

47. The defendants are generators of hazardous waste.

48. The defendants have not complied with the regulatory requirements relating to the generation of hazardous waste.

49. Pursuant to ECL § 71-2705, defendants are liable for a civil penalty of up to \$25,000 per day for each violation of ECL § 27-0907 and the applicable regulations and an additional civil penalty of not more than \$25,000 for each day during which such violation continues and, in addition, defendants may be enjoined from continuing these violations.

THIRD CAUSE OF ACTION -- STORAGE OF
HAZARDOUS WASTE WITHOUT A PERMIT
(ON BEHALF OF PLAINTIFFS STATE OF
NEW YORK AND JORLING)

50. Plaintiffs repeat and reallege paragraphs "1" through "49" above.

51. According to the provisions of ECL § 27-0913(1), no person shall engage in the storage at the site of generation of hazardous waste without first having obtained a permit pursuant to Title 7 of Article 27 of the ECL.

52. Upon information and belief, the defendants are engaged in the storage of hazardous waste at the United Plating facility, the site of generation.

53. None of the defendants has obtained a permit pursuant to Title 7 of Article 27 of the ECL which allows the storage of hazardous waste at the United Plating facility. Pursuant to ECL § 71-2705, each defendant is liable for a penalty of up to \$25,000 per day for each violation of Section 27-0913 and a civil penalty of up to \$25,000 for each day during which such violation continues; and, in addition, the defendants may be enjoined from continuing such violations.

FOURTH CAUSE OF ACTION -- TREATMENT
OF HAZARDOUS WASTE WITHOUT A PERMIT
(ON BEHALF OF PLAINTIFFS STATE OF
NEW YORK AND JORLING)

54. Plaintiffs repeat and reallege paragraphs "1" through "53" above.

55. According to the provisions of ECL § 27-0913(1), no persons shall engage in the treatment of hazardous waste without first having obtained a permit pursuant to Title 7 of Article 27 of the ECL.

56. Defendants are engaged in the treatment of hazardous waste at the United Plating facility.

57. None of the defendants has obtained a permit pursuant to Title 7 of Article 27 to engage in the treatment of hazardous waste.

58. Pursuant to ECL § 71-2705, each defendant is liable for a penalty of up to \$25,000 per day for each violation of ECL § 27-0913(1) and for an additional penalty of up to \$25,000 for

each day that each violation continues; and, in addition, the defendants may be enjoined from continuing such violation.

FIFTH CAUSE OF ACTION -- VIOLATION
OF STATE AND LOCAL HEALTH LAWS (ON
BEHALF OF PLAINTIFFS STATE OF NEW
NEW YORK AND CITY OF SCHENECTADY)

59. Plaintiffs repeat and reallege paragraphs "1" through "58" above.

60. The dangerous dump site being maintained by defendants at the United Plating facility violates Schenectady City Ordinance 208-15 and Part I, Chapter 8 of the New York State Sanitary Code.

61. Pursuant to State and local law, the defendants may be enjoined from these health violations.

SIXTH CAUSE OF ACTION - VIOLATION
OF LOCAL ZONING LAWS (ON BEHALF OF
THE CITY OF SCHENECTADY)

62. Plaintiffs repeat and reallege paragraphs "1" through "61" above.

63. According to the City of Schenectady Zoning Code, § 264-17(e)(4), the dangerous dump at the United Plating facility is not permitted.

64. Pursuant to local code and the Second Class Cities Law § 42, each defendant is liable for a penalty of up to \$500 per day for each day of violation of the zoning code for as long as it occurs and may be enjoined from continuing such violation.

SEVENTH CAUSE OF ACTION --
VIOLATION OF THE CITY OF
SCHENECTADY PLUMBING CODES (ON
BEHALF OF PLAINTIFF CITY OF
SCHENECTADY

65. Plaintiffs repeat and reallege paragraphs "1" through "64" above.

66. According to the provisions of the Code of Ordinances of the City of Schenectady, § 138-2, et seq., the defendants must comply with the City of Schenectady plumbing codes at the United Plating facility.

67. The United Plating facility does not comply with the City of Schenectady plumbing codes.

68. Pursuant to the local code and the Second Class Cities Law § 42, each defendant is liable for a penalty of up to \$500 per day for each day of violation of the plumbing codes for as long as it has occurred and may be enjoined from continuing such violation.

EIGHTH CAUSE OF ACTION -- VIOLATION
OF CITY OF SCHENECTADY ELECTRICAL
CODES (ON BEHALF OF PLAINTIFF CITY
OF SCHENECTADY)

69. Plaintiffs repeat and reallege paragraphs "1" through "68" above.

70. According to the provisions of the Code of Ordinances of the City of Schenectady, § 138-2, et seq., the defendants must comply with the City of Schenectady electrical codes at the United Plating facility.

71. The United Plating facility does not comply with the City of Schenectady electrical codes.

72. Pursuant to the local code and the Second Class Cities Law § 42, each defendant is liable for a penalty of up to \$500 per day for each day of violation of the electrical codes for as long as it has occurred and may be enjoined from continuing such violation.

NINTH CAUSE OF ACTION --
RESTITUTION (ON BEHALF OF THE STATE
OF NEW YORK)

73. Plaintiffs repeat and reallege paragraphs "1" through "72" above.

74. Defendants have and continue to have a duty to the public to investigate and abate, completely and permanently, the contamination, threat and harm it has caused, as described above.

75. The defendants have failed and continue to refuse to perform their obligations set forth in the preceding paragraph.

76. Because of the defendants' failure and refusal, the plaintiffs, and each of them, have incurred expenses and costs to investigate and abate the contamination, threat and harm.

77. The actions taken and expenses incurred by the plaintiffs were necessary to insure and protect the health, safety and well-being of the public and the environment of the State of New York and the City of Schenectady.

78. The defendants, and each of them, have been unjustly enriched by the plaintiffs' performance of these duties.

79. Defendants are liable to the State of New York for all expenses incurred and to be incurred in monitoring and attempting to abate the nuisance under the New York common law of restitution.

WHEREFORE, plaintiffs request this Court to award judgment in favor of plaintiffs and against defendants as follows:

I. On account of the First Cause of Action alleging public nuisance, a judgment for the plaintiffs:

- (A) Directing the defendants to completely and permanently abate the nuisance at the United Plating facility and its environs caused by the conditions at the site; and
- (B) Directing the defendants to cease all operations at the United Plating facility until the nuisance is completely and permanently abated; and
- (C) Directing the defendants to provide a certification by a licensed professional engineer that the United Plating facility complies with all State and local laws regarding the storage, treatment, handling and generation of hazardous waste as well as all fire codes, electrical codes and plumbing codes; and
- (D) Directing the defendants to take such further actions as the Court shall find to be necessary and sufficient to abate the public nuisance; and

II. On account of the Second through Fourth Causes of Action (ECL):

- (A) Judgment awarding plaintiff State of New York against defendants civil penalties pursuant to ECL § 71-2705 in the amount of \$25,000 per day for each violation of the Environmental Conservation Law and for each day that each violation continues; and
- (B) Enjoining defendants from continuing such contraventions of the ECL.

III. On account of the Fifth, Sixth, Seventh and Eighth Causes of Action, local code violations, a judgment awarding plaintiff City of Schenectady penalties in the amount of \$500 for each day of the violation and enjoining defendants from continuing such violations and

IV. On account of the Ninth Cause of Action (Restitution), judgment for the plaintiffs requiring the defendants to reimburse plaintiffs for each and all of the conditions at the United Plating facility described above, including investigation and assessment of conditions at the United Plating facility; and

V. Retention of jurisdiction over this matter until the nuisance and other violations of law have been permanently abated; and

VI. Interest, reasonable attorney fees and the costs and disbursements of this action; and

VII. Such other and further relief as this Court deems just and proper.

Dated: Albany, New York
June 29, 1990

ROBERT ABRAMS
Attorney General of the State
of New York
JOHN J. PRIVITERA
Assistant Attorney General
Attorney for State Plaintiffs
New York State Department
of Law
The Capitol
Albany, New York 12224
(518) 473-6486

WILLIAM W. OLIVER, ESQ.
Deputy City Attorney
City of Schenectady
101 State Street
Schenectady, New York 12305
(518) 382-5073

VERIFICATION

STATE OF NEW YORK)
) ss.:
COUNTY OF ALBANY .)

JOHN J. PRIVITERA, being duly sworn, deposes and says:

I am an Assistant Attorney General in the Environmental Protection Bureau of the New York State Department of Law. I am counsel for the State plaintiffs in this action.

I am acquainted with the facts relating to this action.

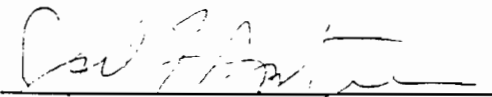
I have read the foregoing Verified Complaint and I know its contents, as true to my knowledge except as to the matters therein stated to be alleged on information and belief and as to those matters, I believe them to be true.

This verification is made pursuant to the provisions of CPLR 3020(d)(2).



JOHN J. PRIVITERA

Sworn to before me this
29th day of June, 1990.



Assistant Attorney General

STATE OF NEW YORK
SUPREME COURT : COUNTY OF SCHENECTADY

THE STATE OF NEW YORK and THOMAS C.
JORLING, Commissioner of the
Department of Environmental
Conservation of the State of New York,
and the CITY OF SCHENECTADY,

Plaintiffs,

AFFIRMATION

v.

Index No. 90-1510

CHRISTOPHER LEGERE, sometimes d/b/a
Mountaintop Distribution Company and
J.G. DONADIO ENTERPRISES, INC.,
d/b/a United Plating,

Defendants.

JOHN J. PRIVITERA, hereby affirms as follows:

1. I am an attorney at law licensed to practice in the State of New York and a member of the bar of this Court. I am an Assistant Attorney General in the Environmental Protection Bureau of the New York State Department of Law. I am counsel for two of the plaintiffs State of New York and Thomas C. Jorling, Commissioner of the New York State Department of Environmental Conservation.

2. I make this affirmation in support of an application for three forms of relief: (1) an order to show cause setting a date for a hearing on a preliminary injunction in this action; (2) an application for a temporary restraining order providing certain public safety and environmental protections while the motion for a preliminary injunction is pending and being heard; and (3) an application for an inspection warrant consistent with the powers

provided certain public safety and environmental authorities under State and local law.

3. In addition to my affirmation, this request for relief is supported by a verified complaint ("Compl."); the affidavit of Gary Johnston, a Senior Sanitary Engineer for the New York State Department of Environmental Conservation ("Johnston Aff."); the affidavit of Stephanie L. Scuderi, the Director of Public Health for the City of Schenectady ("Scuderi Aff."); the affidavit of Douglas Connor, Director of the Department of Water and Wastewater for the City of Schenectady ("Connor Aff."); the affidavit of Arthur Choquette, the plumbing inspector for the City of Schenectady ("Choquette Aff."); the affidavit of Stanley Johnson, Assistant Fire Chief for the Schenectady Fire Department ("Johnson Aff."); and the affidavit of James Kalohn ("Kalohn Aff. ").

4. The defendants, often jointly referred to throughout the supporting papers as United Plating, own, operate and control the business premises located at 1740-42 Foster Avenue in the City of Schenectady (sometimes referenced through the popular address 1776 Foster Avenue), which place of business is generally referred to as the United Plating facility. Large volumes of hazardous chemicals are used, handled, stored and treated at the United Plating facility, where metals are finished and electroplated through various chemical processes. See generally, Johnson Aff.; Connor Aff.

5. The gravamen of the verified complaint and supporting affidavits establishes that United Plating is maintaining a dangerous public nuisance which poses an imminent threat to the public safety and local environment because of the very high risk of a sudden release or exposure of hazardous chemicals and conditions to the air, ground, sewer system or local waterways. The grave risk which the United Plating facility poses to the public safety of the local community is created and exacerbated by the confluence of the following conditions:

- (a) There was a fire at the United Plating facility on June 7, 1990 which was caused by a blatantly illegal, jerry-built hazardous waste treatment "oven". Johnson Aff., p. 2, ¶ 3; Johnston Aff., p. 3, ¶ 8. This fire took place near a stack of barrels of chemical waste which, if ignited or combined, would have formed a toxic cloud of life-threatening hydrogen cyanide gas requiring immediate evacuation of the nearby community. Johnston Aff., p. 7; ¶ 18; Johnson Aff., p. 3, ¶¶ 11, 12 13; Connor Aff., p. 3, ¶ 8. Notwithstanding the illegal nature of the hazardous waste oven and the fire it created, United Plating has stated an intention to reconstruct and re-operate the illegal unit. Johnston Aff., p. 3, ¶ 8; Johnson Aff., p. 2, ¶ 6;
- (b) On June 14, 1990, the United Plating facility's permit to discharge certain chemical wastes to the City of Schenectady sewer system was revoked for noncompliance.

Connor Aff., p. 2, ¶ 3. Nonetheless, United Plating continues to operate its manufacturing business, posing a threat of discharge of chemical wastes without a permit. Connor Aff., p. 5, ¶ 20. Moreover, the unsafe chemical storage conditions at the United Plating facility pose a threat of a massive discharge of chemical wastes to the sewer system and the Mohawk River in the event of a leak, spill or large fire. Connor Aff., p. 5, ¶ 20; Johnson Aff., p. 3, ¶ 12;

- (c) On June 20, 1990, an inspection of the United Plating facility by the City of Schenectady plumbing inspector revealed a potentially dangerous plumbing condition which threatens the City of Schenectady public water supply. Choquette Aff., pp. 2-3, ¶¶ 4, 5. The water supply is hooked up to the United Plating facility and connected to tanks of hazardous chemicals within the facility in such a way as to pose a threat that the dangerous chemicals could be siphoned backwards into the City of Schenectady public water supply. Choquette Aff., p. 2, ¶ 4a;
- (d) A June 19 inspection of the United Plating facility by local fire officials established that there is no fire detection or alarm system throughout the United Plating facility. Johnson Aff., p. 2, ¶ 8. Moreover, the careless maintenance and haphazard chemical storage practices pose such a danger that a major fire would

have to be fought from the outside. Johnson Aff., p. 3, ¶ 10. Large amounts of toxic smoke would be generated, requiring evacuation of nearby homes and posing a threat of chemical runoff to the nearby Mohawk River. Johnson Aff., p. 3, ¶¶ 11, 12 and 13;

- (e) A June 19, 1990 inspection of the United Plating facility by the Director of Public Health for the City of Schenectady revealed violations of State and local law because of an extremely dangerous dump site containing chemical barrels on grounds unsecured from public access. This dump poses a threat to the health and safety of the community. Scuderi Aff., pp. 2,4, ¶¶ 7, 8. The dangerous dump also violates a local zoning ordinance. Kalohn Aff., p. 1 and ¶ 4.
- (f) I am informed and believe that on or about June 20, 1990 the electrical inspector for the City of Schenectady toured the United Plating facility and observed numerous violations of the local electrical code which increase the risk of fire and which should be corrected before the United Plating facility is allowed to continue to operate;
- (g) The chemical storage, handling and treatment conditions and practices at the United Plating facility are illegal and dangerous and pose a risk of a chemical accident. Johnston Aff., p. 2, ¶ 7, p. 6, ¶ 18. Hazardous waste is illegally stored in large volumes in

leaking and corroded barrels and open tanks without labels, access or proper safety precautions. Johnston Aff., p. 2, ¶¶ 6,8, pp. 3-4, ¶¶ 9, 10, 11; p. 4, ¶ 13. Several illegal hazardous waste treatment operations are taking place. Johnston Aff., pp. 2-3, ¶ 8, pp. 4-5, ¶ 14;

- (h) United Plating has refused to allow proper access and right of inspection to public safety officials in order to evaluate the conditions at the plant in accordance with lawful powers. Johnston Aff., p. 6, ¶ 17. The Court's intervention and an inspection warrant is required. Johnston Aff., p. 6, ¶ 19.

6. The public safety officials who have recently toured the United Plating facility are unanimous in their request of the Court that immediate steps be taken during the pendency of this action in order to decrease the risk to public safety posed by the United Plating facility's operation. That is:

- (a) the defendants should immediately cease all discharges to the City of Schenectady public sewer system. Connor Aff., p. 2, ¶ 3; p. 5, ¶ 20;
- (b) the plumbing system at the United Plating facility poses a hazardous threat to the City of Schenectady public water supply and should be corrected immediately. Choquette Aff., pp. 2-3, ¶¶ 4-5. Therefore, the supply of public water to the United Plating facility should be turned off pending

correction of the plumbing code violations at the United Plating facility.

(c) electrical power to the United Plating facility should be disconnected pending correction of electrical code violations, supra, ¶ 5(e);

(d) The dangerous dump site on the grounds should be immediately secured against public access.

Scuderi Aff. p. 4 ¶ 9.

(e) United Plating should cease all operations pending a certification by an independent licensed, professional engineer that the facility is in compliance with all federal, State and local laws regarding the storage, treatment, generation and handling of hazardous substances and wastes.

Johnston Aff., p. 6, ¶ 19; Connor Aff., p. 5, ¶ 20;

(f) Pursuant to the provisions of Title 9 of the New York State Department of Environmental Conservation Law §§ 27-0915(1) and 3-0301(2)(g) and the provisions of § 167-5(b) of the Code of Ordinances of the City of Schenectady, representatives of the New York State Department of Environmental Conservation and representatives of the City of Schenectady Building Inspector should be authorized by the attached proposed inspection warrant provisions of the prepared

order in order to assess the environmental and public safety conditions in greater detail consistent with the powers provided by law. At this point, the United Plating facility will not permit a proper inspection consistent with law and thus ordered by the Court. Johnston Aff., p. 6, ¶ 17.

7. I am informed and believe that the filing of a request for judicial intervention prior to filing this application for a temporary restraining order will delay consideration of this application by a judge. Such a delay, even if only a day or two, could render the judgment which plaintiffs seek ineffectual. That is, there is an imminent threat of a hazardous event at the United Plating facility that would threaten the public safety and local environment which are the very interests sought to be protected by this action and could occur during the delay if the temporary restraining provisions of the attached proposed order are not effective. Therefore, in the interest of justice and pursuant to the explicit waiver provisions of the Uniform Rules of the Trial Courts, § 202.1(b), I ask for a temporary waiver of the request for a judicial intervention form to the extent that the Uniform Rules § 202.6 may be read to require one at this procedural hour.

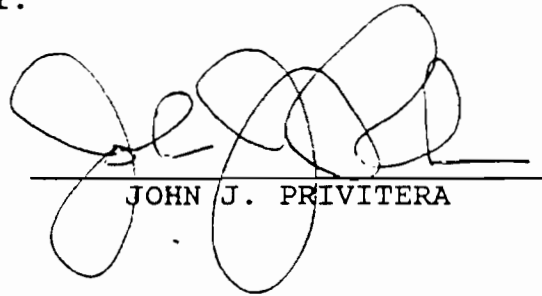
8. I firmly believe that sufficient cause and reason appears that defendants' activity, if occurring during the pendency of this action, would result in injury to plaintiffs'

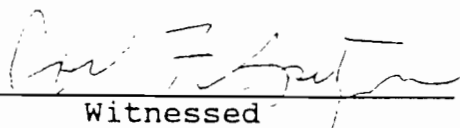
rights to public safety and environmental protection; and that defendants' ongoing activities at the United Plating facility could result in a hazardous event that would threaten public safety and local environment which are the very interests sought to be protected by this action and thus could render the judgment sought ineffectual; and that defendants' activities as stated in the verified complaint and accompanying affidavits and affirmations referenced above indicate ongoing and continuing violations of the laws of New York and the City of Schenectady relating to public safety and environmental protection; and that the plaintiffs will suffer immediate and irreparable injury, loss and damage unless defendants are restrained prior to a hearing on plaintiffs' motion for a preliminary injunction; and that defendants have threatened or are about to engage in acts in violation of plaintiffs' rights respecting the subject of this action intending to render the judgment ineffectual; and that plaintiffs have demanded and appear entitled to a judgment restraining defendants from the continuance of environmental and safety conditions at the United Plating facility which, if permitted during the pendency of this action, would produce injury to plaintiffs and would constitute continuing violation of law relating to public safety and environmental protection.

9. Therefore, I affirm and believe, as an officer of this Court, that the relief requested in the proposed Order to Show Cause, Temporary Restraining Order and Inspection Warrant is required, well-supported, fair and in the interest of justice and public

safety. No previous application for this relief has been made.
I pray that the Court grant relief.

Dated: June 29, 1990.



JOHN J. PRIVITERA

Witnessed
Assistant Attorney General

STATE OF NEW YORK
SUPREME COURT : COUNTY OF SCHENECTADY

THE STATE OF NEW YORK and THOMAS C.
JORLING, Commissioner of the
Department of Environmental
Conservation of the State of New York,
and the CITY OF SCHENECTADY,

Plaintiffs,

AFFIDAVIT

v.

Index No. 90-1510

CHRISTOPHER LEGERE, sometimes d/b/a
Mountaintop Distribution Company and
J.G. DONADIO ENTERPRISES, INC.,
d/b/a United Plating,

Defendants:

STATE OF NEW YORK)
) ss.:
COUNTY OF SCHENECTADY)

STEPHANIE L. SCUDERI, being duly sworn, deposes and says:

1. I am employed by the City of Schenectady as the
Director of Public Health. I currently possess a Masters Degree
in Health Education and I have sixteen years experience in the
Public Health Department of the City of Schenectady.

2. I make this affidavit in support of the State of New
York's and the City of Schenectady's Motion for a Temporary
Restraining Order against United Plating at 1740-42 Foster
Avenue, Schenectady, New York.

3. In the course of my duties as the Director of Public
Health, I have toured the United Plating facility and am familiar
with the general conditions at the facility.

4. In my capacity as Public Health Director, I have been charged by both the City of Schenectady and the State of New York to manage the public health programs within the City. This mandate includes the responsibility to ensure that all individuals and businesses uphold the City Code of Ordinances as they relate to public health, and to ensure that any violations of the State Sanitary Code are promptly abated, or otherwise brought into compliance as required by regulation.

5. I make this affidavit based on my personal knowledge and observation.

6. On June 19, 1990, I made a joint inspection of the United Plating facility with the Director of the Bureau of Environmental Health, representatives from the Fire Department, Department of Water and Wastewater, and the New York State Department of Environmental Conservation.

7. Several specific violations of the City Ordinance were observed at United Plating:

- a. City Ordinances 208-15 (relating to Garbage, Rubbish and Junk) and 208-16 (relating to Lumber, Barrels, Bottles and Containers) were both clearly violated. An extremely dangerous dump site, about one-half acre in size, exists in the area outside the rear of the facility. A large quantity of discarded materials, 10-12 empty vats, 50-70 variously sized containers (including empty 55-gallon drums and 30-gallon barrels) and other equipment relating to the operation of the

facility were strewn haphazardly on the grounds, unsecured from public access. The area was not fenced to prevent access.

- b. City Ordinance 208-14 (relating to Waste Animal or Vegetable Matter) was also violated. Dead pigeon carcasses were observed. Significant accumulations of feces were observed both outside the building and inside, particularly on the fourth, fifth and sixth floors.

8. The conditions at United Plating also violated the New York State Sanitary Code Part I, Chapter 8 (relating to Nuisances Which May Affect Life and Health):

- a. At least one recent complaint has been received by the Bureau of Environmental Health regarding the unsecured dumping area at the rear of the building. In this area, it appeared that the large numbers of tanks and other containers used in the plating process contained residues of unknown substances to which the public can come easily into contact. The dumping area presents the potential for accidental injury and toxic exposure to the public.
- b. In addition to the outside dump area, a large quantity and variety of containers of known and unknown chemicals was observed inside the building. Mr. Legere stated that many of these chemicals had been present in the building in excess of twenty years. The potential

for a severe public health crisis clearly exists, especially if another fire or other combustion were to occur, or if the non-compatible chemicals stored in close proximity were to come into contact.

9. It is my opinion that, due to the extremely hazardous conditions at United Plating -- including an unsecured dump site available to public access and the haphazard storage of wastes and other materials inside the building -- the United Plating facility poses a very grave and dangerous threat to the health and safety of the people of Schenectady. Immediate abatement of all of the violations should be fully completed and approved before this facility is allowed to operate again. Full access to the building should be allowed to ensure that continuous inspection and evaluation can be made by the City Health Department and all other City services to monitor the abatement of the observed health and other Code violations. Further, a full environmental study should be conducted inside and outside the United Plating facility, including sampling of all environmental media.

STEPHANIE L. SCUDERI

Sworn to before me this
day of June, 1990.

STATE OF NEW YORK
SUPREME COURT : COUNTY OF SCHENECTADY

THE STATE OF NEW YORK and THOMAS C.
JORLING, Commissioner of the
Department of Environmental
Conservation of the State of New York,
and the CITY OF SCHENECTADY,

Plaintiffs,

v.

AFFIDAVIT

CHRISTOPHER LEGERE, sometimes d/b/a
Mountain Top Distribution Company and
J.G. DONADIO ENTERPRISES, INC.,
d/b/a/ United Plating,

Index No. 90-1510

Defendants.

STATE OF NEW YORK)
) ss.:
COUNTY OF SCHENECTADY)

GARY JOHNSTON, being duly sworn, deposes and says:

1. I am employed by the State of New York as Senior Sanitary Engineer for the Department of Environmental Conservation, Region IV. I have a Bachelor of Science degree in Civil Engineering from Union College and have twelve years of experience in environmental regulation.

2. I make this affidavit in support of the State of New York's and the City of Schenectady's Motion for a Temporary Restraining Order against United Plating at 1740-42 Foster Avenue, Schenectady, New York.

3. In the course of my duties as Senior Sanitary Engineer for DEC, I have toured the United Plating facility and am familiar with the general conditions at the facility.

4. I make this affidavit based on my personal knowledge and observation.

5. On June 19 I toured the United Plating facility with City officials who had requested our assistance in identifying problems concerning storage of new and waste chemicals. Officials from other agencies and Christopher Legere, who identified himself as the owner of United Plating, were also present on the tour.

6. The chrome plating area contains floor drains which empty into an unlined sump pit. Eight to ten unlabeled drums were stored in this plating area. It is not known what is in these drums.

7. The copper and nickel plating area contained 10-12 unlabeled drums, marked only with "corrosive" or "oxidizer" labels. Additionally, two tanks, one labelled CYANIDE and the other ACID, were stored next to each other without a berm separating the tanks. The close proximity of these two tanks presents a potentially dangerous situation.

8. Wastewaters are treated in the waste treatment room in a three step process resulting in generation of a heavy metal sludge which is a listed hazardous waste (F006). The sludge is collected in a container not marked with the words "Hazardous Waste" as required by 6 NYCRR Part 372.2(a)(8)(i)(a)(2). The sludge is then put through a filter press to remove some of the water content. The sludge is collected in another container

which, again, is not marked with the words "Hazardous Waste" as required.

The sludge is then dried further by heating. Previously the sludge was dried in an "oven" designed with infrared heating lamps until a fire resulted on June 7, 1990. Christopher Legere stated he intended to resume the sludge drying operation using an alternate method. This drying process constitutes treatment of a hazardous waste without a permit in violation of 6 NYCRR Part 373-1.2(a).

The sludge is then placed in polyethylene bags and moved to the hazardous waste storage area. This area is not identified with "hazardous waste" signs as required by 6 NYCRR Part 373-1.1(d)(1)(iii)(c)(3).

9. Ten to twelve 55-gallon drums of waste material were also stored in the waste treatment room. Most of these drums did not have any marking or labeling in violation of 6 NYCRR Part 372.2(a)(8)i)(a)(2). One drum was marked "Spent Solution" but, without proper labeling, it is impossible to determine what the spent solution contains. These drums were stored in a corner of the building up against a wall with no aisle space as required by 6 NYCRR Part 373-3.3(f).

10. The area where the June 7 fire occurred contained approximately 100 55-gallon drums of unknown material. Mr. Legere was unable to provide us with any information concerning the contents of these drums. Some of the drums were marked with the words "Scrap" and "Spent Materials".

11. Along one wall of the drying area was a shelving unit containing dozens of bottles of lab chemicals ranging in size from a few ounces to quarts and liters. Many of these bottles had labels that were faded so badly it was impossible to determine their contents.

12. The second floor contained a series of tanks that had been used in an aluminum anodizing operation. Mr. Legere explained that this operation was shut down about 18 months ago. The tanks contain sulfuric acid, chromic acid and rinsewaters. It has not been determined if these substances are hazardous wastes as required by 6 NYCRR Part 372.2(a).

13. Another room on the second floor contained approximately 75-100 drums of material and paper bags of material. The drums were stored 2-3 deep along the walls of the room making inspection as required by 6 NYCRR Part 373-3.9(e) impossible. Several of the drums that could be inspected contained sodium hydroxide and fluoboric acid. One drum of sodium hydroxide was corroded so badly that the contents leaked onto the floor in violation of 6 NYCRR Part 373-3.9(b), (c), (d) (2).

14. A room adjacent to the offices of the company contained approximately 100-120 55-gallon drums of spent plating chemicals. Mr. Legere stated that these drums were placed in this area over a period of time to allow the contents to separate into two layers. The material that settled out was then reused in the plating baths. The separated liquid was put through the

treatment plant. This constitutes treatment without a permit. 6
NYCRR Part 373-1.2(a).

These drums are stored 6-8 deep with no aisle space as required by 6 NYCRR Part 373-3.3(f). One drum was labeled "acid sludge" and another "potassium cyanide". In one corner of the room was a portable container containing a mixture of spent cyanide salts. None of those containers were marked as "hazardous waste" as required by 6 NYCRR Part 373-1.1(d)(1)(iii)(c)(3) and Part 372-2(a)(8).

There is a potential for a very serious problem in this storage area due to incompatible materials stored in close proximity in violation of 6 NYCRR Part 373-3.2(h)(2).

15. I believe, based on my experience and observations during the tour of the United Plating facility on June 19, 1990, that United Plating is storing hazardous waste without a permit.

16. Overall operation of the facility is very sloppy. Drums and parts are stored haphazardly throughout the facility. Many of the containers are open and leaking in violation of 6 NYCRR Part 373-3.9(b),(d). Labeling is insufficient as far as identifying the contents in violation of 6 NYCRR Part 372.2(a)(8). Inadequate aisle space is provided in violation of 6 NYCRR Part 373-3.3(f). Tanks and containers of hazardous wastes are not labeled or dated in violation of 6 NYCRR Part 372-2(a)(8) and Part 373-1.1(d)(1)(iii)(c)(3). Incompatible materials are stored adjacent to each other in violation of 6 NYCRR Part 373-3.2(h)(2).

17. Christopher Legere would not permit me to conduct a full inspection of the United Plating facility without a warrant. A full and complete inspection consistent with the powers provided in ECL § 27-0915 is promptly required in order to fully assess the hazardous waste generation, handling, storage and treatment conditions at the United Plating facility.

18. In my opinion, immediate attention must be given to this facility to prevent a possible disaster. A fire of a larger magnitude than the one that occurred on June 7 could result in a cloud of toxic smoke that would cover the neighborhood. Contaminated water runoff from fighting a fire would enter the storm sewers and eventually the Mohawk River. The storage of acids adjacent to cyanides has the potential for a serious problem since the mixing of these materials would result in the generation of hydrogen cyanide gas which is fatal when inhaled.

19. It is my opinion that to prevent great harm to the environment, United Plating should cease all operations pending a certification by an independent licensed professional engineer that the facility is in compliance with all federal, state and local laws regarding the storage, treatment, generation and handling of hazardous substances and wastes.

GARY JOHNSTON

Sworn to before me this
____ day of June, 1990.

STATE OF NEW YORK
SUPREME COURT : COUNTY OF SCHENECTADY

THE STATE OF NEW YORK and THOMAS C.
JORLING, Commissioner of the
Department of Environmental
Conservation of the State of New York,
and the CITY OF SCHENECTADY,

Plaintiffs,

AFFIDAVIT

v.

Index No. 90-1510

CHRISTOPHER LEGERE, sometimes d/b/a
Mountaintop Distribution Company and
J.G. DON ADDIO ENTERPRISES, INC.,
d/b/a United Plating,

Defendants.

STATE OF NEW YORK)
) ss.:
COUNTY OF SCHENECTADY)

DOUGLAS CONNOR, being duly sworn, deposes and says:

1. I am employed by the City of Schenectady as Director of the Department of Water and Wastewater. I received a Bachelor of Science degree from the State University of New York at Albany. I am a certified Grade 1A sewage treatment operator and have 12 years experience in the operation of wastewater municipal treatment plant operations. I am in charge of all public water supply operations and wastewater treatment and pumping operations for the City of Schenectady.

2. I make this affidavit in support of the State of New York's and the City of Schenectady's Motion for a Temporary Restraining Order against United Plating at 1740-42 Foster Avenue, Schenectady, New York.

As part of my duties, I am required to implement, maintain and enforce a sewer "pretreatment" program, which regulates the amount of hazardous materials industries may discharge to the city sewer system through a permit program. United Plating is subject to this program.

3. On June 14, 1990, I notified United Plating that the City of Schenectady would not renew its pretreatment permit, which expired on that date. This permit cannot be renewed until United Plating pays more than \$8,700 in fees for tests the City was required to conduct and further demonstrates its ability to comply with the program. Because United Plating has no pretreatment permit, it cannot discharge to the sewer system.

4. In the course of my duties as Director of Water and Wastewater for the City of Schenectady, I have toured the United Plating facility and am familiar with the general conditions at the facility.

5. I make this affidavit based largely on my personal knowledge and observation. Some of the statements below are based on data and reports from coworkers in the Department of Water and Wastewater, including Kenneth F. Malcolm, Deputy Director of Water and Wastewater and Debra Drake, Pretreatment Coordinator.

6. On June 19, 1990 I toured the United Plating facility with members of the Department of Water and Wastewater, officials from other agencies and Christopher Legere, who identified himself as the owner of United Plating.

7. A sump pit was observed below the first floor chrome plating area. Floor drains which collect spillage from chrome plating tanks and excess chrome from plating baths are drained into this pit. The pit has a dirt floor and is apparently unlined. As a result of these conditions, contaminants are not restricted to the pit and may migrate from the site or contaminate the soil beneath the building.

8. In the main processing area are two large storage tanks, approximately 12 feet by 6 feet by 4 feet and 1500 gallons each. The tanks are used as storage tanks for liquid waste prior to entering the pretreatment system. The tanks are labeled "acid" and "cyanide". Neither of the tanks were properly separated and diked to prevent a mix of the acid and cyanide which could result in very hazardous and possibly lethal reactions.

9. Adjacent to the chrome plating area is the cyanide waste storage area. The room contains at least 50 55-gallon drums of liquid and solid cyanide waste. Some of the barrels are rusted with their contents spilling out onto the floor.

10. In the pretreatment area, 8 55-gallon drums of sodium hydroxide were stored within four feet of four drums of sulfuric acid. Four feet of separation is not proper storage of such substances. The two substances, if combined, could produce an extremely explosive reaction.

11. The pretreatment area lighting is extremely poor. Several breaker or electrical boxes were observed with exposed and corroded wires.

12. The "coke" room attached to the pretreatment area contained unlabeled chemicals of unknown identity and origin.

13. On the second floor, corrosive acids (pH less than 1.0), including hydrofluoric acid, were stored within 2-4 feet of various bases. Some of the barrels were old and leaking. Again, when strong acids and bases combine there is great potential for extremely violent reactions.

14. Also on the second floor were tanks full of solutions that have been used for anodizing aluminum. These tanks contain nitric and sulfuric acids in addition to other, unknown compounds in solution in the tanks. During the tour, Mr. Legere stated that these tanks and baths have not been used in approximately 18 months.

15. On the third floor, 55-gallon drums were stored on a 1/2 inch sheet of plywood suspended between two floor joints with only a single 2 x 4 wedged lengthwise underneath the plywood as a floor support.

16. Approximately 10 bags of what appeared to be dried sludge are stored on the fifth floor.

17. The roof on the fifth floor was rotted and leaking in several places and towards the west end was a very large hole, about 1-1/2 feet long.

18. A room on the north end of the ground floor contains 50 to 75 55-gallon drums identified by Mr. Legere as cyanide waste. A large open container of dried material with a small deteriorated drum inside the container was also observed. This material appeared to be waste cyanide salts as well.

19. Behind United Plating is a large yard where old plating tanks and various pieces of equipment are stored unsecured. Also in the yard is a wooden box containing material similar to the sludge-type material observed inside.

20. In my opinion, the leaking, insecure storage of hazardous materials at United Plating presents a risk that chemicals may be spilled into the sewer system and discharged to the sewer system in violation of the pretreatment program. Given the general conditions at United Plating, particularly the almost complete absence of proper labeling and storage of dangerous chemicals and hazardous wastes in secure containers, it is my opinion that to prevent great harm to the public health and welfare United Plating should cease all operations pending a certification by a licensed professional engineer that the facility is in compliance with all federal, state and local laws regarding the storage, handling, generation and treatment of hazardous substances.

DOUGLAS CONNOR

Sworn to before me this
____ day of June, 1990.

STATE OF NEW YORK
SUPREME COURT : COUNTY OF SCHENECTADY

THE STATE OF NEW YORK and THOMAS C.
JORLING, Commissioner of the Department
of Environmental Conservation of the
State of New York, and the
CITY OF SCHENECTADY,

Plaintiffs,

AFFIDAVIT

v.

Index No. 90-1510

CHRISTOPHER LEGERE, sometimes d/b/a
Mountaintop Distribution Company and
J.G. DONADIO ENTERPRISES, INC.,
d/b/a United Plating,

Defendants.

STATE OF NEW YORK)
) ss.:
COUNTY OF SCHENECTADY)

STANLEY JOHNSON, being duly sworn, deposes and says:

1. I am employed by the City of Schenectady as Assistant Fire Chief for the Schenectady Fire Department. I make this affidavit, based upon my personal observations and the records of the fire department, in support of the State of New York's and the City of Schenectady's motion for a temporary restraining order against the defendants based on conditions at the United Plating facility at 1740-42 Foster Avenue, Schenectady, New York.

2. At approximately 9:00 p.m. on June 7, 1990, I responded to the scene of a fire at the United Plating facility on Foster Avenue. Heavy smoke conditions prevailed. Due to our general understanding of the large amounts of chemicals stored at the United Plating facility, the fire department was compelled to make a slow and cautious entry into the building. We were unable

to use any water because it may have created more hazardous conditions than already existed.

3. We discovered that the fire was caused by either faulty wiring or extreme heat connected to a heat treatment oven which caused insulation to burn. The oven consisted of three or four metal shelves enclosed with insulation and infrared lamps strung to create heat to dry the sludges. The oven was not turned off when the shop was closed for the day.

4. On June 19, I toured the United Plating facility with members of the City Department of Water and Wastewater, officials from other agencies and Christopher Legere, who identified himself as the owner of United Plating.

5. During this tour, I observed large areas stacked with barrels of apparent chemical sludge. Corroded barrels were evident. In the first floor manufacturing area, the air was laced with a very heavy chemical smell and odor. In general, the United Plating facility displayed a cluttered and disorganized array of stored chemicals, unused equipment and other refuse.

6. During this tour, Christopher Legere stated that he intended to rebuild and reoperate the heat treatment oven that caused the fire on June 7, 1990.

7. Rotted roof planks were observed with one end dropped and supported by an electrical conduit which ran below it.

8. I observed no fire detection or alarm system throughout the United Plating facility.

9. Due to the sheer size of the structure at the United Plating facility, the building would pose a major extinguishment and environmental problem should a major fire strike.

10. The large amount of chemicals used and stored on the premises would necessarily preclude firefighters from entering the structure during a major fire.

11. In my opinion, a major fire at the United Plating facility would generate large amounts of toxic smoke, especially if it were to involve the areas of chemical processing or any of the several areas where chemical wastes are stored.

12. During a major fire at the United Plating facility, water and chemical runoff during firefighting operations would drain to and threaten the nearby Mohawk River.

13. Due to the substantial risk of a toxic cloud during a major fire at the United Plating facility, nearby homes would have to be evacuated.

14. In my opinion, the United Plating facility should be immediately brought into compliance with State laws and regulations relating to the storage, handling, generation and treatment of hazardous waste as well as local ordinances relating to electrical system requirements in order to reduce the risk of a major fire at the facility.

STANLEY JOHNSON

Sworn to before me this

____ day of June, 1990.

STATE OF NEW YORK
SUPREME COURT : COUNTY OF SCHENECTADY

THE STATE OF NEW YORK and THOMAS C.
JORLING, Commissioner of the
Department of Environmental
Conservation of the State of New York,
and the CITY OF SCHENECTADY,

Plaintiffs,

AFFIDAVIT

v.

Index No. 90-1510

CHRISTOPHER LEGERE, sometimes d/b/a
Mountaintop Distribution Company and
J.G. DONADIO ENTERPRISES, INC.,
d/b/a United Plating,

Defendants.

STATE OF NEW YORK)
) ss.:
COUNTY OF SCHENECTADY)

ARTHUR CHOQUETTE, being duly sworn, deposes and says:

1. I am employed by the City of Schenectady as its
Plumbing Inspector and have been so employed for approximately 11
years. I have served as a plumber since 1946 and I am familiar
with plumbing, heating and air conditioning systems as well as
the Code of Ordinance of the City of Schenectady relating to
plumbing requirements.

2. I make this affidavit in support of the State of New
York's and City of Schenectady's motion for a temporary
restraining order against the defendants based upon conditions at
the United Plating facility at 1740-42 Foster Avenue,
Schenectady, New York.

3. In the course of my duties as Plumbing Inspector for the City of Schenectady, I toured the United Plating facility on June 20, 1990 and I am familiar with the general plumbing conditions of that facility. I make this affidavit based on my personal knowledge and observation.

4. In the course of touring the United Plating facility, I documented deficiencies in the plumbing system which must be corrected in order to bring the facility into compliance with local plumbing ordinances. Of the approximately 15 documented plumbing violations, I regard three as presenting a potential for a hazardous condition which must be corrected immediately before allowing the business to continue to operate. These three conditions are:

- a. The public water system which services the United Plating facility lacks a backflow preventer. A reduced pressure zone backflow preventer must be installed to the water service piping at the entrance of the building to prevent water from within the building from backflowing or siphoning into the City water main;
- b. The water supply piping to the chemical processing tanks lacks backflow prevention, and a Watts No. 288a atmosphere vacuum breaker or equivalent unit must be installed on all piping to the chemical processing tanks, with an air gap, to prevent the chemicals from backing up into the water supply system within the building; and

c. Plastic tubing has been installed in the water supply system to various house bibb and processing tank piping throughout the building which should be replaced with proper copper tubing or galvanized pipe.

5. Plumbing conditions at the United Plating facility present a threat to the integrity of the City of Schenectady water supply system. The conditions outlined above should be brought into compliance, based on a permit issued by a licensed plumber, before United Plating is allowed to continue to operate.

ARTHUR CHOQUETTE

Sworn to before me this
_____ day of June, 1990.

STATE OF NEW YORK
SUPREME COURT : COUNTY OF SCHENECTADY

THE STATE OF NEW YORK and THOMAS C.
JORLING, Commissioner of the
Department of Environmental
Conservation of the State of New York,
and the CITY OF SCHENECTADY,

Plaintiffs,

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Index No. 90-1510

CHRISTOPHER LEGERE, sometimes d/b/a
Mountaintop Distribution Company and
J.G. DONADIO ENTERPRISES, INC.,
d/b/a United Plating,

Defendants:

STATE OF NEW YORK)
) ss.:
COUNTY OF SCHENECTADY)

JAMES KALOHN, being duly sworn, deposes and says:

1. I have been Zoning Officer for the City of Schenectady since September, 1984. It is my responsibility to enforce the Zoning Code of the City of Schenectady.

2. On April 19, 1990, I received a complaint regarding the exterior storage of vats, barrels and equipment at the United Plating facility on Foster Avenue.

3. I inspected the property and a notice of violation (attached) was sent out on April 20, 1990. The notice was received by United Plating on April 23, 1990. To date, no corrective actions have been taken.

4. The exterior storage represents a violation of

§ 264-17(b)(4) of the Zoning Code.

5. The exterior storage area is not secured by fencing or gates. This area is abutting a residential district and poses a potential hazard to small children who could wander onto the site unsupervised.

JAMES KALOHN

Sworn to before me this ____
day of June, 1990.

*Non Compliance
6/4/90 - Rinsp*



City of Schenectady

NEW YORK

BUREAU OF CODE ENFORCEMENT

ROOM 9 - CITY HALL

SCHENECTADY, NEW YORK 12308

JOHN CANTILLO
BUILDING INSPECTOR
and
CODE ENFORCEMENT OFFICIAL

TEL: (518) 382-2222

ZONING VIOLATION CHAPTER 264

TO: United Plating
1776 Foster Ave.
Schenectady, N.Y. 12308

DATE April 20, 1990

PLEASE TAKE NOTICE THAT THE building located at 1776 Foster Ave.
Schenectady, New York, has been found to be in violation of City of Schenectady
Chapter 264 of the City of Schenectady Code of Ordinances.

PLEASE BE ADVISED that an inspection of the above referenced property shows
That equipment stored outside the building at the rear is in violation of Sec. 264-17
B (4) which states that all activities and storage shall be conducted entirely within
an enclosed structure. Remove all equipment and material within 30 days.

YOU ARE HEREBY ORDERED TO ABATE this violation within 30 days from the date of
receipt of this notice or you must file an appeal within 30 days with the Board of
Zoning Appeals.

IN CASE OF YOUR NONCOMPLIANCE with this Notice and Order, be further advised that the
undersigned will take this matter to law, pursuant to Article IV, Violations and Penalties.
Zoning Chapter 264, Section 104.

JAMES SALOMI
Zoning Officer

[Signature]
JOHN CANTILLO
Building Inspector

REFERENCE NO. 28

NEW YORK STATE
INCIDENT
REPORT
FD-40-2

FDID 7021	Department Name Schenectady				Alarm Box	District 2	Time In 22:11	REVISED REPORT ☐
Incident No. 003804	Exp.	Mo. 6	Day 7	Yr. 90	Day of Week Thur	Alarm Time 20:43	Time Out 20:44	Arr. Time 20:44
INCIDENT ADDRESS Street 1776 Foster Ave City Schenectady ZIP 12308						FIRE SERVICE RESPONSE PERSONNEL 19 ENGINES 3 AERIALS 1 TANKERS OTHER VEHICLES 5		
OCCUPANT NAME Last, First United Plating						MUTUAL AID (check one) 1 ☐ RECEIVED 2 ☐ GIVEN		
OWNER NAME Last, First LeGere Chris						IF HAZARDOUS MATERIALS ARE INVOLVED (see coding sheet)		
OWNER ADDRESS Street Maple Ave City Scotia State NY ZIP 12302						CLASS		
PLEASE PUT APPROPRIATE CODE NUMBER IN BOX FOR EACH CATEGORY								
METHOD OF ALARM FROM PUBLIC 1 Telephone 2 Municipal alarm system 3 Private alarm system 4 Radio 5 Verbal 6 Home dialer 7 Tie-line 8 Voice signal: Fire alarm system 9 Cable TV link		TYPE OF SITUATION FOUND 11 Structure fire 12 Any fire outside a structure where the material burning has a value 13 Vehicle fire 14 Trees, brush, grass fire 15 Refuse fire (material burning has no value) 16 Explosion, no after-fire 17 Outside spill, leak with fire		19 Fire/explosion not classified 20 Overpressure rupture (no combustion) 30 Rescue 32 EMS only 40 Hazardous condition 50 Service call 60 Good intent call 71 False malicious 73 False malfunction 74 False unintentional		TYPE OF ACTION TAKEN 1 Extinguishment 2 Rescue 3 Investigation 4 Remove hazard 5 Standby 6 Salvage 7 Medical assistance 8 Fill in, move up 9 Cancelled en route		AMOUNT No. Incident-related Injuries Fire Srv. Other No. Incident-related Fatalities Fire Srv. Other Is juvenile involved in ignition? 1 ☐ YES 2 ☐ NO
1		11		IGNITION FACTOR (see coding sheet) Faulty wiring		54		

Fill in this section if "TYPE OF SITUATION FOUND" is 11, 12, 13, 16, 17, 19 ONLY (Refer to coding sheet)				FIXED PROPERTY USE Metal products 77	
MULTI-USE PROPERTY COMPLEX		AREA OF FIRE ORIGIN Maintenance shop 65		EQUIPMENT INVOLVED IN IGNITION Heat treat oven 73	
FORM OF HEAT OF IGNITION Short circ. insul. 23		TYPE OF MATERIAL IGNITED Insulation 43		FORM OF MATERIAL IGNITED Insulation 61	
IF HEATING EQUIPMENT INVOLVED, TYPE OF FUEL USED 1 Kerosene 2 LPG 3 Electric		4 Wood 5 Coal 6 Oil		7 Natural Gas 8 Gasoline 9 Other	
CONDITION UPON ARRIVAL 1 Overheat 2 Smoldering 3 Open flame 8 Out on arrival 3		MOBILE PROPERTY TYPE 11 Automobile 12 Bus 13 Motorcycle, snowmobile 14 Motor home 15 Travel trailer 17 Mobile home		PROPERTY DAMAGE CLASSIFICATIONS 1 \$1-99 2 \$100-999 3 \$1,000-9,999 4 \$10,000-24,999 5 \$25,000-49,999	
20 Freight road transport 30 Rail transport 40 Water transport 50 Air transport 60 Heavy equipment 70 Special vehicles, containers 99 Other mobile property types		6 \$50,000-149,999 7 \$150,000-499,999 8 \$500,000-999,999 9 \$1,000,000 OR MORE 0 NO DOLLAR LOSS		Value Damaged	
If Mobile Property		Yr. Make Model St. Lic. Number		Serial Number / VIN	
If Equipment Involved in Ignition		Yr. Item Make Model		Serial Number	

NO. OF STORIES 1 Single Story 2 Two Stories 3 3 or 4 4 5 or 6 5 7 to 10 6 11 to 20 7 21 to 50 8 Over 50 9 Below Grade		EXTENT OF DAMAGE 1 Confined to the object of origin 2 Confined to part of room or area of origin 3 Confined to room of origin 4 Confined to fire-rated comp. of origin 5 Confined to floor of origin 6 Confined to structure of origin 7 Extended beyond structure of origin 9 No damage of this type		FLAME 1 SMOKE 6 WATER 9	
BUILDING HEIGHT 2		CONSTRUCTION TYPE (see worksheet) 1 Fire resistive 2 Noncombustible 3 Heavy timber 4 Ordinary 5 Frame 4		SPRINKLER PERFORMANCE 1 Equipment operated 2 Equipment in service, did not operate 3 Equipment present: fire too small to operate 8 No equipment present in room/space of fire origin 9 Equipment not in service 8	
LEVEL OF FIRE ORIGIN 1		DETECTOR PERFORMANCE 1 ☐ PRESENT 2 ☒ NOT PRESENT IF PRESENT, TYPE OF CLOSEST UNIT 1 ☐ SMOKE 2 ☐ HEAT POWER SUPPLY 1 ☐ BATTERY 2 ☐ A/C		1 In room of fire: operated 2 Not in room of fire: operated 3 In room of fire: did not operate 4 Not in room of fire: did not operate 5 In room: fire too small to operate 9 Not classified	
		IF DETECTOR DEFECTIVE—Brand Name, Serial No.		FIRE REFERRED FOR INVESTIGATION TO:	

ADDITIONAL FIRE DEPARTMENT INFORMATION (see coding sheet)					
ITEM	CODE	ITEM	CODE	ITEM	CODE
Officer in Charge (name, position) DC Leva P-2	Date 6-7-90	Member Making Report (if different from Officer in Charge) Capt. Capullo E-4	Date 6-7-90		

REMARKS: E-1, 4, 5, T-1, R-3, Car 10, 24 responded. Haz-mat team notified and responded. For further info notify Asst. Chief Johnson. No chemicals were involved. Chemicals present in building.

REFERENCE NO. 29

NUS CORPORATION AND SUBSIDIARIES

TELECON NOTE

CONTROL NO.:

02-9012-18

DATE:

2/22/91

TIME:

11:25

DISTRIBUTION:

United Plating, Inc. NYPI

BETWEEN:

Tom O'Brian, Asst. City Engineer

OF: Dept. of Engineering and Public Works, City of Schenectady

PHONE:

(578) 382-5082

AND:

Valerie Mathers

(NUS)

DISCUSSION:

Contacted Mr. Tom O'Brian, Assistant City Engineer in the Department of Engineering and Public Works, City of Schenectady to obtain information on the locations of ^{the} storm water outfall and effluent discharge from ^(VAM) of treated wastewater originating from the site, United Plating, Inc. According to Mr. O'Brian, storm water collected from runoff of the above site would be directed to an outfall located between 2 bridges, the D and H bridge and the Route 50 bridge, on the Schenectady shore along the Mohawk River. Any sanitary water collected from United Plating, Inc. prior to its closure was directed to the waste water treatment plant on Anthony Street in Schenectady. Here, waste waters received tertiary treatment and effluent ^{was} discharged into the Mohawk River.

ACTION ITEMS:

VAM
2/22/91

REFERENCE NO. 30

TO: United Plating, Inc.

DATE: 4/4/91

FROM: Valerie Mathers

COPIES:

SUBJECT: Aqueous Inorganic Sample Results.

REFERENCE: File

The purpose of this project note is to provide specific factual information in reference to the attached analytical data provided by Gary Johnston of the NYSDEC, Region IV.

According to a memorandum prepared by Dean S. Sommer, Assistant Attorney General for the State of New York, May 11, 1990, several trenches were dug on the premises of United Plating, Inc. for footings to expand the facility. Water was observed in these trenches and sampled for ^{inorganic} analysis in September 1990. The exact location of these trenches on the site, nor the number of samples collected was indicated in the memorandum. The attached analytical data are the results of two samples. On the basis of comparison with Maximum Contaminant Levels of the Safe Drinking Water Act, levels of Cadmium and lead in these water samples were elevated:

Analyte	Max. Contaminant Levels mg/L	Analytical Results* - 2 samples
Cd	0.010	0.0175, 0.0362
Pb	0.050	0.495, 0.715

This would indicate, therefore, that groundwater in the immediate vicinity of the site was contaminated.

* Detection limits of the instrument used to analyze cadmium and lead in these samples were not provided. However, values less than instrument detection limits are qualified by "U" under the column labeled "C" on the data sheets.

00-17-1 (5/76)
Formerly GA-4

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

TRANSMITTAL SLIP

TO	<i>Valerie Mothers</i>	
FROM	<i>Gary Johnston</i>	
RE:	<i>Per your request!</i>	
DATE	<i>3/20/91</i>	

FOR ACTION AS INDICATED:

- | | |
|--|---------------------------------------|
| ☐ Please Handle | ☐ Comments |
| ☐ Prepare Reply | ☐ Signature |
| ☐ Prepare Reply for _____ | ☐ File |
| Signature | ☐ Return to me |
| ☒ Information | ☐ |
| ☐ Approval | ☐ |
| ☐ Prepare final/draft in _____ Copies | ☐ |

00-00-29



New York State
Department of Environmental Conservation
Region 4 Headquarters
2176 Guildlerland Avenue
Schenectady, NY 12306

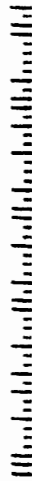
RECEIVED

MAR 22 REC'D

EDISON CORPORATION
REGION II

SENT TO _____

VALERIE MATHERS
NYS CORP
1090 KING GEORGE'S POST ROAD SUITE 1103
EDISON NJ 08837



1
INORGANIC ANALYSIS DATA SHEET

Lab Name: YORKLABS/CT

Contract: C001742

008-1A

163202

Lab Code: YORK

Case No.: NYS

SAS No.:

SDG No.: JB1632

Matrix (soil/water): WATER

Lab Sample ID: 163202
008-1A

Level (low/med): LOW

Date Received: 09/15/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	CI	Q	IM
7429-90-5	Aluminum				INR
7440-36-0	Antimony	25.5	UI		IP
7440-38-2	Arsenic	4.5	BI		IF
7440-39-3	Barium				INR
7440-41-7	Beryllium	0.30	UI		IP
7440-43-9	Cadmium	17.5			IP
7440-70-2	Calcium				INR
7440-47-3	Chromium	23.1			IP
7440-48-4	Cobalt				INR
7440-50-8	Copper	140			IP
7439-89-6	Iron				INR
7439-92-1	Lead	495			IP
7439-95-4	Magnesium				INR
7439-96-5	Manganese				INR
7439-97-6	Mercury	1.0	UI		ICV
7440-02-0	Nickel	62.8			IP
7440-09-7	Potassium				INR
7782-49-2	Selenium	0.90	BIN		IF
7440-22-4	Silver	4.0	BI		IP
7440-23-5	Sodium				INR
7440-28-0	Thallium	0.90	BI		IF
7440-62-2	Vanadium				INR
7440-66-6	Zinc	354			IP
	Cyanide				INR

Color Before: YELLOW

Clarity Before: CLOUDY

Texture:

Color After: YELLOW

Clarity After: CLEAR

Artifacts:

Comments: TCLP LEACHATE
RECEIVED

MAR 21 1990

NOS CONTAMINATION
REGION II

SENT TO

FORM I - IN

7/87
Rev. IFB Amendment One

1
INORGANIC ANALYSIS DATA SHEET

Lab Name: YORKLABS/CT

Contract: C001742

004-1A
163201

Lab Code: YORK

Case No.: NYS

SAS No.:

SDG No.: JB1632

Matrix (soil/water): SOIL

Lab Sample ID: 004-1A 163201

Level (low/med): LOW

Date Received: 09/15/89

% Solids: 92.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	CI	Q	IM
7429-90-5	Aluminum	124	I		IP
7440-36-0	Antimony	9.0	BI		IP
7440-38-2	Arsenic	0.89	BI		IF
7440-39-3	Barium	5.9	BI		IP
7440-41-7	Beryllium	0.06	UI		IP
7440-43-9	Cadmium	36.2	IN		IP
7440-70-2	Calcium	854	BI		IP
7440-47-3	Chromium	45.3	I		IP
7440-48-4	Cobalt	9.2	BI		IP
7440-50-8	Copper	115	IEN		IP
7439-89-6	Iron	8940	I*		IP
7439-92-1	Lead	715	I		IP
7439-95-4	Magnesium	133	BI		IP
7439-96-5	Manganese	106	I		IP
7439-97-6	Mercury	0.05	UI		ICV
7440-02-0	Nickel	61.9	I		IP
7440-09-7	Potassium	132	UI		IP
7782-49-2	Selenium	0.10	UIN		IF
7440-22-4	Silver	8.2	IN		IP
7440-23-5	Sodium	195	BI		IP
7440-28-0	Thallium	0.06	UI		IF
7440-62-2	Vanadium	0.84	BI		IP
7440-66-6	Zinc	102	I		IP
	Cyanide		I		INR

Color Before: BROWN

Clarity Before:

Texture: FINE

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

REFERENCE NO. 31

NUS CORPORATION AND SUBSIDIARIES

TELECON NOTE

CONTROL NO.:

02-9012-18

DATE:

3/22/91

TIME:

9:15

DISTRIBUTION:

United Plating, Inc. NYPIPA

BETWEEN:

Dan Adams

OF:

Village of Scotia,
Dept. of Water & Sewer

PHONE:

(518) 393-2159

AND:

Valerie Mathers

(NUS)

DISCUSSION:

Contacted the Village of Scotia, Department of Water and Sewer to inquire about their ground water wells in the vicinity of Sacandaga Road and the Conrail Railway. According to Dan Adams, an employee of the department, the Village of Scotia has a pump station in this area on Vley Road. There are 4 wells at the pump station which supply Scotia and some water districts of Glenville. He could not provide information of the total population served and referred me to the Department of Water Metering and Billing for this.

ACTION ITEMS:

VAM
3/22/91

REFERENCE NO. 32

NUS CORPORATION AND SUBSIDIARIES

TELECON NOTE

CONTROL NO.:

20-9012-18

DATE:

3/22/91

TIME:

9:30

DISTRIBUTION:

United Plating, Inc.

BETWEEN:

Susan /Clerk

OF:

Village of Scotia,
Dept. of Water Metering

PHONE:

(518) 374-1071

AND:

Valerie Mathers

(NUS)

DISCUSSION:

Contacted the Village of Scotia, Department of Water Metering for information regarding the population served by public supply within Scotia on Vleg Road. According to Susan, a clerk of the department, there are 3691 active parcels served by the Village of Scotia. Parcels include homes, apartments, offices of businesses, etc., essentially any hook-up to public supply that is metered.

ACTION ITEMS:

VAM

3/22/91

REFERENCE NO. 33

NUS CORPORATION AND SUBSIDIARIES

TELECON NOTE

CONTROL NO.:

02-9012-18

DATE:

March 22, 1991

TIME:

9:50

DISTRIBUTION:

United Plating, Inc. NYPIPA

BETWEEN:

Charles Straight / Plant
Operator

OF:

City of Glenville,
Water Dept.

PHONE:

(518) 382-1410

AND:

Valerie Mathers

(NUS)

DISCUSSION:

According to the Water Resources Division of the U.S. G. S., there are public supply wells in Water Districts 4, 5, 7 and 9 of Glenville that are considered active. I contacted Charles Straight, Plant Operator for the Water Department of Glenville, to confirm this information. He indicated that all public supply wells in the above districts are now inactive and all potable water supplied to Glenville and some adjoining towns that are customers, comes from a well field approximately 2 miles downstream from Lock No. 9 along the Mohawk River. The pump station at this well field has been in operation since 1965.

ACTION ITEMS:

REFERENCE NO. 34

TO: United Plating, Inc

DATE: 3/22/91

FROM: Valerie Mather

COPIES:

SUBJECT: Population on ground water supply

REFERENCE: File

There are approximately 3690 active parcels or metered hook-ups to the public supply wells in the Village of Scotia. Assuming the average usage per hook-up to be 3.8 persons, the total number of persons serviced by this supply is calculated as follows:

$$3690 \text{ hook-ups} \times \frac{3.8 \text{ persons}}{\text{hook-up}} = 14,022 \text{ persons}$$

According to the Water Resources Division of the U.S.G.S and municipal water departments of Schenectady, Rotterdam, Niskayuna, Glenville and Scotia; domestic and active public supply wells are found within the following distances of the site:

<u>Distance Range (miles)</u>	<u>Public Supply</u>	<u>Domestic</u>	<u>Total/Distance Range</u>
0 - 1/2	0	0	0
1/2 - 1	0	2 (8.0)	8
1 - 2	0	31 (118)	118
2 - 3	0	56 (213)	213
3 - 4	20 (117022)	76 (289)	117,311

Public supply wells for municipalities of Schenectady, Rotterdam, Niskayuna and Scotia are within a distance of 3 to 4 miles of the site and serve a total population of 117,022 people. Assuming the usage per domestic well is 3.8 persons, the number in parentheses beside the number of Domestic wells per distance range is the product (or total number of persons on domestic water supply) per distance range. Total/Distance Range is the total population on ground water supply per

REFERENCE NO. 35

SITE INVESTIGATION REPORT

UNITED PLATING COMPANY

SCHENECTADY, NEW YORK

Date of Site Investigation: November 21, 1990

Prepared By:

Ronald Starks
Peter Di Pasca, Jr.
Roy F. Weston, Inc.
Major Programs Division
Technical Assistance Team
1090 King Georges Post Road, Suite 201
Edison, New Jersey 08837

Prepared For:

Charles Fitzsimmons
On-Scene Coordinator
USEPA Region II
Edison, New Jersey 08837

Date Submitted: December 3, 1990

SITE INVESTIGATION REPORT
UNITED PLATING COMPANY, SCHENECTADY, NEW YORK

INTRODUCTION

The following narrative report gives a description of events that occurred on November 21, 1990, the day the Weston Technical Assistance Team (TAT) responded to a request from the U.S. Environmental Protection Agency's (EPA) Region II Edison office to perform a site investigation. Information in this report was obtained from USEPA, TAT, the New York State Department of Environmental Conservation (NYSDEC), the City of Schenectady, and the New York Water and Wastewater Department. All quantities provided in this report are approximate since a chemical inventory was not developed.

SITE BACKGROUND

The United Plating site is an electroplating facility located at 1776 Foster Avenue, Schenectady, Schenectady County, New York. A location map is presented as Figure 1 in Attachment A. The facility is located on the western edge of a highly populated residential neighborhood, approximately one quarter of a mile from the Mohawk River, a major waterway. A grade school and hospital are also within one mile of the facility. The site consists of two buildings: Building 1 is a six-story structure where the main operation was located, and Building 2 was a two-story drum storage facility. Figures 2 and 3 in Attachment A are a site map and hospital route map, respectively.

In July 1990, United Plating was ordered closed by a court order. The abandoned facility contains hundreds of drums filled with acids and caustic solutions. On July 9, 1990, NYSDEC inspected the building, compiled a chemical inventory, and collected samples of several vats and drums.

SUMMARY OF SITE INVESTIGATION

Because of the potential threat to the surrounding community and nearby waterway, NYSDEC requested that EPA, under the emergency response program, initiate appropriate action to abate and remove the immediate threat to the environment posed by the hazardous wastes present on-site. These actions include a investigation of the property, the provision of proper site security, and the execution of a removal action.

A preliminary site investigation was conducted by a team consisting of the EPA On-Scene Coordinator (OSC), and representatives from TAT and NYSDEC. A level "B" site entry was performed into both buildings. TAT performed air monitoring using an organic vapor analyzer (OVA), a combustible gas indicator and oxygen meter

(CGI/O₂), and a radiation meter. Photodocumentation was also provided by TAT.

Building 1 was in a deteriorated state, with liquid and powder spills on the floors. Debris was also scattered throughout the facility. Many open vats containing silver cyanide, zinc cyanide washes and other metals washes were observed. In the drum storage room on the first floor, acids and bases were stored next to each other. Drums of acids and bases were stored on every floor of the facility, some leaking and in generally poor condition. Approximately 8,000 gallons of zinc cyanide or sulfur cyanide were observed. The vats contained approximately 20,000 to 25,000 gallons of liquid. A survey with air monitoring equipment revealed a constant OVA reading of one unit above background conditions. No readings were recorded on the radiation meter or CGI/O₂.

The warehouse building (Building 2) located behind the main building contained hundreds of drums. The drums in this building also contained acids and bases. Air monitoring revealed a reading of one unit above background on the OVA. No readings were recorded on the radiation meter or CGI/O₂. Several liquid spills were also observed. The pH of one spill area was obtained with a pH test strip and determined to be pH 12.

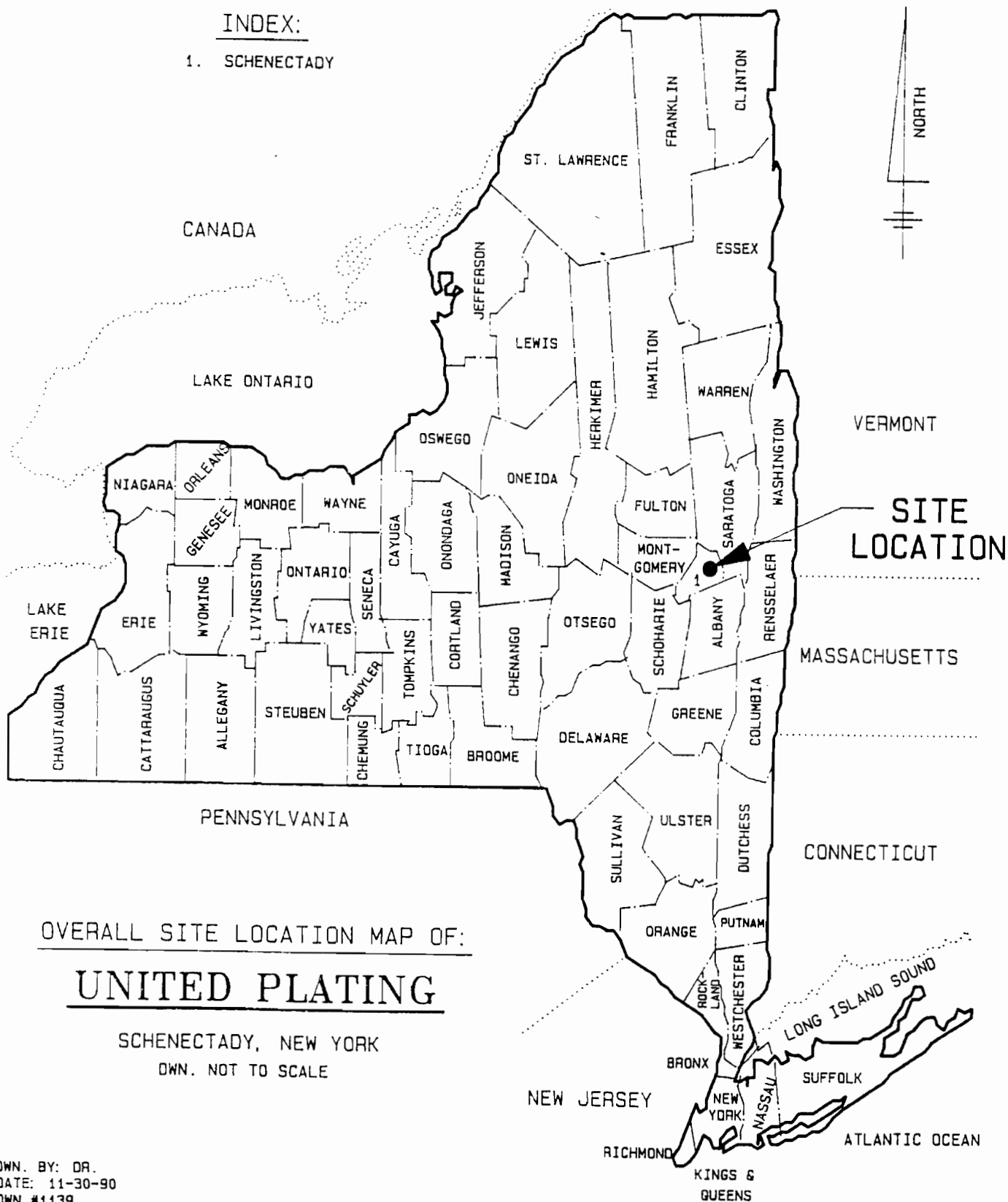
Photographs of the interiors of both buildings are presented as Attachment B.

The site was boarded up to prevent unauthorized access by trespassers, and round-the-clock security was initiated.

ATTACHMENT A

INDEX:

1. SCHENECTADY



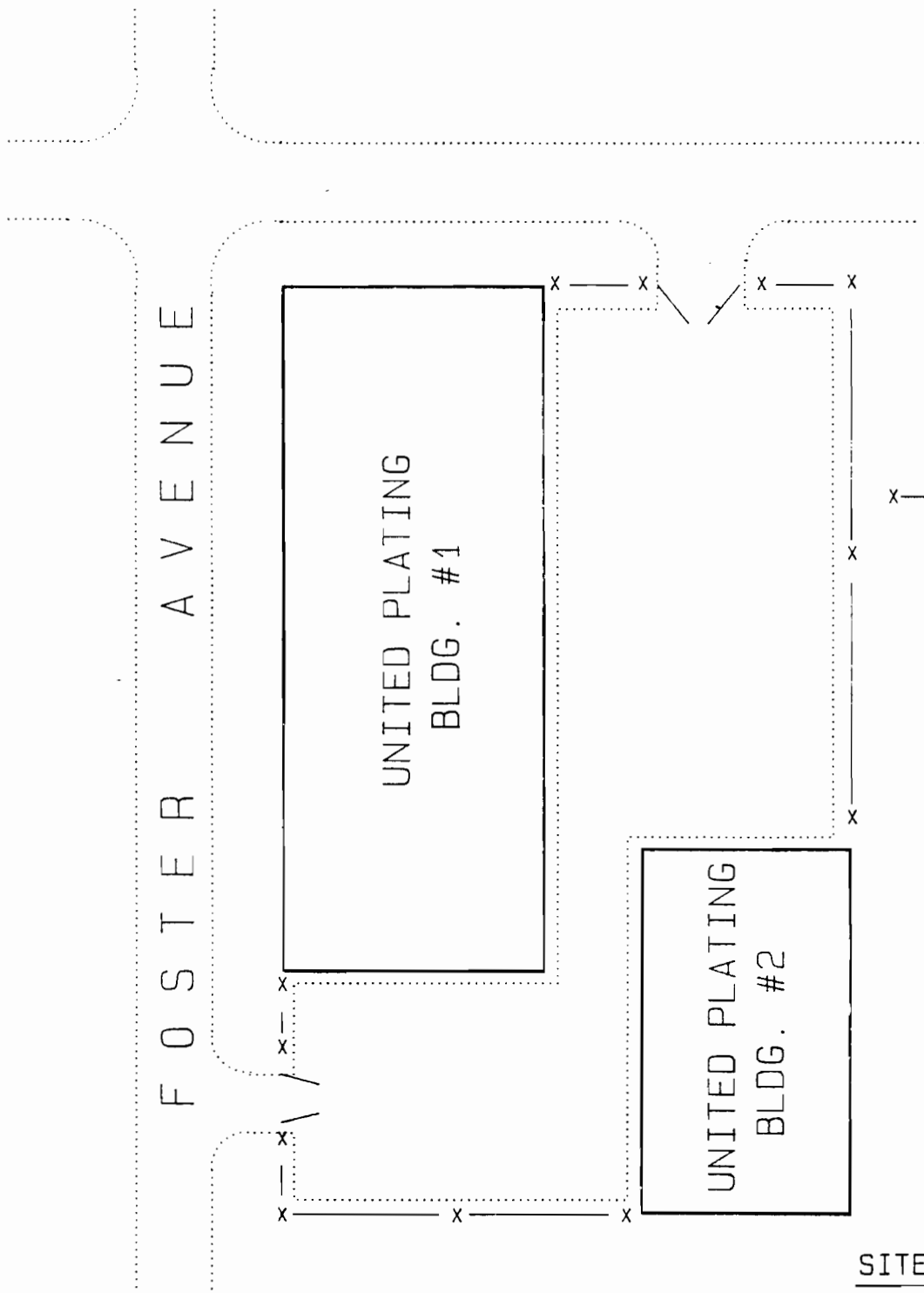
WESTON Roy F. Weston, Inc.
MAJOR PROGRAMS DIVISION

In Association with ICF Technology Inc., C.C. Johnson & Malhotra, P.C., Resource Applications, Inc. and R.E. Sarriera Associates

EPA PM
C. Fitzsimmon
B. Green

TAT PM
R. Starks

Figure 1 of 3



SITE MAP OF:
UNITED PLATING

SCHENECTADY, NEW YORK
 DWN. NOT TO SCALE

DWN. BY: DR.
 DATE: 11-30-90
 DWN. #1139A



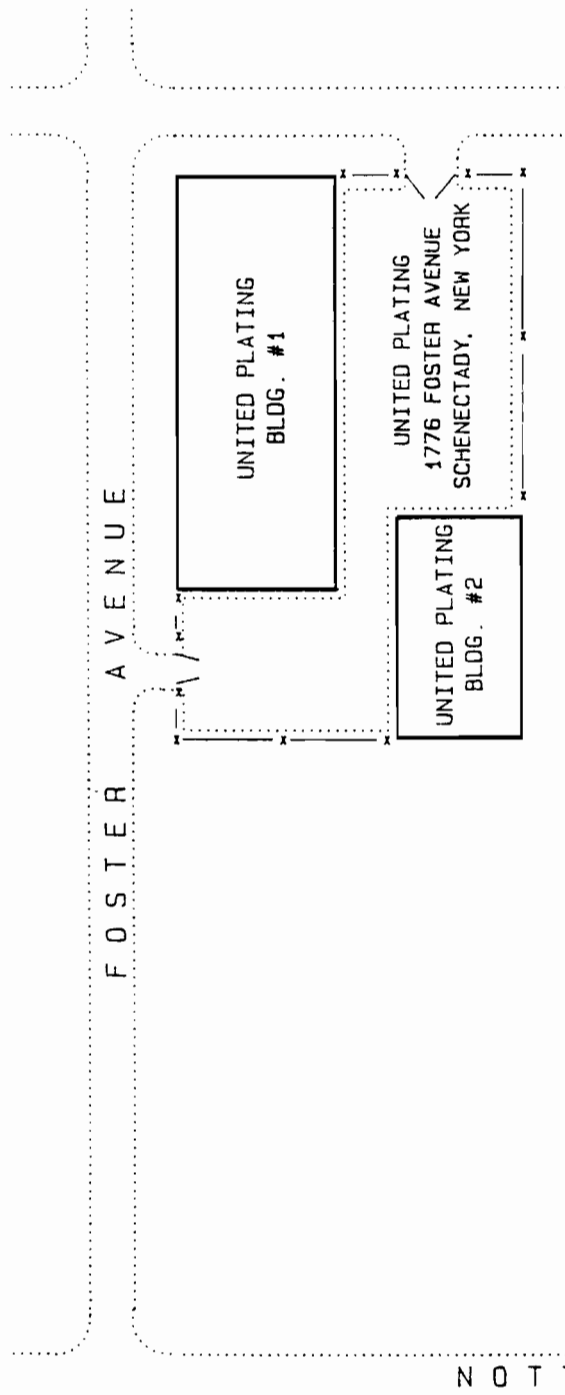
Roy F. Weston, Inc.
MAJOR PROGRAMS DIVISION

EPA PM
 C. Fitzsimmon
 B. Green

In Association with ICF Technology Inc., C.C. Johnson & Malhotra, P.C., Resource Applications, Inc. and R.E. Sarriera Associates

TAT PM
 R. Starks

Figure 2 of 3



ELLIS HOSPITAL
1101 NOTT STREET
SCHENECTADY, NEW YORK
(518) 382-4122

SAFETY PLAN FOR:
UNITED PLATING

SCHENECTADY, NEW YORK
DWN. NOT TO SCALE

DWN. BY: DR.
DATE: 11-30-90
DWN. #1139F

WESTON Roy F. Weston, Inc. MAJOR PROGRAMS DIVISION	EPA PM C. Fitzsimmon B. Green	
In Association with ICF Technology Inc., C.C. Johnson & Malhotra, P.C., Resource Applications, Inc. and R.E. Sarriera Associates	TAT PM R. Starks	Figure 3 of 3

ATTACHMENT B



PHOTO 1: Representatives of NYSDEC and TAT surveying cyanide storage room on first floor of Building 1



PHOTO 2: Cyanide drum storage area on first floor in Building 1



PHOTO 1: Representatives of NYSDEC and TAT surveying cyanide storage room on first floor of Building 1

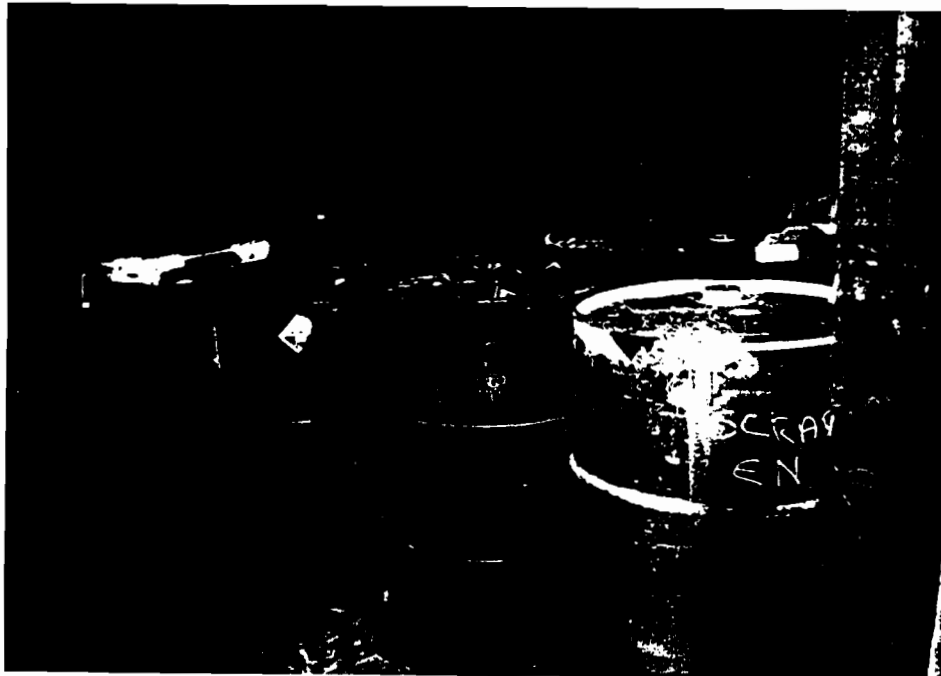


PHOTO 2: Cyanide drum storage area on first floor in Building 1

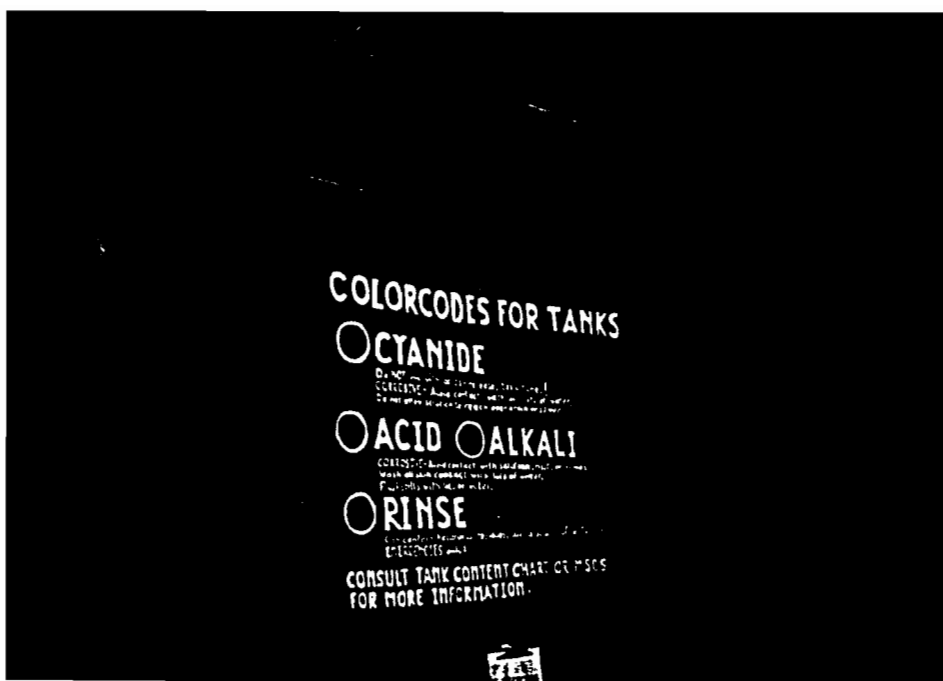


PHOTO 3: Cyanide storage room sign located on first floor of Building 1

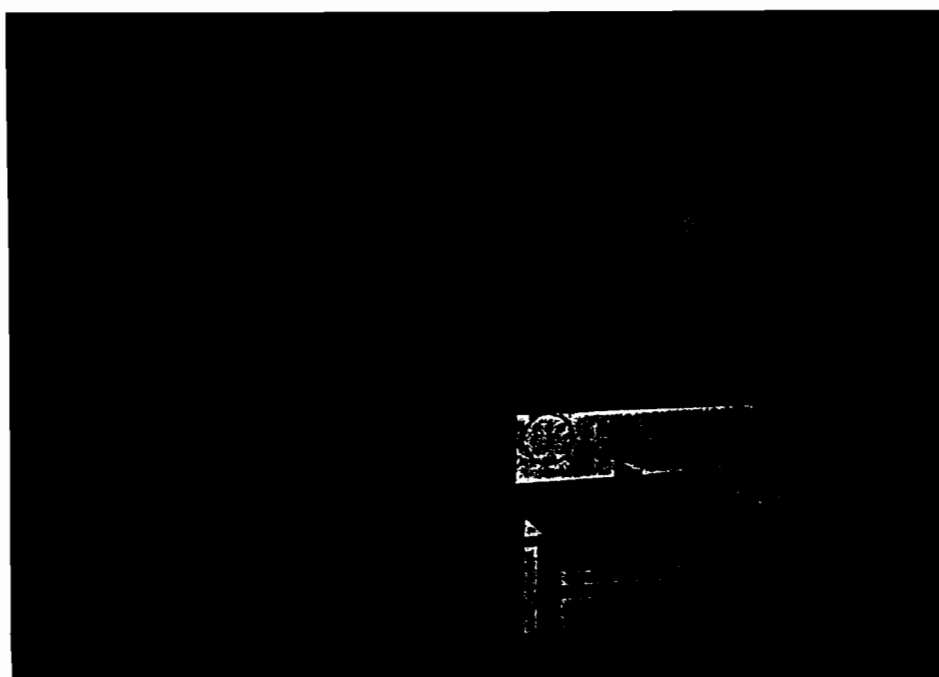


PHOTO 4: Rectangular vat containing unknown liquid on second floor of Building 1

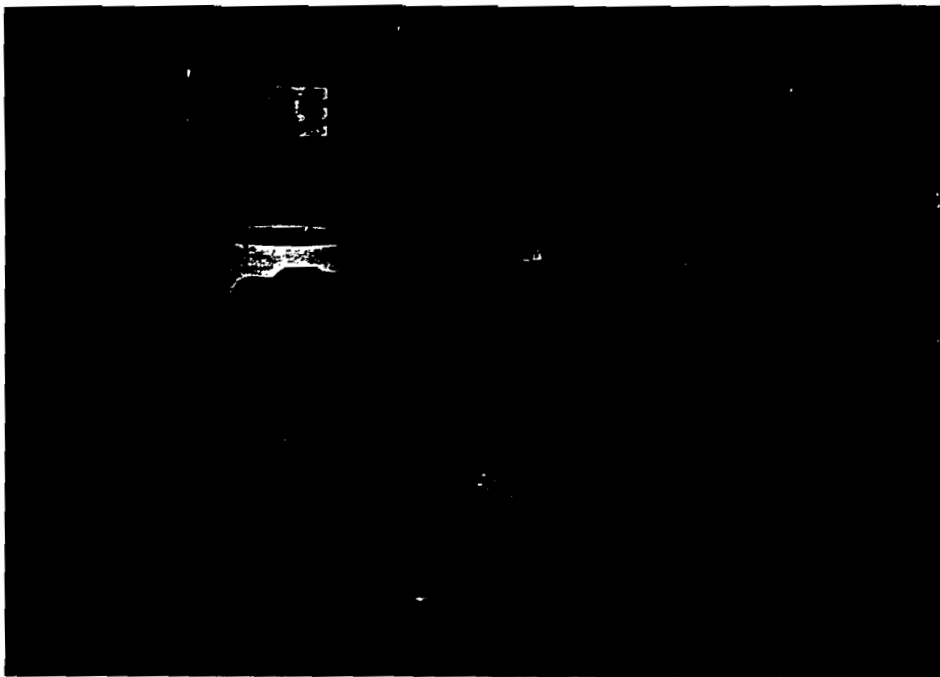


PHOTO 5: Drum storage area on second floor of Building 1



PHOTO 6: Close-up photo of plastic drums containing suspected corrosive liquids



PHOTO 7: View of entrance to Building 2



PHOTO 8: Spill on floor in Building 2
(pH = 12)

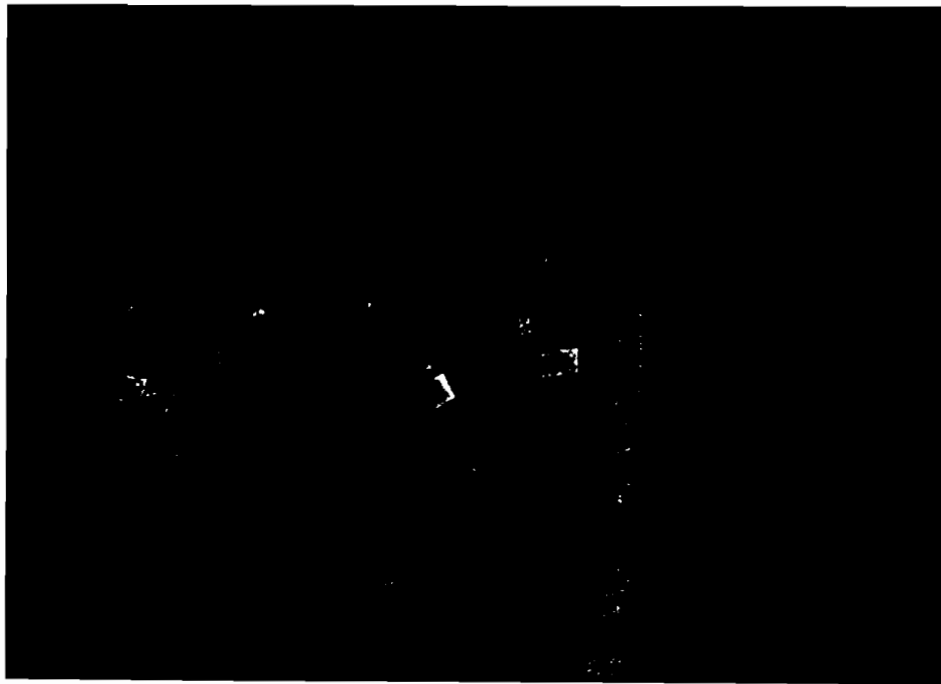


PHOTO 9: Oxidizer storage area in Building 2



PHOTO 10: Close-up view of oxidizer crates

REFERENCE NO. 36

code of federal regulations

**Protection of
Environment**

40

PARTS 300 to 399

Revised as of July 1, 1988

**CONTAINING
A CODIFICATION OF DOCUMENTS
OF GENERAL APPLICABILITY
AND FUTURE EFFECT**

AS OF JULY 1, 1988

With Ancillaries

Published by
the Office of the Federal Register
National Archives and Records
Administration

as a Special Edition of
the Federal Register



Act, identifies reportable quantities for these substances, and sets forth the notification requirements for releases of these substances. This regulation also sets forth reportable quantities for hazardous substances designated under section 311(b)(2)(A) of the Clean Water Act.

§ 302.2 Abbreviations.

CASRN = Chemical Abstracts Service Registry Number
RCRA = Resource Conservation and Recovery Act of 1976, as amended
lb = pound
kg = kilogram
RQ = reportable quantity

§ 302.3 Definitions.

As used in this part, all terms shall have the meaning set forth below:

"The Act", "CERCLA", or "Superfund" means the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (Pub. L. 96-510);

"Administrator" means the Administrator of the United States Environmental Protection Agency ("EPA");

"Consumer product" shall have the meaning stated in 15 U.S.C. 2052;

"Environment" means (1) the navigable waters, the waters of the contiguous zone, and the ocean waters of which the natural resources are under the exclusive management authority of the United States under the Fishery Conservation and Management Act of 1976, and (2) any other surface water, ground water, drinking water supply, land surface or subsurface strata, or ambient air within the United States or under the jurisdiction of the United States;

"Facility" means (1) any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft, or (2) any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located; but does not include any consumer product in consumer use or any vessel; "Hazardous substance" means any substance designated pursuant to 40 CFR Part 302;

"Hazardous waste" shall have the meaning provided in 40 CFR 261.3;

"Navigable waters" or "navigable waters of the United States" means the territorial seas, including the territorial seas;

"Offshore facility" means any facility of any kind located in, on, or under, any of the navigable waters of the United States, and any facility of any kind which is subject to the jurisdiction of the United States and is located in, on, or under any other waters, other than a vessel or a public vessel;

"Onshore facility" means any facility (including, but not limited to, motor vehicles and rolling stock) of any kind located in, on, or under, any land or non-navigable waters within the United States;

"Person" means an individual, firm, corporation, association, partnership, consortium, joint venture, commercial entity, United States Government, State, municipality, commission, political subdivision of a State, or any interstate body;

"Release" means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment, but excludes (1) any release which results in exposure to persons solely within a workplace, with respect to a claim which such persons may assert against the employer of such persons, (2) emissions from the engine exhaust of a motor vehicle, rolling stock, aircraft, vessel, or pipeline pumping station engine, (3) release of source, byproduct, or special nuclear material from a nuclear incident, as those terms are defined in the Atomic Energy Act of 1954, if such release is subject to requirements with respect to financial protection established by the Nuclear Regulatory Commission under section 170 of such Act, or for the purposes of section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act or any other response action, any release of source, byproduct, or special nuclear material from any processing site designated under section 102(a)(1) or 302(a) of the Uranium Mill Tailings Radiation Control Act of 1978, and (4) the normal application of fertilizer;

"Reportable quantity" means that quantity, as set forth in this part, the release of which requires notification pursuant to this part;

"United States" include the several States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Commonwealth of the Northern Marianas, and any other territory or possession over which the United States has jurisdiction; and

"Vessel" means every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water.

§ 302.4 Designation of hazardous substances.

(a) *Listed hazardous substances.* The elements and compounds and hazardous wastes appearing in Table 302.4 are designated as hazardous substances under section 102(a) of the Act.

(b) *Unlisted hazardous substances.* A solid waste, as defined in 40 CFR 261.2, which is not excluded from regulation as a hazardous waste under 40 CFR 261.4(b), is a hazardous substance

under section 101(14) of the Act if it exhibits any of the characteristics identified in 40 CFR 261.20 through 261.24.

NOTE: The numbers under the column headed "CASRN" are the Chemical Abstracts Service Registry Numbers for each hazardous substance. Other names by which each hazardous substance is identified in other statutes and their implementing regulations are provided in the "Regulatory Synonyms" column. The "Statutory RQ" column lists the RQs for hazardous substances established by section 102 of CERCLA. The "Statutory Code" column indicates the statutory source for designating each substance as a CERCLA hazardous substance: "1" indicates that the statutory source is section 311(b)(4) of the Clean Water Act, "2" indicates that the source is section 307(a) of the Clean Water Act, "3" indicates that the source is section 112 of the Clean Air Act, and "4" indicates that the source is RCRA section 3001. The "RCRA Waste Number" column provides the waste identification numbers assigned to various substances by RCRA regulations. The column headed "Category" lists the code letters "X," "A," "B," "C," and "D," which are associated with reportable quantities of 1, 10, 100, 1000, and 5000 pounds, respectively. The "Pounds (kg)" column provides the reportable quantity for each hazardous substance in pounds and kilograms.

TABLE 302.4—LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES

(See footnotes at end of Table 302.4)

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory		RCRA Waste Number	Category	Final RQ Pounds (kg)
			RO	Code			
Acenaphthene	83329		1*	2		B	100 (45.4)
Acenaphthylene	208968	Ethanal	1*	2		D	5000 (2270)
Acetaldehyde	75070	Chloroacetaldehyde	1000	1,4	U001	C	1000 (454)
Acetaldehyde, chloro-	107200	Chloral	1*	4	P023	C	1000 (454)
Acetaldehyde, trichloro-	75876	1-Acetyl-2-thiourea	1*	4	U034	X	1# (0.454)
Acetamide, N-	591082		1*	4	P002	C	1000 (454)
(aminothioxomethyl)-ethoxyphenyl-	62442	Phenacetin	1*	4	U187	X	1# (0.454)
Acetamide, N-(4-fluoro-2-yl)-	53963	2-Acetylaminofluorene	1*	4	U005	X	1# (0.454)
Acetamide, 2-fluoro-	640197	Fluoroacetamide	1000	1	P057	B	100 (45.4)
Acetic acid	141786	Ethyl acetate	1*	4	U112	D	5000 (2270)
Acetic acid, ethyl ester	62748	Fluoroacetic acid, sodium salt	1*	4	P058	A	10 (4.54)
Acetic acid, fluoro-	301042	Lead acetate	5000	1,4	U144	D	5000# (2270)
Acetic acid, lead salt	563688	Thallium(I) acetate	1*	4	U214	B	100 (45.4)
Acetic acid, thallium(I) salt	108247		1000	1		D	5000 (2270)
Acetic anhydride	16752775	Methyl	1*	4	P066	B	100 (45.4)
Acetamide and N-(methylcarbamoyl)oxythio-, methyl ester	67641	2-Propanone	1*	4	U002	D	5000 (2270)

TABLE 302.4—LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—
Continued

[See footnotes at end of Table 302.4]

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory		Final RO Pounds (kg)
			RO	Code	
Acetone cyanohydrin	75865	2-Methylacetonitrile Propanenitrile, 2-	10	1,4	A
Acetonitrile	75058	Hydroxy-2-methyl-	1*	4	D
3 (alpha- Acetoxybenzyl)-4- hydroxycoumarin and salts	81812	Warfarin	1*	4	B
Acetophenone	98862	Ethanone, 1-phenyl-	1*	4	D
2-Acetylaminofluorene	53963	Acetanilide, N-9H- fluoren-2-yl-	1*	4	X
Acetyl bromide	506967	Ethanoyl chloride	5000	1	D
Acetyl chloride	75365	Acetanilide, N-	5000	1,4	D
1-Acetyl-2-thiourea	591082	(aminothioxomethyl)-	1*	4	C
Acrolein	107028	2-Propenal	1	1,2,4	X
Acrylamide	79061	2-Propenamide	1*	4	D
Acrylic acid	79107	2-Propenoic acid	1*	4	D
Acrylonitrile	107131	2-Propenenitrile	100	1,2,4	B
Adipic acid	124049	Adipic acid	5000	1	D
Alamine, 3-[p-bis(2- chloroethyl)amino]- phenyl-1-	148823	Melphalan	1*	4	X
Aldicarb	116063	Propanal, 2-methyl-2- (methylthio)-, O- [(methylamino) carboxyl]oxime	1*	4	X
Aldrin	309002	Hexachloro- 1,4,4a,5,8,8a- hexahydro-1,4,5,8- endo, exo- dimethanonaphthalene	1	1,2,4	X
Allyl alcohol	107186	2-Propen-1-ol	100	1,4	B
Allyl chloride	107051		1000	1	C
Aluminum phosphide	20859738		1*	4	B
Aluminum sulfate	10043013		5000	1	D
2-Amino-1-methyl benzene	95534	o-Toluidine	1*	4	X
4-Amino-1-methyl benzene	106490	p-Toluidine	1*	4	X
5-(Aminomethyl)-3- isoxazolol	2763964	3(2H)-isoxazolone, 5- (aminomethyl)-	1*	4	C
4-Aminopyridine	504245	4-Pyridinamine	1*	4	C
Amtrazole	61825	1H-1,2,4-Triazol-3-amine	1*	4	X
Ammonia	7664417		100	1	B
Ammonium acetate	631618		5000	1	D
Ammonium benzoate	1863634		5000	1	D
Ammonium bicarbonate	1066337		5000	1	D
Ammonium bichromate	7789095		1000	1	D
Ammonium bifluoride	1341487		5000	1	C
Ammonium bisulfite	10192300		5000	1	B
Ammonium carbamate	1111780		5000	1	D
Ammonium carbonate	506876		5000	1	D
Ammonium chloride	12125029		5000	1	D
Ammonium chromate	7789899		1000	1	D
Ammonium citrate	3012655		5000	1	D
Ammonium chloride basic	13826830		5000	1	D
Ammonium fluoroborate	12125018		5000	1	D
Ammonium fluoride	1336216		1000	1	B
Ammonium hydroxide	6009707		5000	1	C
Ammonium oxalate	59127336		5000	1	D

[See footnotes at end of Table 302.4]

Continued

TABLE 302.4—LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory		Final RO Pounds (kg)
			RO	Code	
Ammonium picrate	131748	Phenol, 2,4,6-trinitro-, ammonium salt	1*	4	A
Ammonium silicofluoride	16919190		1000	1	C
Ammonium sulfamate	7773060		5000	1	D
Ammonium sulfide	12135761		100 (45.4)	1	B
Ammonium sulfite	10196040		5000	1	D
Ammonium tartrate	14307438		5000	1	D
Ammonium thiocyanate	3164292		5000	1	D
Ammonium thiosulfate	1782954		5000	1	D
Ammonium vanadate	7783188	Vanadic acid ammonium salt	5000	1	C
Amly acetate	628637		1000	1	D
iso- sec- tert- Aniline	123922 626380 625161				
Anthracene	62533	Benzeneamine	1000	1,4	D
Antimony triiodide	120127		1*	2	D
Antimony trioxide	7440360		1*	2	D
Antimony trihydride					
ANTIMONY AND COMPOUNDS					
Antimony pentachloride	7647189		1000	1	C
Antimony potassium tartrate	283300745		1000	1	B
Antimony tribromide	7789619		1000	1	C
Antimony trichloride	10025919		1000	1	C
Antimony trifluoride	7783564		1000	1	C
Antimony triiodide	1309644		5000	1	C
Aroclor 1016	12674112	Polychlorinated Biphenyls (PCBs)	10	1,2	A
Aroclor 1221	11104282	Polychlorinated Biphenyls (PCBs)	10	1,2	A
Aroclor 1232	11141165	Polychlorinated Biphenyls (PCBs)	10	1,2	A
Aroclor 1242	53469219	Polychlorinated Biphenyls (PCBs)	10	1,2	A
Aroclor 1248	12672296	Polychlorinated Biphenyls (PCBs)	10	1,2	A
Aroclor 1254	11097691	Polychlorinated Biphenyls (PCBs)	10	1,2	A
Aroclor 1260	11096825	Polychlorinated Biphenyls (PCBs)	10	1,2	A
Aroclor 1260	11096825	Polychlorinated Biphenyls (PCBs)	10	1,2	A
Arsenic trioxide	7440382		1*	2,3	X
Arsenic trioxide	1327522		1*	4	X
ARSENIC AND COMPOUNDS	7778394				
Arsenic disulfide	1303328		5000	1	D
Arsenic(III) oxide	1327533		5000	1,4	D
Arsenic(V) oxide	1303282		5000	1,4	D
Arsenic pentoxide	1303282		5000	1,4	D
Arsenic trichloride	7784341		5000	1,4	D
Arsenic triiodide	1327533		5000	1,4	D
Arsenic trisulfide	1303339		5000	1,4	D
Asme, diethyl	692422	Diethylarsine	1*	4	X
Asbestos 1:1	1332214		1*	2,3	X
Auramine	492808	Benzeneamine, 4,4'- dimethyl-	1*	4	X
Azaserine	115026	carbamoyldibis(N,N- dimethyl)- L-Serine, diazoacetate (ester)	1*	4	X
Azidine	151564	Ethylenimine	1*	4	X

TABLE 302.4—LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—
Continued

[See footnotes at end of Table 302.4]

Hazardous Substance	CASRN	Regulatory Synonyms	RQ	Statutory Code ¹	RCRA Waste Number	Category	Final RQ Pounds (kg)
Carbonyl fluoride	353504	Carbon oxyfluoride	1*	4	U033	C	1000 (454)
Chloral	75876	Acetaldehyde, trichloro-	1*	4	U034	X	1# (0.454)
Chlorambucil	305033	Butanoic acid, 4-[bis(2-chloroethyl)amino]	1*	4	U035	X	1# (0.454)
CHLORDANE (TECHNICAL MIXTURE AND METABOLITES)							
Chlordane	57749	Chlordane, technical 4,7-Methanonidan, 1,2,4,5,6,7,8,8-octachloro- 3a,4,7,7a-tetrahydro-	1	1,2,4	U036	X	1# (0.454)
Chlordane, technical	57749	Chlordane, technical 4,7-Methanonidan, 1,2,4,5,6,7,8,8-octachloro- 3a,4,7,7a-tetrahydro-	1	1,2,4	U036	X	1# (0.454)
CHLORINATED BENZENES							
CHLORINATED ETHANES							
CHLORINATED NAPHTHALENE							
CHLORINATED PHENOLS							
Chlorine	7782505	Cyanogen chloride	10	1	P033	A	10 (4.54)
Chlorine cyanide	506774	2-Naphthylamine, N,N-bis(2-chloroethyl)-	10	1,4	U026	X	1# (0.454)
Chloroacetaldehyde	107200	Acetaldehyde, chloro-	1*	4	P023	C	1000 (454)
CHLOROALKYL ETHERS							
p-Chloroaniline	106478	Benzenamine, 4-chloro-	1*	4	P024	C	1000 (454)
Chlorobenzene	108907	Benzene, chloro-	100	1,2,4	U037	B	100 (45.4)
4-Chloro-m-cresol	59507	p-Chloro-m-cresol	1*	2,4	U039	D	5000 (2270)
p-Chloro-m-cresol	59507	Phenol, 4-chloro-3-methyl-	1*	2,4	U039	D	5000 (2270)
Chlorodibromomethane	124481	4-Chloro-m-cresol	1*	2	U041	B	100 (45.4)
1-Chloro-2,3-epoxypropane	106898	Epichlorohydrin	1000	1,4	U041	C	1000# (454)
Chloroethane	75003	Oxirane, 2-	1*	2	U042	B	100 (45.4)
2-Chloroethyl vinyl ether	110758	Ethene, 2-chloroethoxy-	1*	2,4	U042	C	1000 (454)
Chloroform	67663	Methane, trichloro-	5000	1,4	U044	D	5000# (2270)
Chloromethyl methyl ether	107302	Methane, chloromethoxy-	1*	4	U046	X	1# (0.454)
beta-Chloronaphthalene	91587	2-Chloronaphthalene	1*	2,4	U047	D	5000 (2270)
2-Chloronaphthalene	91587	beta-Chloronaphthalene	1*	2,4	U047	D	5000 (2270)
2-Chlorophenol	95578	o-Chlorophenol	1*	2,4	U048	B	100 (45.4)
Chlorophenol	95578	Phenol, 2-chloro-	1*	2,4	U048	B	100 (45.4)
Chlorophenyl phenyl ether	7005723	Phenol, 2-chloro-	1*	2	U048	D	5000 (2270)
Chlorophenylthiourea	5344821	Thiourea, (2-chlorophenyl)-	1*	4	P026	B	100 (45.4)

TABLE 302.4—LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—
Continued

[See footnotes at end of Table 302.4]

Hazardous Substance	CASRN	Regulatory Synonyms	RQ	Statutory Code ¹	RCRA Waste Number	Category	Final RQ Pounds (kg)
3-Chloropropionitrile	542767	Propanenitrile, 3-chloro-	1*	4	P027	C	1000 (454)
Chlorosulfonic acid	7790945	Benzenesulfonic acid, 4-chloro-	1000	1	U049	C	1000 (454)
4-Chloro-o-toluidine, hydrochloride	3165933	Benzenamine, 4-chloro-2-methyl-	1*	4	U049	X	1# (0.454)
Chlorpyrifos	2921882	Chlorpyrifos	1	1	U050	X	1 (0.454)
Chromic acetate	1066304	Chromic acetate	1000	1	U050	C	1000 (454)
Chromic acid	11115745	Chromic acid	1000	1	U050	C	1000# (454)
Chromic acid, calcium salt	7738945	Calcium chromate	1000	1,4	U032	C	1000# (454)
Chromic sulfate	10101538	Chromic sulfate	1000	1	U032	C	1000 (454)
Chromium II	7440473	Chromium II	1*	2	U032	X	1# (0.454)
CHROMIUM AND COMPOUNDS							
Chromous chloride	10049055	Chromous chloride	1000	1	U050	C	1000 (454)
Chrysene	218019	1,2-Benzophenanthrene	1*	2,4	U050	X	1# (0.454)
Coalbitous bromide	7789407	Coalbitous bromide	1000	1	U050	C	1000 (454)
Coalbitous formate	544183	Coalbitous formate	1000	1	U050	C	1000 (454)
Coalbitous sulfamate	14017415	Coalbitous sulfamate	1000	1	U050	C	1000 (454)
Coke Oven Emissions	N.A.	Coke Oven Emissions	1*	3	U050	X	1# (0.454)
Copper II	7440508	Copper II	1*	2	U050	D	5000 (2270)
COPPER AND COMPOUNDS							
Copper cyanide	544923	Copper cyanide	1*	4	P029	A	10 (4.54)
Coumaphos	56724	Coumaphos	10	1	U051	X	1# (0.454)
Cresosol	8001589	Cresosol	1*	4	U052	C	1000# (454)
Cresylic acid	1319773	Cresylic acid	1000	1,4	U052	C	1000# (454)
Cresol(s)	108394	Cresol(s)	1000	1,4	U052	C	1000# (454)
Crotonaldehyde	108394	Crotonaldehyde	100	1,4	U053	B	100 (45.4)
Cumene	98828	Benzene, 1-methylethyl-	1*	4	U055	D	5000 (2270)
Cupric acetate	142712	Cupric acetate	100	1	U055	B	100 (45.4)
Cupric acetoarsenite	12002038	Cupric acetoarsenite	100	1	U055	B	100 (45.4)
Cupric chloride	7447394	Cupric chloride	100	1	U055	B	100 (45.4)
Cupric nitrate	3251238	Cupric nitrate	100	1	U055	B	100 (45.4)
Cupric oxalate	5893663	Cupric oxalate	100	1	U055	B	100 (45.4)
Cupric sulfate	7758987	Cupric sulfate	100	1	U055	B	100 (45.4)
Cupric sulfite	10380297	Cupric sulfite	100	1	U055	B	100 (45.4)
Cyanogen	815827	Cyanogen	100	1	U055	B	100 (45.4)
CYANIDES							
Cyanides (soluble cyanide salts), not elsewhere specified	57125	Cyanides (soluble cyanide salts), not elsewhere specified	1*	2	P030	A	10 (4.54)
Cyanogen	460195	Cyanogen	1*	4	P031	B	100 (45.4)
Cyanogen bromide	506683	Cyanogen bromide	1*	4	U246	C	1000 (454)
Cyanogen chloride	506774	Cyanogen chloride	10	1,4	P033	A	10 (4.54)
1,4-Cyclohexadienedione	106514	1,4-Cyclohexadienedione	1*	1,4	U197	C	1000 (454)
Cyclohexane	110827	Cyclohexane	1000	1,4	U056	C	1000 (454)
Cyclohexanone	108941	Cyclohexanone	1*	1,4	U057	D	5000 (2270)
1,3-Cyclopentadiene	77474	1,3-Cyclopentadiene	1	1,2,4	U130	X	1# (0.454)
1,2,3,4,5,5-hexachlorocyclophosphamide	50180	1,2,3,4,5,5-hexachlorocyclophosphamide	1*	4	U058	X	1# (0.454)
Oxazaphosphorine 2-thiophene	108394	Oxazaphosphorine 2-thiophene	1*	4	U058	X	1# (0.454)
1,2,3,4,5,5-hexachlorocyclophosphorine 2-thiophene	108394	1,2,3,4,5,5-hexachlorocyclophosphorine 2-thiophene	1*	4	U058	X	1# (0.454)

TABLE 302.4—LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—

Continued

[See footnotes at end of Table 302.41]						
Hazardous Substance	CASRN	Regulatory Synonyms	Statutory		RCRA Waste Category	Final RQ
			RQ	Code		Pounds (kg)
Ferric sulfate	10028225		1000	1	C	1000 (454)
Ferrous ammonium sulfate	10045893		1000	1	C	1000 (454)
Ferrous chloride	7758943		100	1	B	100 (45.4)
Ferrous sulfate	7782630		1000	1	C	1000 (454)
Fluoroacetic acid, sodium salt	62748	Acetic acid, fluoro, sodium salt	1*	4	A	10 (4.54)
Fluoranthene	206440	Benzofluorene	1*	2,4	B	100 (45.4)
Fluorene	86737		1*	2	D	5000 (2270)
Fluorine	7782414		1*	4	B	100 (45.4)
Fluorocetamide	640137	Acetamide, 2-fluoro	1*	4	A	100 (45.4)
Formaldehyde	50000	Methylene oxide	1000	1,4	B	1000 (454)
Formic acid	64186	Methanoic acid	5000	1,4	D	5000 (2270)
Fumic acid, mercury(II) salt	628864	Mercury fulminate	1*	4	A	10 (4.54)
Fumaric acid	110178		5000	1	D	5000 (2270)
Furan	110009	Furfural	1*	4	B	100 (45.4)
Furan, tetrahydro-	109959	Tetrahydrofuran	1*	4	C	1000 (454)
2-Furancarboxaldehyde	98011	Furfural	1000	1,4	D	5000 (2270)
2,5-Furandione	108316	Maleic anhydride	5000	1,4	D	5000 (2270)
Furfural	98011	2-Furancarboxaldehyde	1000	1,4	D	5000 (2270)
Furan	110009		1*	4	B	100 (45.4)
D-Glucopyranose, 2-deoxy-2,3-methyl-3-nitrosureido-	18883664	Streptozotocin	1*	4	X	1# (0.454)
Glycidylaldehyde	765344	1-Propanal, 2,3-epoxy-	1*	4	X	1# (0.454)
Guandine, N-nitroso-N-methyl-N-nitro-	70257	N-Methyl-N-nitro-N-nitrosoguanidine	1*	4	X	1# (0.454)
Guthion	86500		1	2	X	1 (0.454)
HALOETHERS			1*	2	..	..
HALOMETHANES			1*	2	..	..
Heptachlor	76448	4,7-Methano-1H-heptachloro-3a,4,7,8-indene, 1,4,5,6,7,8-tetrahydro-	1	1,2,4	X	1# (0.454)
HEPTACHLOR AND METABOLITES			1*	2	..	..
Heptachlor epoxide	1024573		1*	2	X	1# (0.454)
Hexachlorobenzene	118741	Benzene, hexachloro-	1*	2,4	X	1# (0.454)
Hexachlorobutadiene	87683	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	1*	2,4	X	1# (0.454)
HEXACHLOROCHLORO-HEXANE (all isomers)	608731		1*	2	..	..
Hexachlorocyclohexane (gamma isomer)	58899	gamma-BHC	1	1,2,4	X	1# (0.454)
Hexachlorocyclopentadiene	77474	Lindane	1	1,2,4	X	1# (0.454)
1,2,3,4,10,10-Hexachloro 6,7-epoxyoctahydro endo,exo,1,4,5,8-dimethanonaphthalene	72208	Endrin	1	1,2,4	X	1 (0.454)
Hexachloro 6,7-epoxyoctahydro endo,exo,1,4,5,8-dimethanonaphthalene	60571	Dieldrin	1	1,2,4	X	1# (0.454)
Hexachloro 6,7-epoxyoctahydro endo,exo,1,4,5,8-dimethanonaphthalene	67721	Ethane, 1,1,1,2,2,2-hexachloro-	1*	2,4	X	1# (0.454)

TABLE 302.4—LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—
Continued

Continued

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory		Final RQ
			RQ	Code	
				RCRA Waste Number	Category
Hexachlorohexahydro- endo-endo- dimethanonaphthalene	465736	1,2,3,4,10,10- Hexachloro 1,4,4a,5,8,8a- hexahydro- 1,4,5,8- endo-endo- dimethanonaphthalene	1*	P060	X
1,2,3,4,10,10- Hexachloro- 1,4,4a,5,8,8a- hexahydro- 1,4,5,8- endo-endo- dimethanonaphthalene	465736	Hexachlorohexahydro- endo-endo- dimethanonaphthalene	1*	P060	X
1,2,3,4,10,10- Hexachloro- 1,4,4a,5,8,8a- hexahydro- 1,4,5,8- endo-endo- dimethanonaphthalene	309002	Aldrin	1	P004	X
Hexachlorohexahydro- endo-endo- dimethanonaphthalene	70304	2,2-Methylenebis(3,4,6- trichlorophenol)	1*	U132	B
Hexachloropropene	1888717	1-Propene, 1,1,2,3,3,3- hexachloro-	1*	U243	C
Hexaethyl tetraphosphate	757584	Tetraphosphoric acid, hexaethyl ester	1*	P062	B
Hydrazine	302012	Diamine	1*	U133	X
Hydrazine, 1,2 diethyl-	1615801	N,N'-Diethylhydrazine	1*	U086	X
Hydrazine, 1,1 dimethyl-	57147	1,1-Dimethylhydrazine	1*	U098	X
Hydrazine, 1,2 dimethyl-	540738	1,2-Dimethylhydrazine	1*	U099	X
Hydrazine, 1,2 diphenyl-	122667	1,2-Diphenylhydrazine	1*	U109	X
Hydrazine, methyl-	60344	Methyl hydrazine	1*	P068	X
Hydrazinecarbohydrazide	79196	Thiosemicarbazide	1*	P116	B
Hydrocyanic acid	7647010	Hydrogen cyanide	5000	P063	D
Hydrofluoric acid	74908	Hydrogen fluoride	10	U134	A
Hydrofluoric acid	7664393	Hydrocyanic acid	5000	P063	B
Hydrogen cyanide	74908	Hydrocyanic acid	10	U134	B
Hydrogen fluoride	7664393	Hydrofluoric acid	5000	U134	B
Hydrogen phosphide	7803512	Phosphine	1*	P096	B
Hydrogen sulfide	7783064	Hydrodisulfuric acid	100	U135	B
Hydroperoxide, 1-methyl- 1-phenylethyl-	80159	Sulfur hydride alpha.alpha. Dimethylbenzylhydro- peroxide	1*	U096	A
Hydrodisulfuric acid	7783064	Hydrogen sulfide	100	U135	B
Hydroxydimethylarsine oxide	75605	Sulfur hydride Cacodylic acid	1*	U136	X
2-imidazolidinethione	96457	Ethylenethiourea	1*	U116	X
Indene(1,2,3-c)pyrene	193395	1,10 (1,1,2- Phenylene)pyrene	1*	U137	X
Iron dextran	9004664	Ferri dextran	1*	U139	D
Isobutyl alcohol	78831	Isopropanol, 2-methyl-	1*	U140	X
Isocyanic acid, methyl ester	624839	Methyl isocyanate	1*	P064	D
Isophorone	78591	Methyl isocyanate	1*	U141	D
Isoprene	78795	Benzene, 1,2- methyleneedioxy-4- propenyl-	1000	P007	B
Isopropanolamine	42504461	5-(Ammomethyl)-3- isoxazotol	1000	P007	C
dodecylbenzenesulfon- ate	120581	Benzene, 1,2- methyleneedioxy-4- propenyl-	1*	U141	X
Isosafrole	120581	Benzene, 1,2- methyleneedioxy-4- propenyl-	1*	U141	X
3(2H)-isoxazalone, 5- (ammonomethyl)-	2763964	5-(Ammomethyl)-3- isoxazotol	1*	P007	C
Valerolactone	115322	isoxazotol	5000	P007	A

TABLE 302.4—LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—

(See footnotes at end of Table 302.4)

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory		Final RQ	
			RQ	Code†	RCRA Waste Number	Pounds(Kg)
Kepone	143500	Decachlorooctahydro-1,3,4-metheno-2H-cyclobuta[c,d]pentalen-2-one.	1	1,4	U142	1# (0.454)
Lasocarpine	303344					
Lead fl	7439921		1*	4	U143	1# (0.454)
Lead acetate	301042	Acetic acid, lead salt.	1*	2	U144	1# (0.454)
LEAD AND COMPOUNDS			5000	1,4		5000# (2270)
Lead arsenate	7784409		1*	2		5000# (2270)
Lead arsenite	7645252		5000	1		5000# (2270)
Lead chloride	10102484					
Lead fluoride	7759854		5000	1		100# (45.4)
Lead fluoride	13814965		5000	1		100# (45.4)
Lead fluoride	7783462		1000	1		100# (45.4)
Lead iodide	10101830		5000	1		100# (45.4)
Lead nitrate	10098748		5000	1		100# (45.4)
Lead phosphate	7448277	Phosphoric acid, lead salt.	1*	4	U145	1# (0.454)
Lead stearate	7428480		5000	1		5000# (2270)
Lead subacetate	1072351					
Lead sulfate	52652592		5000	1		100# (45.4)
Lead sulfide	58189094		5000	1		100# (45.4)
Lead sulfide	1335328		5000	1		100# (45.4)
Lead thioacetate	134870		5000	1		100# (45.4)
Lead thiocyanate	582870		5000	1		100# (45.4)
Lead indane	58898	gamma - BHC Hexachlorocyclohexane (gamma isomer)	1*	1,2,4	U129	1# (0.454)
Lithium chromate	14307358		1000	1		1000# (454)
Malathion	121755		10	1		100 (45.4)
Maleic acid	110167		5000	1		5000 (2270)
Maleic anhydride	108316		5000	1,4	U147	5000 (2270)
Maleic hydrazide	123331	2,5-Furandione	1*	4	U148	5000 (2270)
Malononitrile	108773	1,2-Dihydro-3,6-pyridazinedione.	1*	4	U149	1000 (454)
Melphalan	148623	Alanine, 3-(p-bis[2-chloroethyl]amino) phenyl-L.	1*	4	U150	1# (0.454)
Mercaptodimethur	2032857		100	1		10 (4.54)
Mercuric cyanide	592041		1	1		1 (0.454)
Mercuric nitrate	10045940		10	1		10 (4.54)
Mercuric sulfide	7783359		10	1		10 (4.54)
Mercuric thiocyanate	592858		10	1		10 (4.54)
Mercurous nitrate	10415755		10	1		10 (4.54)
Mercury	7439976		1*	2,3,4	U151	1 (0.454)
MERCURY AND COMPOUNDS			1*	2		10 (4.54)
Mercury, (acetoxy)phenyl.	62384	Phenylmercuric acetate.	1*	4	P082	100 (45.4)
Mercury fulminate	628864	Fulminic acid, mercury(II) salt.	1*	4	P085	10 (4.54)
Methacrylonitrile	129887	2-Propenenitrile, 2-methyl.	1*	4	U152	1000 (454)
Methanamine, N-methyl.	124403	Dimethylamine.	1000	1,4	U092	1000 (454)
Methane, bromo-	74839	Methyl bromide	1*	2,4	U029	1000 (454)
Methane, chloro-	74873	Methyl chloride	1*	2,4	U045	1# (0.454)
Methane, chloromethyl.	107302	Chloromethyl methyl ether.	1*	4	U046	1# (0.454)
Methane, dibromo-	74953	Methylene bromide	1*	4	U068	1000 (454)
Methane, dichloro-	75092	Methylene chloride	1*	2,4	U080	1000 (454)

TABLE 302.4—LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—

(See footnotes at end of Table 302.4)

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory		Final RQ	
			RQ	Code†	RCRA Waste Number	Pounds(Kg)
Methane, dichlorodifluoro-	75718		1*	4	U075	5000 (2270)
Methane, iodo-	74884		1*	4	U138	1# (0.454)
Methane, oxybis(chloro-	542881	Bis(chloromethyl) ether.	1*	4	P016	1# (0.454)
Methane, tetrachloro-	58235	Carbon tetrachloride	5000	1,2,4	U211	5000# (2270)
Methane, tetranitro-	509148	Tetranitromethane	1*	4	P112	10 (4.54)
Methane, tribromo-	75252	Bromotorm.	1*	2,4	U125	100 (45.4)
Methane, trichloro-	67663	Chloroform.	5000	1,2,4	U044	5000# (2270)
Methane, trichlorofluoro-	75094	Trichlorofluoromethane.	1*	4	U121	5000 (2270)
Methanesulfonic acid, ethyl ester.	62500	Ethyl methanesulfonate.	1*	4	U119	1# (0.454)
Methanol	74831	Methylmercaptan.	100	1,4	U153	100 (45.4)
Methanesulfonyl chloride, trichloro-	594423	Trichloromethanesulfonyl chloride.	1*	4	P118	100 (45.4)
4,7-Methano-1H-heptachloro-	76448	Heptachlor.	1	1,2,4	P059	1# (0.454)
Indene, 1,4,5,6,7,8,8-heptachloro-						
3a,4,7,8-tetrahydro-						
Methanoc acid.	64186	Formic acid.	5000	1,4	U123	5000 (2270)
4,7-Methanocandran.	57748	Chordane, technical.	1	1,2,4	U036	1# (0.454)
1,2,4,5,6,7,8,8-octachloro-3a,4,7,8-tetrahydro-						
Methanol	67561	Methyl alcohol.	1*	4	U154	5000 (2270)
Methapyrene	91805	Pyridine, 2-(2-(dimethylamino)ethyl)-2-thenylamino.	1*	4	U155	5000 (2270)
Methomyl	18752775	Acetimidic acid, N-[(methylcarbamoyloxy)thio-, methyl ester.	1*	4	P066	100 (45.4)
Methoxychlor	72435	Ethane, 1,1,1-trichloro-2,2-bis(p-methoxyphenyl)-.	1	1,4	U247	1 (0.454)
Methyl alcohol	67561	Methanol.	1*	4	U154	5000 (2270)
2-Methylaziridine	75558	1,2-Propyleneimine	1*	4	P067	1# (0.454)
Methyl bromide	74839	Methane, bromo-	1*	2,4	U029	1000 (454)
1-Methylbutadiene	504808	1,3-Pentadiene.	1*	4	U186	100 (45.4)
Methyl chloride	74873	Methane, chloro-	1*	2,4	U045	1# (0.454)
Methyl chloroacetate	79221	Carboxyethoxy acid, methyl ester.	1*	4	U156	1000 (454)
Methyl chloroform	71556	1,1,1-Trichloroethane	1*	2,4	U226	1000 (454)
4,4'-Methylenebis(2-chloroaniline)	101144	Benzeneamine, 4,4'-.	1*	4	U158	1# (0.454)
2,2'-Methylenebis(3,4,8-trichlorophenol)	70304	Methylenebis(2-chloro-phenyl).	1*	4	U132	100 (45.4)
3-Methylcholanthrene	56495	Benz[1]aceanthrylene, 1,2-dihydro-3-methyl.	1*	4	U157	1# (0.454)
Methylene bromide	74853	Methane, dibromo-	1*	4	U068	1000 (454)
Methylene chloride	75092	Methane, dichloro-	1*	2,4	U080	1000 (454)
Methylene oxide	50000	Formaldehyde	1000	1,4	U122	1000# (454)
Methyl ethyl ketone	78933	2-Butanone	1*	4	U159	5000 (2270)
Methyl ethyl ketone peroxide.	1338234	2-Butanone peroxide	1*	4	U160	10 (4.54)
Methyl hydrazine	60344	Hydrazine, methyl-	1*	4	P068	10 (4.54)
Methyl iodide	74884	Methane, iodo-	1*	4	U138	1# (0.454)
Methyl isobutyl ketone	108101	4-Methyl-2-pentanone	1*	4	U161	5000 (2270)
Methyl isocyanate	624639	Isocyanic acid, methyl ester.	1*	4	P064	1# (0.454)
2-Methylacetonitrile	75865	Acetone cyanohydrin	10	1,4	P069	10 (4.54)
		Propanenitrile, 2-hydroxy-2-methyl-				

TABLE 302.4—LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES----

Continued

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TABLE 302.4—LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—
Continued

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TABLE 302.4 -- LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES--
Continued

Continued

[See footnotes at end of Table 302.4]						
Hazardous Substance	CASRN	Regulatory Synonyms	Statutory		RCRA Waste Number	Final HQ
			RQ	Code:		
DE	725-48	DDD 4,4'-DDD Dichlorodiphenyl dichloroethane	1	1,2,4	U060	X
	95943	Benzene, 1,2,4,5- tetrachloro-	1*	4	U207	D
Tetrachlorobenzene	1746016		1*	2		X
	630206	Ethane,1,1,1,2- tetrachloro-	1*	4	U208	X
Tetrachloroethane	79345	Ethane,1,1,2,2- tetrachloro-	1*	2,4	U209	X
	127184	Ethane, 1,1,2,2- tetrachloro-	1*	2,4	U210	X
Tetrachloroethylene	58902	Phenol, 2,3,4,6- tetrachloro-	1*	4	U212	A
	34-89245	Dihydroxyphosphoric acid,tetraethyl ester,	1*	4	P109	B
Tetrachlorophenol,	78002	Plumbane, tetraethyl-	100	1,4	P110	A
	107493	Pyrophosphoric acid, tetraethyl ester	100	1,4	P111	A
Tetraethyl lead	109999	Furan, tetrahydro-	1*	4	U213	C
	509148	Methane, tetranitro-	1*	4	P112	B
Tetraethoxyphosphoric acid, hexaethyl ester	757584	Hexaethyl tetraphosphoric,	1*	4	P062	A
	1314325	Thallium(III) oxide	1*	4	P113	B
THALLIUM AND COMPOUNDS	7440280		1*	2		C
	563688	Acetic acid, thallium(I) salt,	1*	4	U214	B
Thallium(I) acetate	6533739	Carbonic acid, dithallium(I) salt,	1*	4	U215	B
	7791120	Thallium(I) chloride	1*	4	U216	B
Thallium(I) nitrate	10102451	Thallium(I) nitrate	1*	4	U217	B
	1314325	Thallic oxide	1*	4	P113	C
Thallium(I) selenide	12039520		1*	4	P114	B
	7446186	Sulfuric acid, thallium(I) salt,	1000	1,4	P115	B
Thioacetamide	10031591					
	62555	Etanethioamide	1*	4	U218	X
Thioloax	39196184	3,3-Dimethyl-1- (methylthio)-2- butanone,O- (methylamino) carbonyl oxime	1*	4	P045	B
	541537	2,4-Dithioburel	1*	4	P049	B
Thiomordicarbonic diamide,	74931	Methanethiol	100	1,4	U153	B
	108985	Methylmercaptan	1*	4	P014	B
Thiophenol	79196	Benzenethiol	1*	4	P116	B
	62566	Hydrazinecarbothioamide	1*	4	U219	X
Thiosuccinimide	5344821	Carbamide, tho-	1*	4	P026	B
	86884	1-6- Chlorophenylthiourea	1*	4	P072	B
Thiourea, (2- chlorophenyl)-	86884	alpha Naphthylthiourea	1*	4	P072	B
	103855	N Phenylthiourea	1*	4	P093	B
Thiourea, 1- naphthalenyl-	137268	Bis (dimethylthiocarba- moyl) disulfide	1*	4	U244	A
	108883	Benzene, methyl-	1000	1,2,4	U220	C

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TABLE 302.4—LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—
Continued

[See footnotes at end of Table 302.4]

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory		Final RQ	
			RQ	Code	RCRA Waste Number	Pounds (Kg)
Toluenediamine	95807 25376458 496720 823405 584849	Diaminotoluene	1*	4	U221	1# (0.454)
Toluene dithiocyanate	91087 26471825	Benzene, 2,4-dithiocyanatomethyl-	1*	4	U223	100 (45.4)
o-Toluidine	95534	2-Amino-1-methylbenzene	1*	4	U328	1# (0.454)
p-Toluidine	106490	4-Amino-1-methylbenzene	1*	4	U353	1# (0.454)
o-Toluidine hydrochloride	696215	Benzenamine, 2-methyl-, hydrochloride	1*	4	U222	1# (0.454)
Toxaphene	8001352	Camphene, octachloro-	1	1,2,4	P123	1# (0.454)
2,4,5-TP acid	93721	Propionic acid, 2-(2,4,5-trichlorophenoxy)-	100	1,4	U233	100 (45.4)
2,4,5-TP acid esters	32534955	Silvex	100	1		100 (45.4)
1H-1,2,4-Triazol-3-amine	61825	Amtrite	1*	4	U011	1# (0.454)
Trichloron	52866		1000	1		100 (45.4)
1,2,4-Trichlorobenzene	120821	Methyl chloroform	1*	2	U226	100 (45.4)
1,1,1-Trichloroethane	71556	Ethane, 1,1,2-trichloro-	1*	2,4	U227	100 (45.4)
Trichloroethene	79005	Trichloroethylene	1*	2,4	U228	100 (45.4)
Trichloroethylene	79016	Trichloroethene	1000	1,2,4	U228	1000# (454)
Trichloromethanesulfonyl chloride	594423	Methanesulfonyl chloride, trichloro-	1000	1,2,4	P118	1000# (454)
Trichloromethanesulfonyl methane	75694	Methane, trichlorosulfonyl-	1*	4	U121	100 (45.4)
Trichlorophenol	25167822 15950660		10	1		10# (4.54)
2,3,4-Trichlorophenol	933788					
2,3,5-Trichlorophenol	933755					
2,4,5-Trichlorophenol	95954	Phenol, 2,4,5-trichloro-				
2,4,6-Trichlorophenol	88062	Phenol, 2,4,6-trichloro-				
Trichlorophenol	609198					
3,4,5-Trichlorophenol	95954	Phenol, 2,4,5-trichloro-	10	1,4	U230	10# (4.54)
2,4,5-Trichlorophenol	88062	Phenol, 2,4,5-trichloro-	10	1,2,4	U231	10# (4.54)
2,4,5-Trichlorophenol	93785	Phenol, 2,4,5-trichloro-	100	1,4	U232	1000 (454)
Trichlorophenoxyacetic acid						
Triethanolamine	27323417	2,4,5-T acid	1000	1		1000 (454)
dodecylbenzenesulfonate						
Triethylamine	121448		5000	1		5000 (2270)
Trimethylamine	75503		1000	1		100 (45.4)
Sym-Tri-nitrobenzene	99354	Benzene, 1,3,5-trinitro-	1*	4	U234	10 (4.54)
1,3,5-Trioxane, 2,4,6-trimethyl-	123637	Paraldehyde	1*	4	U182	1000 (454)
Tris(2,3-dibromopropyl)phosphate	126727	1-Propanol, 2,3-dibromophosphate (3.1)	1*	4	U235	1# (0.454)
Trypan blue	72571	2,7-Naphthalenedisulfonic acid, 3,3'-[1,3,3'-dimethyl-1,1'-bis(phenyl)-4,4'-diyl]-bis(azo)bis[5-amino-4-hydroxy]-tetrasodium salt	1*	4	U236	1# (0.454)
Unlisted Hazardous Wastes Characteristic of EP Toxicity	N.A.					
Characteristic of Ignitability			1*	4	D001	100 (45.4)
Characteristic of Corrosivity			1*	4	D002	100 (45.4)
Characteristic of Reactivity			1*	4	D003	100 (45.4)
Characteristic of EP Toxicity			1*	4		
Arsenic			1*	4	D004	1# (0.454)
Barium			1*	4	D005	1000 (454)
Cadmium			1*	4	D006	1# (0.454)
Chromium			1*	4	D007	1# (0.454)
Lead			1*	4	D008	1# (0.454)
Mercury			1*	4	D009	1# (0.454)
Selenium D010			1*	4	D010	10 (4.54)
Silver			1*	4	D011	1 (0.454)
Endrin			1*	1,4	D012	1 (0.454)
Lindane			1	1,4	D013	1# (0.454)
Methoxychlor			1	1,4	D014	1 (0.454)
Toxaphene			1	1,4	D015	1# (0.454)
2,4-D			100	1,4	D016	100 (45.4)
2,4,5-TP			100	1,4	D017	100 (45.4)
Uracyl, 5-bis(2-chloroethyl)amino-1-	66751	Uracyl mustard	1*	4	U237	1# (0.454)
Uracyl mustard	66751	Uracyl, 5-bis(2-chloroethyl)amino-1-	1*	4	U237	1# (0.454)
Uranyl acetate	541093		5000	1		100 (45.4)
Uranyl nitrate	10102064		5000	1		100 (45.4)
Vanadic acid	7803556	Ammonium vanadate	1*	4	P119	1000 (454)
Vanadium(V) oxide	1314621		1000	1,4	P120	1000 (454)
Vanadium pentoxide	1314621	Vanadium(V) oxide	1000	1,4	P120	1000 (454)
Vanadyl sulfate	27774136		1000	1		1000 (454)
Vinyl acetate	108054		1000	1		5000 (2270)
Vinyl chloride	75014	Ethene, chloro-	1*	2,3,4	U043	1# (0.454)
Vinylidene chloride	75354	1,1-Dichloroethylene	5000	1,2,4	U078	5000# (2270)
Warfarin	81812	Ethene, 1,1-dichloro-3-(alpha-acetoxybenzyl)-4-hydroxycoumarin and salts	1*	4	P001	100 (45.4)
Xylene (mixed)	130207	Benzene, dimethyl	1000	1,4	U239	1000 (454)
m-Xylene	108383					
o-Xylene	95476					
p-Xylene	106423					
Xylenol	1300716		1000	1		1000 (454)
Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-(3,4,5-trimethoxybenzoyloxy)-methyl ester	50555	Reserpine	1*	4	U200	5000 (2270)
Zinc	7440666		1*	2		1000 (454)

TABLE 302.4—LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—
Continued

[See footnotes at end of Table 302.4]

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory		Final RQ	
			RQ	Code	RCRA Waste Number	Pounds (Kg)
Trypan blue	72571	2,7-Naphthalenedisulfonic acid, 3,3'-[1,3,3'-dimethyl-1,1'-bis(phenyl)-4,4'-diyl]-bis(azo)bis[5-amino-4-hydroxy]-tetrasodium salt	1*	4	U236	1# (0.454)
Unlisted Hazardous Wastes Characteristic of EP Toxicity	N.A.					
Characteristic of Ignitability			1*	4	D001	100 (45.4)
Characteristic of Corrosivity			1*	4	D002	100 (45.4)
Characteristic of Reactivity			1*	4	D003	100 (45.4)
Characteristic of EP Toxicity			1*	4		
Arsenic			1*	4	D004	1# (0.454)
Barium			1*	4	D005	1000 (454)
Cadmium			1*	4	D006	1# (0.454)
Chromium			1*	4	D007	1# (0.454)
Lead			1*	4	D008	1# (0.454)
Mercury			1*	4	D009	1# (0.454)
Selenium D010			1*	4	D010	10 (4.54)
Silver			1*	4	D011	1 (0.454)
Endrin			1*	1,4	D012	1 (0.454)
Lindane			1	1,4	D013	1# (0.454)
Methoxychlor			1	1,4	D014	1 (0.454)
Toxaphene			1	1,4	D015	1# (0.454)
2,4-D			100	1,4	D016	100 (45.4)
2,4,5-TP			100	1,4	D017	100 (45.4)
Uracyl, 5-bis(2-chloroethyl)amino-1-	66751	Uracyl mustard	1*	4	U237	1# (0.454)
Uracyl mustard	66751	Uracyl, 5-bis(2-chloroethyl)amino-1-	1*	4	U237	1# (0.454)
Uranyl acetate	541093		5000	1		100 (45.4)
Uranyl nitrate	10102064		5000	1		100 (45.4)
Vanadic acid	7803556	Ammonium vanadate	1*	4	P119	1000 (454)
Vanadium(V) oxide	1314621		1000	1,4	P120	1000 (454)
Vanadium pentoxide	1314621	Vanadium(V) oxide	1000	1,4	P120	1000 (454)
Vanadyl sulfate	27774136		1000	1		1000 (454)
Vinyl acetate	108054		1000	1		5000 (2270)
Vinyl chloride	75014	Ethene, chloro-	1*	2,3,4	U043	1# (0.454)
Vinylidene chloride	75354	1,1-Dichloroethylene	5000	1,2,4	U078	5000# (2270)
Warfarin	81812	Ethene, 1,1-dichloro-3-(alpha-acetoxybenzyl)-4-hydroxycoumarin and salts	1*	4	P001	100 (45.4)
Xylene (mixed)	130207	Benzene, dimethyl	1000	1,4	U239	1000 (454)
m-Xylene	108383					
o-Xylene	95476					
p-Xylene	106423					
Xylenol	1300716		1000	1		1000 (454)
Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-(3,4,5-trimethoxybenzoyloxy)-methyl ester	50555	Reserpine	1*	4	U200	5000 (2270)
Zinc	7440666		1*	2		1000 (454)

TABLE 302.4—LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—
Continued

(See footnotes at end of Table 302.4)

Hazardous Substance	CASRN	Regulatory Synonyms	RQ	Statutory Code	RCRA Waste Number	Category	Final RQ Pounds(Kg)
ZINC AND COMPOUNDS			1*	2			
Zinc acetate	557346		1000	1		C	1000 (454)
Zinc ammonium chloride	52628258		5000	1		C	1000 (454)
Zinc borate	1332076		1000	1		C	1000 (454)
Zinc bromide	7699458		5000	1		C	1000 (454)
Zinc carbonate	3486359		1000	1		C	1000 (454)
Zinc chloride	7646857		5000	1		C	1000 (454)
Zinc cyanide	557211		10	1,4	P121	A	10 (4.54)
Zinc fluoride	7783495		1000	1		C	1000 (454)
Zinc formate	557415		1000	1		C	1000 (454)
Zinc hydrosulfite	7779864		1000	1		C	1000 (454)
Zinc nitrate	7779886		5000	1		C	1000 (454)
Zinc phenolsulfonate	127822		5000	1		C	1000 (454)
Zinc phosphide	1314847		1000	1,4	P122	B	100 (45.4)
Zinc silicofluoride	16871719		5000	1		D	5000 (2270)
Zinc sulfide	7733020		1000	1		C	1000 (454)
Zincium nitrate	13746899		5000	1		D	5000 (2270)
Zincium potassium fluoride	16923958		5000	1		C	1000 (454)
Zincium sulfate	14644612		5000	1		D	5000 (2270)
Zincium tetrachloride	10026116		5000	1		D	5000 (2270)
F001			1*	4	F001	X	1# (0.454)
The following spent halogenated solvents used in degreasing and sludges from the recovery of these solvents in degreasing operations:							
(a) Tetrachloroethylene	127184					X	1# (0.454)
(b) Trichloroethylene	79016					C	1000# (454)
(c) Methylene chloride	75092					C	1000 (454)
(d) 1,1,1-Trichloroethane	71556					C	1000 (454)
(e) Carbon tetrachloride	56235					D	5000# (2270)
(f) Chlorinated fluorocarbons	(N.A.)					D	5000 (2270)
F002			1*	4	F002	X	1# (0.454)
The following spent halogenated solvents and the still bottoms from the recovery of these solvents							
(a) Tetrachloroethylene	127184					X	1# (0.454)
(b) Methylene chloride	75092					C	1000 (454)
(c) Trichloroethylene	79016					C	1000# (454)
(d) 1,1,1-Trichloroethane	71556					C	1000 (454)
(e) Chlorobenzene	108907					B	100 (45.4)
(f) 1,1,2-Trichloroethane	76131					D	5000 (2270)
(g) o-Dichlorobenzene	106467					B	100 (45.4)

(See footnotes at end of Table 302.4)

Hazardous Substance	CASRN	Regulatory Synonyms	RQ	Statutory Code	RCRA Waste Number	Category	Final RQ Pounds(Kg)
(h) Trichlorofluoromethane	75694					D	5000 (2270)
F003			1*	4	F003	B	100 (45.4)
The following spent non-halogenated solvents and the still bottoms from the recovery of these solvents							
(a) Xylene	1330207					C	1000 (454)
(b) Acetone	67641					D	5000 (2270)
(c) Ethyl acetate	141786					D	5000 (2270)
(d) Ethylbenzene	100414					C	1000 (454)
(e) Ethyl ether	60297					B	100 (45.4)
(f) Methyl isobutyl ketone	108101					D	5000 (2270)
(g) n-Butyl alcohol	71363					D	5000 (2270)
(h) Cyclohexanone	108941					D	5000 (2270)
(i) Methanol	67561					D	5000 (2270)
F004			1*	4	F004	C	1000# (454)
The following spent non-halogenated solvents and the still bottoms from the recovery of these solvents:							
(a) Cresols/Cresylic acid							
(b) Nitrobenzene							
F005			1*	4	F005	B	100 (45.4)
The following spent non-halogenated solvents and the still bottoms from the recovery of these solvents:							
(a) Toluene							
(b) Methyl ethyl ketone							
(c) Carbon disulfide							
(d) Isobutanol							
(e) Pyridine							
F006			1*	4	F006	X	1# (0.454)
Wastewater treatment sludges from electroplating operations except from the following processes:							
(1) Sulfuric acid anodizing of aluminum;							
(2) tin plating on carbon steel;							
(3) zinc plating (segregated basis) on carbon steel;							
(4) aluminum or zinc-aluminum plating on carbon steel.							

TABLE 302.4—LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—
Continued

[See footnotes at end of Table 302.4]

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory		Final RQ Pounds(Kg)
			RQ	RCRA Waste Number	
(5) cleaning/ stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum					

TABLE 302.4—LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—
Continued

[See footnotes at end of Table 302.4]

Hazardous Substance	CASRN	Regulatory Synonyms	Statutory		Final RQ Pounds(Kg)
			RQ	RCRA Waste Number	
F007 Spent cyanide plating bath solutions from electroplating operations (except for precious metals electroplating spent cyanide plating bath solutions)			1*	4 F007	10 (4.54)
F008 Plating bath sludges from the bottom of plating baths from electroplating operations where cyanides are used in the process (except for precious metals electroplating plating bath sludges)			1*	4 F008	10 (4.54)
F009 Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process (except for precious metals electroplating spent stripping and cleaning bath solutions)			1*	4 F009	10 (4.54)
F010 Quenching bath sludge from oil baths from metal heat treating operations where cyanides are used in the process (except for precious metals heat treating quenching bath sludges)			1*	4 F010	10 (4.54)
F011 Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations (except for precious metals heat treating spent cyanide solutions from salt bath pot cleaning)			1*	4 F011	10 (4.54)
F012			1*	4 F012	10 (4.54)

REFERENCE NO. 37

TO: United Plating, Inc.

DATE: 3/26/91

FROM: Valerie Mathers

COPIES:

SUBJECT: Wetlands within 15 miles downstream of the point of runoff entry to the Mohawk River.

REFERENCE: File

The NYSDEC regards information identifying the location of sensitive environments, including wetlands, to be confidential and unavailable to the general public. The purpose of this project note, therefore, is to define wetlands that exist within 15 miles downstream on the Mohawk River from the point where runoff from the site would be expected to enter the river. It should be noted that this project note addresses only wetlands in Region 5 and not those in Region 4 where the site is located. Wetlands in Region 4 are the subject of another project note included in the file for United Plating, Inc., dated 3/22/91. The original reference for this project note is a letter and attachment from Kevin R. Bliss, Environmental Analyst, NYSDEC, Div. of Regulatory Affairs, to Valerie Mathers, NUS Corp., March 18, 1991. This may also be found in the file for United Plating, Inc., TDD No. 02-9012-18-PA.

From the point of site runoff entry into the Mohawk River to a distance 15 miles downstream, approximately 1.6 miles of what appears to be one large wetland, lies adjacent to the Mohawk River. This wetland is classified as ~~as~~ (VAM) N-20 and is the only one of Region 5 within the geographic area specified above.

REFERENCE NO. 38

code of federal regulations

Protection of
Environment

40

PARTS 100 to 149

Revised as of July 1, 1986

CONTAINING

A CODIFICATION OF DOCUMENTS
OF GENERAL APPLICABILITY
AND FUTURE EFFECT

AS OF JULY 1, 1986

With Ancillaries

Published by
the Office of the Federal Register
National Archives and Records
Administration

as a Special Edition of
the Federal Register



FR 59570, Dec. 24, 1975, as amended at FR 28403, July 9, 1976; 44 FR 68641, Nov. 1979; 50 FR 46900, Nov. 13, 1985; 51 FR 110, Apr. 2, 1986

41.3 Coverage.

This part shall apply to each public water system, unless the public water system meets all of the following conditions:

- Consists only of distribution and storage facilities (and does not have any collection and treatment facilities);
- Obtains all of its water from, but not owned or operated by, a public water system to which such regulations apply;
- Does not sell water to any person;
- Is not a carrier which conveys messengers in interstate commerce.

41.4 Variances and exemptions.

Variances or exemptions from certain provisions of these regulations may be granted pursuant to sections 15 and 1416 of the Act by the entity with primary enforcement responsibility. Provisions under Part 142, *National Interim Primary Drinking Water Regulations Implementation*—Subpart F (Exemptions)—apply where EPA has primary enforcement responsibility.

41.5 Siting requirements.

Before a person may enter into a financial commitment for or initiate construction of a new public water system or increase the capacity of an existing public water system, he shall notify the State and, to the extent practicable, avoid locating part or all of the new or expanded facility at a site which:

- Is subject to a significant risk from earthquakes, floods, fires or other disasters which could cause a shutdown of the public water system or a portion thereof; or
- Except for intake structures, is within the floodplain of a 100-year flood or is lower than any recorded high tide where appropriate records exist. The U.S. Environmental Protection Agency will not seek to override any decisions affecting public water systems siting which are made

40 CFR Ch. I (7-1-86 Edition)

at the State or local government levels.

§ 141.6 Effective dates.

- Except as provided in paragraph (b) of this section, the regulations set forth in this part shall take effect on June 24, 1977.
- The regulations for total trihalomethanes set forth in § 141.12(c) shall take effect 2 years after the date of promulgation of these regulations for community water systems serving 75,000 or more individuals, and 4 years after the date of promulgation for communities serving 10,000 to 74,999 individuals.

- The regulations set forth in §§ 141.11 (a), (d) and (e); 141.14(a)(1); 141.14(b)(1)(i); 141.14(b)(2)(d); 141.14(d); 141.21 (a), (c) and (i); 141.22 (a) and (e); 141.23 (a)(3) and (a)(4); 141.23(f); 141.24(a)(3); 141.24 (e) and (f); 141.25(e); 141.27(a); 141.28 (a) and (b); 141.31 (a), (d) and (e); 141.32(b)(3); and 141.32(d) shall take effect immediately upon promulgation.
- The regulations set forth in § 141.41 shall take effect 18 months from the date of promulgation. Suppliers must complete the first round of sampling and reporting within 12 months following the effective date.
- The regulations set forth in § 141.42 shall take effect 18 months from the date of promulgation. All requirements in § 141.42 must be completed within 12 months following the effective date.

- The regulations set forth in § 141.11(c) and § 141.23(g) are effective May 2, 1986. Section 141.23(g)(4) is effective October 2, 1987.
- The regulations set forth in § 141.11(c) and § 141.23(g) are effective May 2, 1986. Section 141.23(g)(4) is effective October 2, 1987.

[44 FR 68641, Nov. 29, 1979, as amended at 45 FR 57342, Aug. 27, 1980; 47 FR 10998, Mar. 12, 1982; 51 FR 11410, Apr. 2, 1986]

Subpart B—Maximum Contaminant Levels

§ 141.11 Maximum contaminant levels for inorganic chemicals.

- The MCL for nitrate is applicable to both community water systems and non-community water systems except as provided by in paragraph (d) of this section. The levels for the other inorganic chemicals apply only to commu-

Environmental Protection Agency

nity water systems. Compliance with MCLs for inorganic chemicals is calculated pursuant to § 141.23.

- The following are the maximum contaminant levels for inorganic chemicals other than fluoride:

Contaminant	Level, milligrams per liter
Arsenic.....	0.05
Barium.....	1
Cadmium.....	0.010
Chromium.....	0.05
Lead.....	0.05
Mercury.....	0.002
Nitrate (as N).....	10
Selenium.....	0.01
Silver.....	0.05

- The Maximum Contaminant Level for fluoride is 4.0 mg/l. See 40 CFR 143.3, which establishes a Secondary Maximum Contaminant Level at 2.0 mg/l.

- At the discretion of the State, nitrate levels not to exceed 20 mg/l may be allowed in a non-community water system if the supplier of water demonstrates to the satisfaction of the State that:

- Such water will not be available to children under 6 months of age; and
- There will be continuous posting of the fact that nitrate levels exceed 10 mg/l and the potential health effects of exposure; and
- Local and State public health authorities will be notified annually of nitrate levels that exceed 10 mg/l; and
- No adverse health effects shall result.

[40 FR 59570, Dec. 24, 1975, as amended at 45 FR 57342, Aug. 27, 1980; 47 FR 10998, Mar. 12, 1982; 51 FR 11410, Apr. 2, 1986]

§ 141.12 Maximum contaminant levels for organic chemicals.

The following are the maximum contaminant levels for organic chemicals. The maximum contaminant levels for organic chemicals in paragraphs (a) and (b) of this section apply to all community water systems. Compliance with the maximum contaminant levels in paragraphs (a) and (b) of this section, is calculated pursuant to § 141.24. The maximum contaminant level for total trihalomethanes in paragraph (c) of this section applies only to commu-

nity water systems which serve a population of 10,000 or more individuals and which add a disinfectant (oxidant) to the water in any part of the drinking water treatment process. Compliance with the maximum contaminant level for total trihalomethanes is calculated pursuant to § 141.30.

	Level, milligrams per liter
(a) Chlorinated hydrocarbons: Endrin (1,2,3,4,10, 10-hexachloro-6, 7-epoxy-1,4, 4a,5,6,7,8,8i-octahydro-1,4-endo, endo-5,8-dimethano naphthalene) Lindane (1,2,3,4,5,6-hexachlorocyclohexane, gamma isomer) Methoxychlor (1,1,1-Trichloro-2, 2-bis [p-methoxyphenyl] ethane) Toxaphene (C ₁₂ H ₈ Cl ₆ -Technical chlorinated camphene, 87-89 percent chlorine) (b) Chlorophenols: 2,4-D, (2,4-Dichlorophenoxyacetic acid) 2,4,5-TP Silvex (2,4,5-Trichlorophenoxypropionic acid) (c) Total trihalomethanes (the sum of the concentrations of bromodichloromethane, dibromochloromethane, tribromomethane (bromoform) and trichloromethane (chloroform))	0.0002 0.004 0.1 0.005 0.1 0.01 0.10 mg/l

[40 FR 59570, Dec. 24, 1975, as amended at 44 FR 68641, Nov. 29, 1979]

§ 141.13 Maximum contaminant levels for turbidity.

The maximum contaminant levels for turbidity are applicable to both community water systems and non-community water systems using surface water sources in whole or in part. The maximum contaminant levels for turbidity in drinking water, measured at a representative entry point(s) to the distribution system, are:

- One turbidity unit (TU), as determined by a monthly average pursuant to § 141.22, except that five or fewer turbidity units may be allowed if the supplier of water can demonstrate to the State that the higher turbidity does not do any of the following:
 - Interfere with disinfection;
 - Prevent maintenance of an effective disinfectant agent throughout the distribution system; or
 - Interfere with microbiological determinations.
- Five turbidity units based on an average for two consecutive days pursuant to § 141.22.

REFERENCE NO. 39

NUS CORPORATION AND SUBSIDIARIES

TELECON NOTE

CONTROL NO.:

02 9011-06

DATE:

2/22/91

TIME:

1030

DISTRIBUTION:

PA PM

CC. B. LOBUE

SITE FILES: MOORE RD, EASTMAN KODAK, CIC, UNITED PLATING,
Apple Valley, GAF Asbestos, FINS.

BETWEEN:

LARRY TANNERBAUM/BEN
CONETTA

OF:

U.S. EPA
REGION II

PHONE:

(212) 264-6697

AND:

P. S. HASTINGS

Subject: CERCLIS Listings

(NUS)

DISCUSSION:

As several recently assigned PA sites were not on CERCLIS, I contacted Larry to orchestrate this. He & Ben Conetta requested site specific information in turn. Thus, the sites to be listed are:

* ① MOORE ROAD

REAR OF

MOORE RD, LEWISTON, NIAGARA COUNTY, NY 14092

* ② EASTMAN KODAK PROCESSING LABORATORY

16-31 ROUTE 208, FAIRLAWN, BERGEN COUNTY, NJ 07410

* ③ CLEVELAND INDUSTRIAL CENTER

20 PARKER ROAD, WASHINGTON TOWNSHIP, MORRIS CO, NJ 07882

* ④ UNITED PLATING ID NUMBER SHOWS UP AS NYD986294280,

NYD000063527 LISTED ON Schenectady Dept of WW DOES NOT SHOW UP IN CERCLIS.

* ⑤ Apple Valley, GAF Asbestos Land fill & FINS (Fire Island Nat. Seashore)

ACTION ITEMS: will all be listed in CERCLIS with correct ID# & information.

* THE ABOVE SITE NAMES, AND ADDRESSES (INCLUDING COUNTY and zip) WERE VERIFIED BY FIT FOR THE PURPOSE OF ACCURATE LISTING IN CERCLIS.

REFERENCE NO. 40

MITRE

26 May 1988
W52-219

Ms. Lucy Sibold
U.S. Environmental Protection Agency
401 M Street, S.W.
Room 2636, Mail Code WH-548A
Washington, D.C. 20460

Dear Ms. Sibold:

Enclosed is a copy of the draft revised HRS net precipitation values for 3,345 weather stations where data were available. The data are presented by state code, station name, latitude, longitude, and net precipitation in inches. A list of state codes is also enclosed.

The net precipitation values are provided to assist the Phase II - Field Testing efforts. It is suggested that the value from the nearest weather station in a similar geographic setting be used as the net precipitation value for a site.

If there are any questions regarding this material, please contact Dave Egan at (703) 883-7866.

Sincerely,



Andrew M. Platt
Group Leader
Hazardous Waste Systems

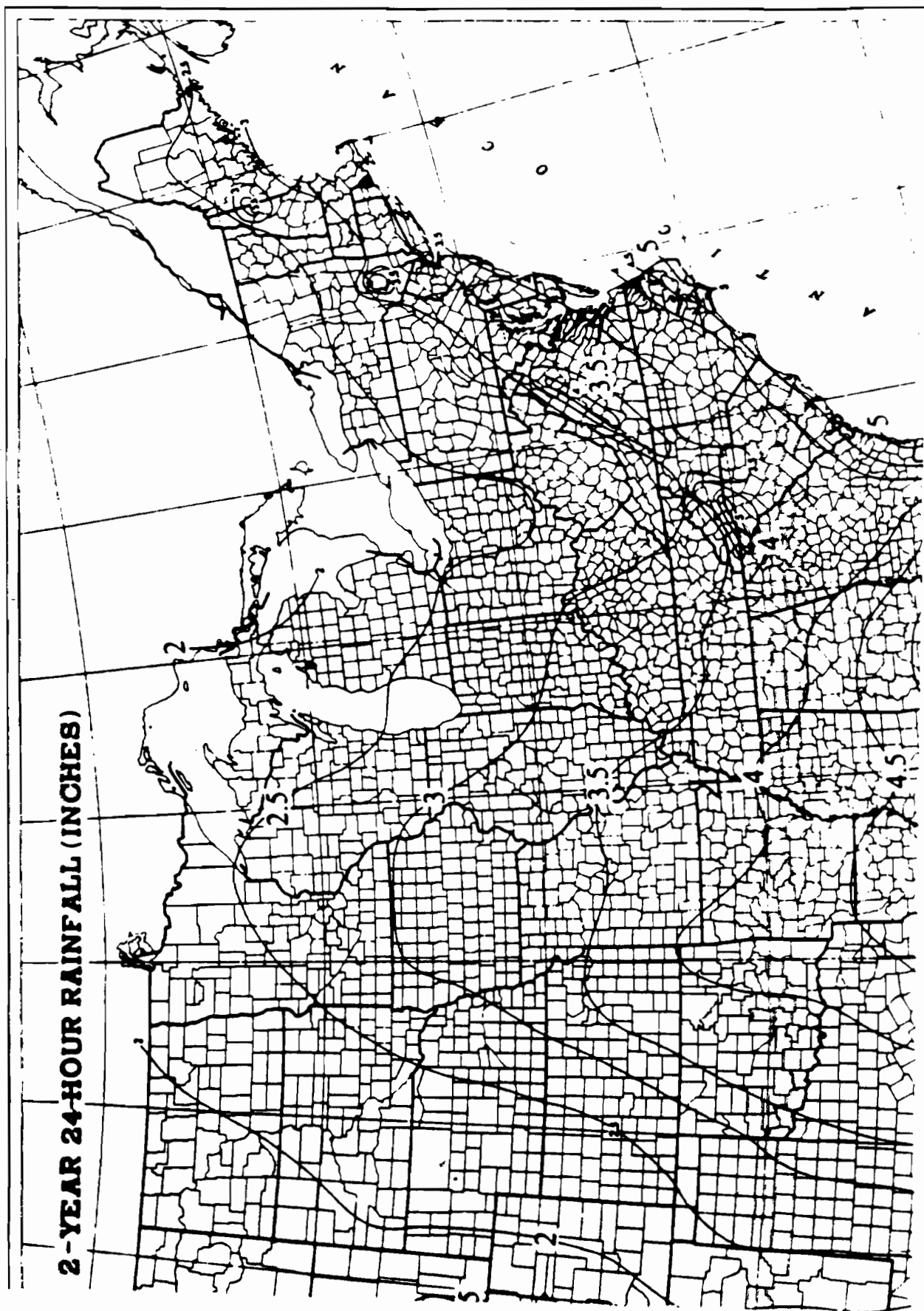
AMP:DEE/hme

Enclosures

cc: Scott Parrish

RHHS ANNUAL NET PRECIPITATION

OBS	STATE	NAME	LATNUM	LONGUM	NETPREC
1926	30	CORTLAND	42.36	76.11	20.7838
1927	30	PENN VAN 2 SW	42.39	77.05	12.5077
1928	30	COOPERSTOWN	42.42	74.55	18.8574
1929	30	MOUNT MORRIS 2 W	42.44	77.54	10.4639
1930	30	ALBANY WSO	42.45	73.48	15.9544
1931	30	GRAFTON	42.47	73.28	22.0022
1932	30	HENLOCK	42.47	77.37	11.9324
1933	30	CHERRY VALLEY 2 NNE	42.49	74.44	20.2273
1934	30	CANANDAIGUA 3 S	42.51	77.17	12.7669
1935	30	GENEVA RESEARCH FARM	42.53	77.02	13.9284
1936	30	BUFFALO WSO	42.56	78.44	17.7174
1937	30	BATAVIA	43.00	78.11	13.6542
1938	30	GLOVERSVILLE	43.02	74.21	21.0367
1939	30	LITTLE FALLS CITY RES	43.04	74.52	20.7002
1940	30	SYRACUSE WSO	43.07	76.07	17.6763
1941	30	ROCHESTER WSO	43.07	77.40	13.6956
1942	30	UTICA FAA AP	43.09	75.23	22.2934
1943	30	SALEM	43.10	73.19	18.9243
1944	30	LOCKPORT 2 NE	43.11	78.39	16.1722
1945	30	SODUS CENTER	43.12	77.01	16.8156
1946	30	BROOKPORT 2 NW	43.15	77.58	11.2999
1947	30	GLENS FALLS FAA AP	43.21	73.37	16.5423
1948	30	BOONVILLE 2 SSW	43.27	75.21	36.1207
1949	30	OSWEGO EAST	43.28	76.30	20.1430
1950	30	WHITENALL	43.33	73.24	16.8594
1951	30	INDIAN LAKE 2 SW	43.45	74.17	21.2865
1952	30	LOWVILLE	43.48	75.30	20.7264
1953	30	STILLWATER RESERVOIR	43.53	75.02	25.4735
1954	30	WATERLOO	43.58	75.52	20.9289
1955	30	WARAKENA RANGER SCHOOL //	44.09	74.54	21.7079
1956	30	ELIZABETHTOWN	44.13	73.35	15.8559
1957	30	TUPPER LAKE SUMMOUNT	44.14	74.26	18.9485
1958	30	LAKE PLACID CLUB	44.17	73.59	19.0324
1959	30	COUVERNEUR	44.20	75.29	18.7478
1960	30	PERU 2 WSW	44.34	73.34	11.4853
1961	30	CANTON 4 SE	44.34	75.07	16.1006
1962	30	DARREMORA	44.43	73.43	13.9140
1963	30	OGDENSBURG 3 NE	44.44	75.27	14.0445
1964	30	CHAMPA FALLS	44.45	74.13	19.9423
1965	30	LAWRENCEVILLE	44.45	74.39	13.3298
1966	30	CHAZY	44.53	73.26	14.3031
1967	30	MASSENA FAA AP	44.56	74.51	15.1585
1968	31	SOUTHPORT 5 N	44.00	78.01	20.0467
1969	31	WILMINGTON WSO	44.16	77.54	17.0337
1970	31	WILLARD 4 SW	44.39	78.02	18.0505
1971	31	LUMBERTON 6 NW	44.42	79.04	14.5491
1972	31	MOREHEAD CITY 2 NNW	44.44	76.44	17.6482
1973	31	SLOAN 3 S	44.47	77.49	20.0112
1974	31	LAURINBURG	44.47	79.27	15.5062
1975	31	MAYSVILLE 6 SW	44.50	77.18	22.4726
1976	31	HAWLET	44.54	79.42	17.2670
1977	31	WADESBORO	44.57	80.04	16.8853
1978	31	MONROE 4 SE	44.58	80.30	17.2467
1979	31	HIGHLANDS 2 S	45.01	83.12	54.9816
1980	31	COMETIA EXP STATION	45.02	83.26	45.1349



REFERENCE NO. 41

**POTENTIAL YIELDS OF WELLS IN
UNCONSOLIDATED AQUIFERS IN UPSTATE
NEW YORK--HUDSON-MOHAWK SHEET**

**By
Edward F. Bugliosi, Ruth A. Trudell and George D. Casey**

INTRODUCTION

New York State's increasing need to develop ground-water-protection and management policies has led to an effort to identify and delineate the location and extent of its significant aquifers--those that consist of sand and gravel and yield substantial amounts of water to wells. Bedrock aquifers, although significant sources of water in some areas, are not addressed here.

A review of several maps and reports on the ground-water resources of New York State counties and river basins that were prepared from the 1930's through the mid-1960's by the U.S. Geological Survey, in cooperation with the New York State Department of Environmental Conservation, revealed that the maps were inconsistent in scale, format, and amount of detail. The only two statewide maps that show aquifers are Heath (1964) at 1:1,000,000 scale, and Kantrowitz and Snavely (1982) at 1:750,000 scale; both have insufficient detail for use in the development of aquifer-protection plans.

In the mid-1980's, the U.S. Geological Survey, in cooperation with the New York State Department of Environmental Conservation, compiled a set of five maps showing at uniform scale the locations and potential well yields of the unconsolidated aquifers in upstate New York (excluding Long Island). The maps also indicate parts of aquifers that are heavily used by community water systems and that have been designated "Primary Water-Supply Aquifers" by the State.

Purpose and Scope

This map is one in a set of five that shows unconsolidated aquifers in New York State excluding Long Island. These maps delineate unconsolidated aquifers at a scale of 1:250,000, are based on the most recent information available, and use the same symbols to identify unconsolidated aquifers and potential well-yield ranges.

The Primary aquifers, most of which were mapped in detail by the Geological Survey in the late 1970's and early 1980's, are outlined and keyed by number to the corresponding published references. The small map to the right identifies the major river basins and indicates other areas that are described in the ground-water reports that were used in this data compilation.

The scale of 1:250,000 was selected for this map series because it is the one used by the New York State Geological Survey for its bedrock geology map (Fisher and others, 1970) and its surficial geology map of the Hudson-Mohawk area (Cadwell and others, 1986). Together these maps form a consistent set of geologic and ground-water maps for use in regional management of the ground-water resources of the State.

These maps indicate only the general location of the unconsolidated aquifers; they are not intended for detailed site evaluations. Additional information that may be needed for site evaluation is given in the reports cited in the list of related publications. Determination of the precise location of aquifer boundaries or of well yields may require additional data.

Ground water may be obtained from unconsolidated aquifers that are too small to be shown at this scale and also from till, from buried unconsolidated aquifers not yet identified, and from underlying bedrock. Wells that have an adequate yield for domestic use (up to 10 gallons per minute) can be constructed almost anywhere within the mapped area. In some areas, bedrock aquifers are significant sources of water and warrant consideration in any appraisal of ground-water conditions. Several reports cited in the list of related publications include information on bedrock aquifers.

EXPLANATION

POTENTIAL YIELD OF WATER TO WELLS IN UNCONSOLIDATED AQUIFERS

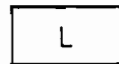


UNCONFINED AQUIFERS, 10 to 100 GALLONS PER MINUTE--Sand and gravel with saturated zone generally less than 10 ft thick, or thicker but with less permeable silty sand and gravel. Yields in areas adjacent to streams may exceed 100 gal/min through pumping-induced infiltration, but these areas are too small to show at this scale.

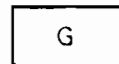


UNCONFINED AQUIFERS, MORE THAN 100 GALLONS PER MINUTE--Sand and gravel of high transmissivity and with saturated thickness greater than 10 ft. Many such areas are associated with surface-water sources that can provide additional water pumping-induced recharge.

AQUIFER OF UNKNOWN POTENTIAL--Areas of sand or sand and gravel for which little or no well data are on file to determine yield potential. Letter symbols, explained below, indicate the type of deposit.



Lacustrine or eolian--Fine to medium sand that probably yields less than 10 gal/min.



Kame, kame terrace, kame moraine, outwash, or alluvium--Sand and gravel of unknown thickness or saturation. Yield potential is greater where streams are present.



BURIED CHANNEL--Stratified drift of unknown saturated thickness and yield potential and overlain by other unconsolidated deposits.



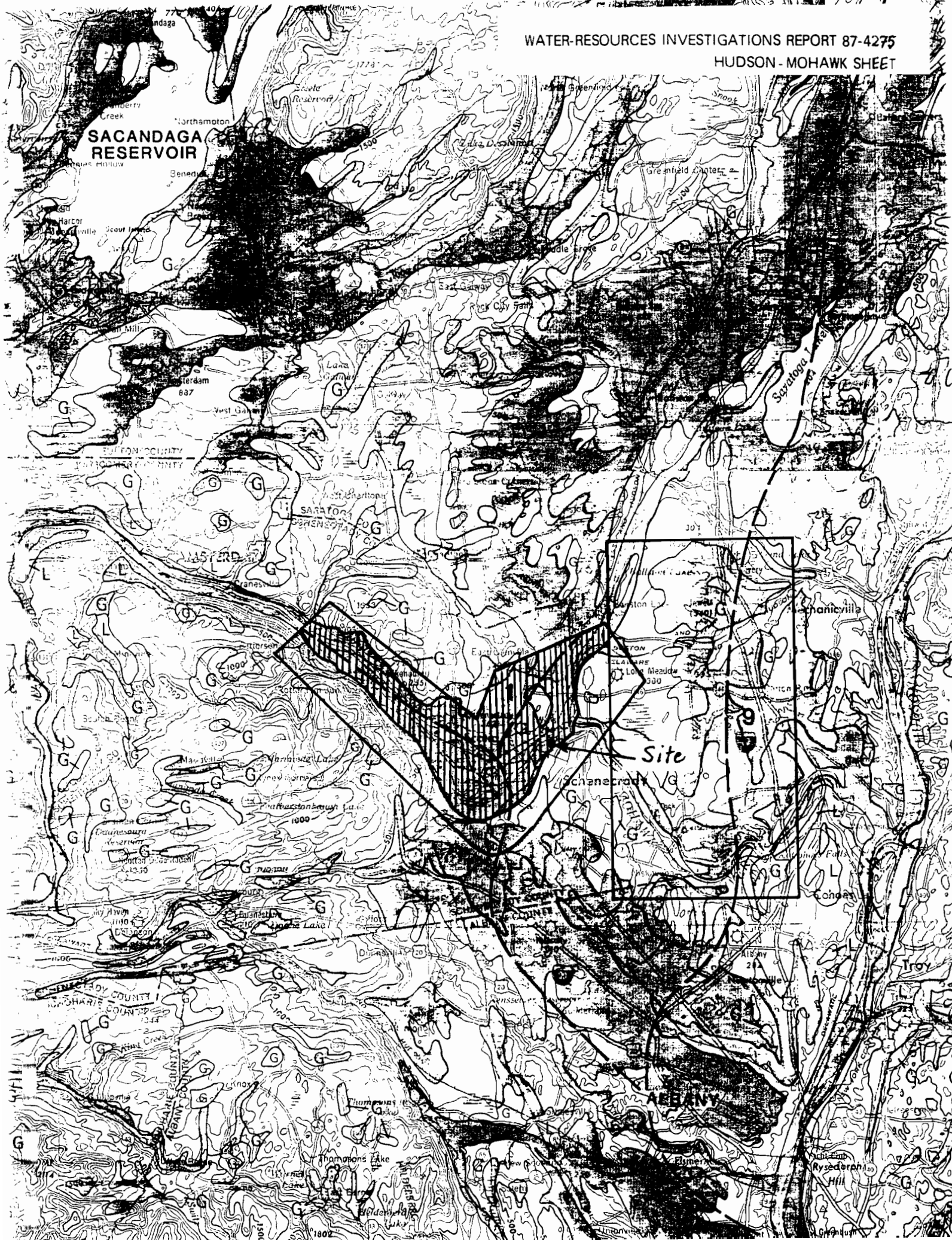
PRIMARY WATER-SUPPLY AQUIFER--A highly productive aquifer that is being used as a source of water supply by major public-supply systems. Number indicates name of aquifer area (see key below) and report number in list of related publications. Reports and maps cited describe these aquifers in detail.

Primary aquifer
number

Aquifer area

1
9

Schenectady
Clifton Park - Halfmoon area



REFERENCE NO. 42

CONTROL NO.:

02-9008-33

DATE:

1/4/91

TIME:

1410

DISTRIBUTION:

BURNS PROPERTY

RE: WELL HEAD PROTECTION AREAS

BETWEEN:

KEVIN ROBERTS

OF: NYSDC

CENTRAL OFFICE

PHONE:

(519) 474-2121

AND:

W.J. FOSS

(NUS)

DISCUSSION:

I telephoned Mr. Roberts to clarify the definition of well head protection areas (WHPA) as they are defined in the state of New York. I was informed by Mr. Roberts the WHPA plan consists of 2 zones. A ZONE 1 WHPA is a "public" supply well that has 200' radius of protection. It is also called a "tight zone". A ~~2~~ ZONE 2 WHPA applies to two different aquifer types: unconsolidated and bedrock aquifers. A "public" supply well or system found in an unconsolidated aquifer has a WHPA that reaches to the aquifer boundaries. A public supply well found in a bedrock aquifer has a WHPA of 1500'. Mr. Roberts stressed that it only

ACTION ITEMS:

applies to public supply wells or systems. A public supply includes municipal and non-municipal (i.e. trailer parks). He informed that there is no specific map to indicate WHPA's but there are aquifer "strip" maps that can be used to outline the boundaries of unconsolidated aquifers in New York.

REFERENCE NO. 43

CONTROL NO.:

02-9008-33

DATE:

1/7/91

TIME:

1014

DISTRIBUTION:

BURNS PROPERTY

RE: WELLHEAD PROTECTION AREAS +
AQUIFER STRIP MAPS

BETWEEN:

LARRY RINALDO

OF:

U.S. EPA.

PHONE:

(212)264-1800

AND:

W.J. FOSS

(NUS)

DISCUSSION:

I spoke with Mr. Rinaldo about my conversation with Mr. Kevin Roberts on 1/4/91 concerning well head protection areas (WHPA) within the state of New York. Mr. Rinaldo was in agreement with the facts given to me by Mr. Roberts. Mr. Rinaldo went on to say that Mr. Roberts was the driving force behind instituting a well head protection plan for the state of New York. He also added that the state's approach to defining well head protection was influenced by the state's geology (glacial valley aquifers).

ACTION ITEMS:

REFERENCE NO. 44

NUS CORPORATION
SUPERFUND DIVISION

PROJECT NOTES

TO: *United Plating, Inc.*

DATE: *April 15, 1991*

FROM: *Valerie Mathers*

COPIES:

SUBJECT: *Analytical results of soil samples collected at Carrie Avenue Park*

REFERENCE: *File*

May 16, 1990, the State of New York, Department of Health collected soil samples from seven locations at Carrie Avenue Park. The park is diagonal to the site, United Plating, Inc. The samples were analyzed for HSL metals and cyanide and the results forwarded to Dean Sommer, New York State, Department of Law. Refer to the attachments for sampling locations and analytical results.



STATE OF NEW YORK DEPARTMENT OF HEALTH

Corning Tower The Governor Nelson A. Rockefeller Empire State Plaza Albany, New York 12237

David Axelrod, M.D.
Commissioner

OFFICE OF PUBLIC HEALTH

Linda A. Randolph, M.D., M.P.H.
Director

William F. Leavy
Executive Deputy Director

May 24, 1990

Dean Sommer
NYS Dept. of Law
ESP, Justice Building
Albany, New York 12237

RE: United Plating
Schenectady City

Dear Mr. Sommer:

On Wednesday May 16, staff obtained soil samples from the Carrie Ave. Park and the vacant lot behind United Plating. Surficial soil samples were collected from seven locations (see attached map). These samples are being analyzed for HSL metals and cyanide. The results will be forwarded to you as soon as they become available.

If you have any questions, feel free to call me at (518) 458-6306.

Sincerely,

Richard Fedigan
Senior Sanitarian, Eastern Section
Bureau of Environmental Exposure
Investigation

jlf/01430123

Attachment

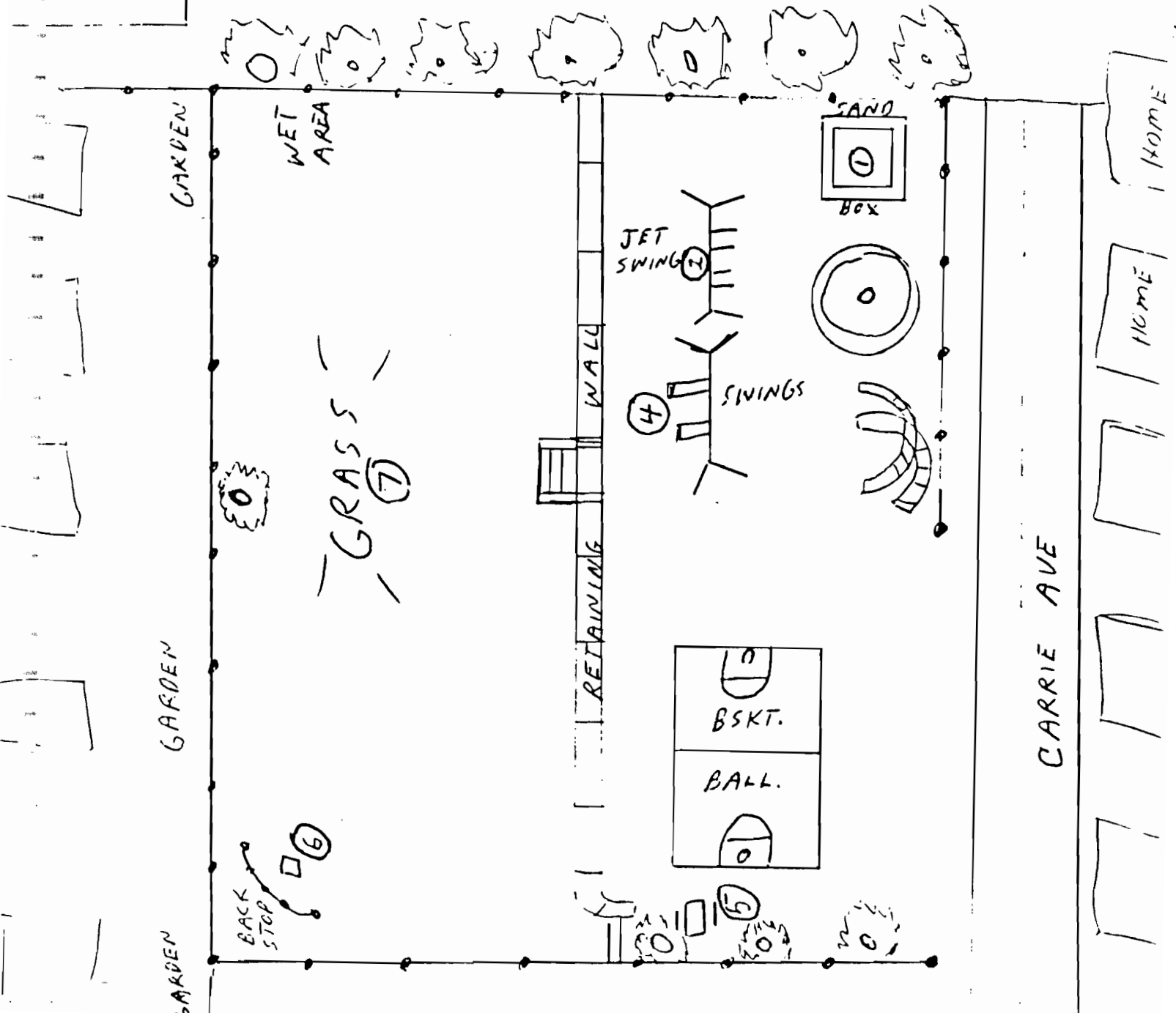
cc: R. Tramontano/G. Litwin
E. Hamilton - DEC, Reg. 4
J. Parisi - SGHD
G. Bowitch - DEE
F. Bifera - DEC

WINDING
PLATING

VACANT
LOT

3
PATH

SAMPLE LOCATIONS ①



0860

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 901009065 SAMPLE RECEIVED: 90/05/16/14 CHARGE: 10.70
PROGRAM: 106: BUREAU OF ENVIRONMENTAL EXPOSURE INVESTIGATION
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 4601
POLITICAL SUBDIVISION: SCHENECTADY C. COUNTY: SCHENECTADY
LATITUDE: LONGITUDE: Z DIRECTION:
LOCATION: UNITED PLATING
DESCRIPTION: CARRIE ST PARK SAND BOX SS#1
REPORTING LAB: 10: LABORATORY OF INORGANIC ANALYTICAL CHEMISTRY - ALBANY
TEST PATTERN: 10-035: METALS IN SOLID MATERIAL
SAMPLE TYPE: 600: SOIL, SAND
TIME OF SAMPLING: 90/05/16 12:01 DATE PRINTED: 90/06/13

-----PARAMETER-----

-----RESULT-----

SOLIDS, DRY	98. PERCENT
ARSENIC IN DRY SOLIDS	< 1. MCG/G
MERCURY IN DRY SOLIDS	< 0.04 MCG/G
SELENIUM IN DRY SOLIDS	< 0.5 MCG/G
BERYLLIUM IN DRY SOLIDS	< 0.4 MCG/G
SILVER IN DRY SOLIDS	< 4. MCG/G
BARIUM IN DRY SOLIDS	11. MCG/G
CADMIUM IN DRY SOLIDS	< 2. MCG/G
COBALT IN DRY SOLIDS	< 2. MCG/G
CHROMIUM IN DRY SOLIDS	3.3 MCG/G
COPPER IN DRY SOLIDS	< 2. MCG/G
IRON IN DRY SOLIDS	6990. MCG/G
MANGANESE IN DRY SOLIDS	82. MCG/G
NICKEL IN DRY SOLIDS	2.4 MCG/G
STRONTIUM IN DRY SOLIDS	< 20. MCG/G
TITANIUM IN DRY SOLIDS	177. MCG/G
VANADIUM IN DRY SOLIDS	8.6 MCG/G
ZINC IN DRY SOLIDS	16. MCG/G
MOLYBDENUM IN DRY SOLIDS	< 8. MCG/G
ANTIMONY IN DRY SOLIDS	< 20. MCG/G
TIN IN DRY SOLIDS	< 20. MCG/G
THALLIUM IN DRY SOLIDS	< 10. MCG/G
ALUMINUM IN DRY SOLIDS	2700. MCG/G
CALCIUM IN DRY SOLIDS	4470. MCG/G
POTASSIUM IN DRY SOLIDS	450. MCG/G
MAGNESIUM IN DRY SOLIDS	1730. MCG/G
SODIUM IN DRY SOLIDS	< 400. MCG/G
DIGESTION OF SOLIDS FOR METALS	DONE
DIGESTION OF SOLIDS FOR HG	DONE

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PAGE 2

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 901009065 SAMPLE RECEIVED: 90/05/16/14 CHARGE: 10.70
POLITICAL SUBDIVISION: SCHENECTADY C. COUNTY: SCHENECTADY
LOCATION: UNITED PLATING
TIME OF SAMPLING: 90/05/16 12:01 DATE PRINTED: 90/06/13

FOLLOWING PARAMETERS NOT PART OF TEST PATTERN

-----PARAMETER-----
CYANIDES IN DRY SOLIDS

-----RESULT-----
< 1. MCG/G

FOLLOWING PARAMETERS NOT PART OF TEST PATTERN

-----PARAMETER-----
LEAD IN DRY SOLIDS

-----RESULT-----
4.6 MCG/G

**** END OF REPORT ****

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PAGE 1

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 901009066 SAMPLE RECEIVED: 90/05/16/14 CHARGE: 10.70
PROGRAM: 106: BUREAU OF ENVIRONMENTAL EXPOSURE INVESTIGATION
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 4601
POLITICAL SUBDIVISION: SCHENECTADY C. COUNTY: SCHENECTADY
LATITUDE: LONGITUDE: Z DIRECTION:
LOCATION: UNITED PLATING
DESCRIPTION: CARRIE ST PARK JET SWING SS #2
REPORTING LAB: 10: LABORATORY OF INORGANIC ANALYTICAL CHEMISTRY - ALBANY
TEST PATTERN: 10-035: METALS IN SOLID MATERIAL
SAMPLE TYPE: 600: SOIL, SAND
TIME OF SAMPLING: 90/05/16 12:05 DATE PRINTED: 90/06/13

-----PARAMETER-----	-----RESULT-----
SOLIDS, DRY	97. PERCENT
ARSENIC IN DRY SOLIDS	1.3 MCG/G
MERCURY IN DRY SOLIDS	< 0.04 MCG/G
SELENIUM IN DRY SOLIDS	< 0.5 MCG/G
BERYLLIUM IN DRY SOLIDS	< 0.4 MCG/G
SILVER IN DRY SOLIDS	< 4. MCG/G
BARIUM IN DRY SOLIDS	18. MCG/G
CADMIUM IN DRY SOLIDS	< 2. MCG/G
COBALT IN DRY SOLIDS	< 2. MCG/G
CHROMIUM IN DRY SOLIDS	6.0 MCG/G
COPPER IN DRY SOLIDS	4.6 MCG/G
IRON IN DRY SOLIDS	10700. MCG/G
MANGANESE IN DRY SOLIDS	171. MCG/G
NICKEL IN DRY SOLIDS	5.2 MCG/G
STRONTIUM IN DRY SOLIDS	45. MCG/G
TITANIUM IN DRY SOLIDS	169. MCG/G
VANADIUM IN DRY SOLIDS	14. MCG/G
ZINC IN DRY SOLIDS	46. MCG/G
MOLYBDENUM IN DRY SOLIDS	< 8. MCG/G
ANTIMONY IN DRY SOLIDS	< 20. MCG/G
TIN IN DRY SOLIDS	< 20. MCG/G
THALLIUM IN DRY SOLIDS	< 10. MCG/G
ALUMINUM IN DRY SOLIDS	4460. MCG/G
CALCIUM IN DRY SOLIDS	19100. MCG/G
POTASSIUM IN DRY SOLIDS	960. MCG/G
MAGNESIUM IN DRY SOLIDS	3420. MCG/G
SODIUM IN DRY SOLIDS	< 400. MCG/G
DIGESTION OF SOLIDS FOR METALS	DONE
DIGESTION OF SOLIDS FOR HG	DONE

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RESULTS OF EXAMINATION

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LOCATION: UNITED PLATING
TIME OF SAMPLING: 90/05/16 12:05 DATE PRINTED: 90/06/13

FOLLOWING PARAMETERS NOT PART OF TEST PATTERN

-----PARAMETER-----	-----RESULT-----
CYANIDES IN DRY SOLIDS	< 1. MCG/G

FOLLOWING PARAMETERS NOT PART OF TEST PATTERN

-----PARAMETER-----	-----RESULT-----
LEAD IN DRY SOLIDS	2.6 MCG/G

**** END OF REPORT ****

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RESULTS OF EXAMINATION

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SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 4601
POLITICAL SUBDIVISION: SCHENECTADY C. COUNTY: SCHENECTADY
LATITUDE: LONGITUDE: Z DIRECTION:
LOCATION: UNITED PLATING
DESCRIPTION: CODINO CVACANT LOT PATH SS#3
REPORTING LAB: 10: LABORATORY OF INORGANIC ANALYTICAL CHEMISTRY - ALBANY
TEST PATTERN: 10-035: METALS IN SOLID MATERIAL
SAMPLE TYPE: 600: SOIL, SAND
TIME OF SAMPLING: 90/05/16 12:10 DATE PRINTED: 90/06/13

-----PARAMETER-----	-----RESULT-----
SOLIDS, DRY	76. PERCENT
ARSENIC IN DRY SOLIDS	5.1 MCG/G
MERCURY IN DRY SOLIDS	0.17 MCG/G
SELENIUM IN DRY SOLIDS	< 0.5 MCG/G
BERYLLIUM IN DRY SOLIDS	0.6 MCG/G
SILVER IN DRY SOLIDS	< 4. MCG/G
BARIUM IN DRY SOLIDS	123. MCG/G
CADMIUM IN DRY SOLIDS	4.0 MCG/G
COBALT IN DRY SOLIDS	8.6 MCG/G
CHROMIUM IN DRY SOLIDS	30. MCG/G
COPPER IN DRY SOLIDS	39. MCG/G
IRON IN DRY SOLIDS	27900. MCG/G
MANGANESE IN DRY SOLIDS	502. MCG/G
NICKEL IN DRY SOLIDS	28. MCG/G
STRONTIUM IN DRY SOLIDS	54. MCG/G
TITANIUM IN DRY SOLIDS	68. MCG/G
VANADIUM IN DRY SOLIDS	32. MCG/G
ZINC IN DRY SOLIDS	137. MCG/G
MOLYBDENUM IN DRY SOLIDS	< 8. MCG/G
LEAD IN DRY SOLIDS	102. MCG/G
ANTIMONY IN DRY SOLIDS	< 20. MCG/G
TIN IN DRY SOLIDS	< 20. MCG/G
THALLIUM IN DRY SOLIDS	< 10. MCG/G
ALUMINUM IN DRY SOLIDS	15600. MCG/G
CALCIUM IN DRY SOLIDS	14700. MCG/G
POTASSIUM IN DRY SOLIDS	8080. MCG/G
MAGNESIUM IN DRY SOLIDS	6120. MCG/G
SODIUM IN DRY SOLIDS	< 400. MCG/G
DIGESTION OF SOLIDS FOR METALS	DONE
DIGESTION OF SOLIDS FOR HG	DONE

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POLITICAL SUBDIVISION: SCHENECTADY C. COUNTY: SCHENECTADY
LOCATION: UNITED PLATING
TIME OF SAMPLING: 90/05/16 12:10 DATE PRINTED: 90/06/13

FOLLOWING PARAMETERS NOT PART OF TEST PATTERN

-----PARAMETER-----	-----RESULT-----
CYANIDES IN DRY SOLIDS	< 1. MCG/G
**** END OF REPORT ****	

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RESULTS OF EXAMINATION

FINAL REPORT

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PROGRAM: 106: BUREAU OF ENVIRONMENTAL EXPOSURE INVESTIGATION
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 4601
POLITICAL SUBDIVISION: SCHENECTADY C. COUNTY: SCHENECTADY
LATITUDE: LONGITUDE: Z DIRECTION:
LOCATION: UNITED PLATING
DESCRIPTION: CARRIE ST PARK BLUE SWINGS SS #4
REPORTING LAB: 10: LABORATORY OF INORGANIC ANALYTICAL CHEMISTRY - ALBANY
TEST PATTERN: 10-035: METALS IN SOLID MATERIAL
SAMPLE TYPE: 600: SOIL, SAND
TIME OF SAMPLING: 90/05/16 12:20 DATE PRINTED: 90/06/13

-----PARAMETER-----	-----RESULT-----
SOLIDS, DRY	92. PERCENT
ARSENIC IN DRY SOLIDS	3.3 MCG/G
MERCURY IN DRY SOLIDS	0.10 MCG/G
SELENIUM IN DRY SOLIDS	< 0.5 MCG/G
BERYLLIUM IN DRY SOLIDS	0.4 MCG/G
SILVER IN DRY SOLIDS	< 4. MCG/G
BARIUM IN DRY SOLIDS	94. MCG/G
CADMIUM IN DRY SOLIDS	2.9 MCG/G
COBALT IN DRY SOLIDS	7.8 MCG/G
CHROMIUM IN DRY SOLIDS	21. MCG/G
COPPER IN DRY SOLIDS	17. MCG/G
IRON IN DRY SOLIDS	30200. MCG/G
MANGANESE IN DRY SOLIDS	468. MCG/G
NICKEL IN DRY SOLIDS	18. MCG/G
STRONTIUM IN DRY SOLIDS	28. MCG/G
TITANIUM IN DRY SOLIDS	310. MCG/G
VANADIUM IN DRY SOLIDS	44. MCG/G
ZINC IN DRY SOLIDS	257. MCG/G
MOLYBDENUM IN DRY SOLIDS	< 8. MCG/G
LEAD IN DRY SOLIDS	75. MCG/G
ANTIMONY IN DRY SOLIDS	< 20. MCG/G
TIN IN DRY SOLIDS	< 20. MCG/G
THALLIUM IN DRY SOLIDS	< 10. MCG/G
ALUMINUM IN DRY SOLIDS	14300. MCG/G
CALCIUM IN DRY SOLIDS	10400. MCG/G
POTASSIUM IN DRY SOLIDS	3120. MCG/G
MAGNESIUM IN DRY SOLIDS	5460. MCG/G
SODIUM IN DRY SOLIDS	< 400. MCG/G
DIGESTION OF SOLIDS FOR METALS	DONE
DIGESTION OF SOLIDS FOR HG	DONE

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RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 901009068 SAMPLE RECEIVED: 90/05/16/14 CHARGE: 10.10
POLITICAL SUBDIVISION: SCHENECTADY C. COUNTY: SCHENECTADY
LOCATION: UNITED PLATING
TIME OF SAMPLING: 90/05/16 12:20 DATE PRINTED: 90/06/13

FOLLOWING PARAMETERS NOT PART OF TEST PATTERN

-----PARAMETER-----	-----RESULT-----
CYANIDES IN DRY SOLIDS	< 1. MCG/G

**** END OF REPORT ****

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RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 901009069 SAMPLE RECEIVED: 90/05/16/14 CHARGE: 10.70
PROGRAM: 106: BUREAU OF ENVIRONMENTAL EXPOSURE INVESTIGATION
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 4601
POLITICAL SUBDIVISION: SCHENECTADY C. COUNTY: SCHENECTADY
LATITUDE: LONGITUDE: Z DIRECTION:
LOCATION: UNITED PLATING
DESCRIPTION: CARRIE ST PARK SOUTH END OF COURT SS #5
REPORTING LAB: 10: LABORATORY OF INORGANIC ANALYTICAL CHEMISTRY - ALBANY
TEST PATTERN: 10-035: METALS IN SOLID MATERIAL
SAMPLE TYPE: 600: SOIL, SAND
TIME OF SAMPLING: 90/05/16 12:30 DATE PRINTED: 90/06/13

-----PARAMETER-----	-----RESULT-----
SOLIDS, DRY	89. PERCENT
ARSENIC IN DRY SOLIDS	1.4 MCG/G
MERCURY IN DRY SOLIDS	< 0.04 MCG/G
SELENIUM IN DRY SOLIDS	< 0.5 MCG/G
BERYLLIUM IN DRY SOLIDS	< 0.4 MCG/G
SILVER IN DRY SOLIDS	< 4. MCG/G
BARIUM IN DRY SOLIDS	20. MCG/G
CADMIUM IN DRY SOLIDS	< 2. MCG/G
COBALT IN DRY SOLIDS	2.3 MCG/G
CHROMIUM IN DRY SOLIDS	7.0 MCG/G
COPPER IN DRY SOLIDS	5.9 MCG/G
IRON IN DRY SOLIDS	11500. MCG/G
MANGANESE IN DRY SOLIDS	180. MCG/G
NICKEL IN DRY SOLIDS	6.6 MCG/G
STRONTIUM IN DRY SOLIDS	23. MCG/G
TITANIUM IN DRY SOLIDS	124. MCG/G
VANADIUM IN DRY SOLIDS	15. MCG/G
ZINC IN DRY SOLIDS	30. MCG/G
MOLYBDENUM IN DRY SOLIDS	< 8. MCG/G
ANTIMONY IN DRY SOLIDS	< 20. MCG/G
TIN IN DRY SOLIDS	< 20. MCG/G
THALLIUM IN DRY SOLIDS	< 10. MCG/G
ALUMINUM IN DRY SOLIDS	5860. MCG/G
CALCIUM IN DRY SOLIDS	8310. MCG/G
POTASSIUM IN DRY SOLIDS	790. MCG/G
MAGNESIUM IN DRY SOLIDS	2070. MCG/G
SODIUM IN DRY SOLIDS	< 400. MCG/G
DIGESTION OF SOLIDS FOR METALS	DONE
DIGESTION OF SOLIDS FOR HG	DONE

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RESULTS OF EXAMINATION

FINAL REPORT

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POLITICAL SUBDIVISION: SCHENECTADY C. COUNTY: SCHENECTADY
LOCATION: UNITED PLATING
TIME OF SAMPLING: 90/05/16 12:20 DATE PRINTED: 90/06/13

FOLLOWING PARAMETERS NOT PART OF TEST PATTERN

-----PARAMETER-----	-----RESULT-----
CYANIDES IN DRY SOLIDS	< 1. MCG/G
**** END OF REPORT ****	

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all normal

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PAGE 1

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 901009070 SAMPLE RECEIVED: 90/05/16/14 CHARGE: 10.10
 PROGRAM: 106: BUREAU OF ENVIRONMENTAL EXPOSURE INVESTIGATION
 SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 4601
 POLITICAL SUBDIVISION: SCHENECTADY C. COUNTY: SCHENECTADY
 LATITUDE: LONGITUDE: Z-DIRECTION:
 LOCATION: UNITED PLATING
 DESCRIPTION: CARRIE ST PARK HOME PLATE SS #6
 REPORTING LAB: 10: LABORATORY OF INORGANIC ANALYTICAL CHEMISTRY - ALBANY
 TEST PATTERN: 10-035: METALS IN SOLID MATERIAL
 SAMPLE TYPE: 600: SOIL, SAND
 TIME OF SAMPLING: 90/05/16 12:40 DATE PRINTED: 90/06/18

PARAMETER	RESULT
SOLIDS, DRY	92. PERCENT
ARSENIC IN DRY SOLIDS	4.4 MCG/G 4
MERCURY IN DRY SOLIDS	0.17 MCG/G .3
SELENIUM IN DRY SOLIDS	< 0.5 MCG/G
BERYLLIUM IN DRY SOLIDS	0.4 MCG/G
SILVER IN DRY SOLIDS	< 4. MCG/G
BARIUM IN DRY SOLIDS	122. MCG/G
CADMIUM IN DRY SOLIDS	2.6 MCG/G - 5 MCG/G
COBALT IN DRY SOLIDS	8.6 MCG/G
CHROMIUM IN DRY SOLIDS	26. MCG/G - 36
COPPER IN DRY SOLIDS	31. MCG/G
IRON IN DRY SOLIDS	27300. MCG/G
MANGANESE IN DRY SOLIDS	463. MCG/G
NICKEL IN DRY SOLIDS	23. MCG/G
STRONTIUM IN DRY SOLIDS	22. MCG/G
TITANIUM IN DRY SOLIDS	193. MCG/G
VANADIUM IN DRY SOLIDS	37. MCG/G
ZINC IN DRY SOLIDS	222. MCG/G
MOLYBDENUM IN DRY SOLIDS	< 8. MCG/G
LEAD IN DRY SOLIDS	162. MCG/G - 200-600
ANTIMONY IN DRY SOLIDS	< 20. MCG/G
TIN IN DRY SOLIDS	< 20. MCG/G
THALLIUM IN DRY SOLIDS	< 10. MCG/G
ALUMINUM IN DRY SOLIDS	13700. MCG/G
CALCIUM IN DRY SOLIDS	8490. MCG/G
POTASSIUM IN DRY SOLIDS	2710. MCG/G
MAGNESIUM IN DRY SOLIDS	5640. MCG/G
SODIUM IN DRY SOLIDS	< 400. MCG/G
DIGESTION OF SOLIDS FOR METALS	DONE
DIGESTION OF SOLIDS FOR HG	DONE

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PAGE 2 RESULTS OF EXAMINATION FINAL REPORT

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POLITICAL SUBDIVISION: SCHENECTADY C. COUNTY: SCHENECTADY
LOCATION: UNITED PLATING
TIME OF SAMPLING: 90/05/16 12:40 DATE PRINTED: 90/06/18

FOLLOWING PARAMETERS NOT PART OF TEST PATTERN

-----PARAMETER-----	-----RESULT-----
CYANIDES IN DRY SOLIDS	< 1. MCG/G
**** END OF REPORT ****	

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PAGE 1

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 901009071 SAMPLE RECEIVED: 90/05/16/14 CHARGE: 10.10
PROGRAM: 106: BUREAU OF ENVIRONMENTAL EXPOSURE INVESTIGATION
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 4601
POLITICAL SUBDIVISION: SCHENECTADY C. COUNTY: SCHENECTADY
LATITUDE: LONGITUDE: Z DIRECTION:
LOCATION: UNITED PLATING
DESCRIPTION: CARRIE ST PARK SS #7 (1 BOTTLE)
REPORTING LAB: 10: LABORATORY OF INORGANIC ANALYTICAL CHEMISTRY - ALBANY
TEST PATTERN: 10-035: METALS IN SOLID MATERIAL
SAMPLE TYPE: 600: SOIL, SAND
TIME OF SAMPLING: 90/05/16 12:50 DATE PRINTED: 90/06/13

-----PARAMETER-----	-----RESULT-----
SOLIDS, DRY	77. PERCENT
ARSENIC IN DRY SOLIDS	5.5 MCG/G
MERCURY IN DRY SOLIDS	0.18 MCG/G
SELENIUM IN DRY SOLIDS	< 0.5 MCG/G
BERYLLIUM IN DRY SOLIDS	0.5 MCG/G
SILVER IN DRY SOLIDS	< 5. MCG/G
BARIUM IN DRY SOLIDS	114. MCG/G
CADMIUM IN DRY SOLIDS	2.1 MCG/G
COBALT IN DRY SOLIDS	8.8 MCG/G
CHROMIUM IN DRY SOLIDS	29. MCG/G
COPPER IN DRY SOLIDS	34. MCG/G
IRON IN DRY SOLIDS	27000. MCG/G
MANGANESE IN DRY SOLIDS	526. MCG/G
NICKEL IN DRY SOLIDS	24. MCG/G
STRONTIUM IN DRY SOLIDS	30. MCG/G
TITANIUM IN DRY SOLIDS	148. MCG/G
VANADIUM IN DRY SOLIDS	35. MCG/G
ZINC IN DRY SOLIDS	128. MCG/G
MOLYBDENUM IN DRY SOLIDS	< 8. MCG/G
LEAD IN DRY SOLIDS	123. MCG/G
ANTIMONY IN DRY SOLIDS	< 20. MCG/G
TIN IN DRY SOLIDS	< 20. MCG/G
THALLIUM IN DRY SOLIDS	< 10. MCG/G
ALUMINUM IN DRY SOLIDS	14000. MCG/G
CALCIUM IN DRY SOLIDS	10800. MCG/G
POTASSIUM IN DRY SOLIDS	2850. MCG/G
MAGNESIUM IN DRY SOLIDS	6780. MCG/G
SODIUM IN DRY SOLIDS	< 400. MCG/G
DIGESTION OF SOLIDS FOR METALS	DONE
DIGESTION OF SOLIDS FOR HG	DONE

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RESULTS OF EXAMINATION

FINAL REPORT

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POLITICAL SUBDIVISION: SCHENECTADY C. COUNTY: SCHENECTADY
LOCATION: UNITED PLATING
TIME OF SAMPLING: 90/05/16 12:50 DATE PRINTED: 90/06/13

FOLLOWING PARAMETERS NOT PART OF TEST PATTERN

-----PARAMETER-----
CYANIDES IN DRY SOLIDS

-----RESULT-----
< 1. MCG/G

**** END OF REPORT. ****

REFERENCE NO. 45

Background concentrations of 20 elements in soils with special regard for New York State.

E. Carol McGovern
Fish and Wildlife Technician
Wildlife Pathology Unit
Wildlife Resources Center
New York State Department of
Environmental Conservation
Delmar, New York 12054

Introduction

The main source of elements in soils is from the parent material from which they were derived. Usually this material is weathered bedrock or overburden transported by wind, water or glaciation (Thornton, 1979). Climatic and biological factors as well as agricultural and industrial operations have a major effect on the concentration of elements in soils (Shacklette et al, 1971). Developed and developing countries have an ever increasing production and demand for elements. This increases the probability of their dispersal and contact in the environment. An element may be dispersed into the environment from the time it is mined until it becomes usable as a finished product or ingredient of a product (Adriano, 1986). The long agricultural and industrial history of this country may have altered the "natural" background of some elements in some materials. The widespread atmospheric effects of leaded gasoline may have altered the lead content of soils far from any pollution sources. Likewise for any element entering the atmosphere from agricultural or industrial sources (Connor and Shacklette, 1974).

A natural background level for 20 elements; aluminum, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, selenium, sodium, vanadium and zinc is being established for New York State. A wide range of literature has been reviewed to obtain soil values of these elements from areas thought to be uncontaminated, undisturbed or areas far from pollution sources. All values are in ppm dry weight.

Aluminum

Jackson (1964) stated that aluminum makes up 2-12% (20,000 - 120,000 ppm) of soils. Vinogradov (1959) gave 71,300 ppm as the average for the concentration of aluminum in world soils. A cultivated soil profile 0-30 cm, from Eastham, MA, averaged 34,000 ppm aluminum (Laul, 1983). Holmes et al (1938) conducted a study on the chemical composition of soils and colloids of the Norfolk and related soil series. All of the soils that they studied were within a 15 mile radius of Kingston, NC. In a soil profile of the Orangeburg series, mostly consisting of sandy loams and loamy sands, the aluminum content from the A horizon was 9,800 ppm, from the B horizon 95,600 ppm and 51,200 ppm for the C. A soil profile from the Dunbar soil series, a sandy loam, from a heavily forested area revealed an aluminum concentration of 8,300 ppm in the A₁ horizon, 14,000 ppm in the A₂ horizon, 27,900 ppm for the B₁ and 34,500 ppm for the B₂ horizon. A highly acidic, pH 4.3, fine sandy loam of the Coxville soil series provided a profile that contained 25,400 ppm aluminum in the A horizon, 54,600 in the B horizon and 69,700 ppm in the C.

Shacklette (1984) compiled samples of surficial material, that were unaltered or very little altered from their natural condition, of the United States to give estimates of the range of elemental abundance, with a total of 1,318 sampling sites. All samples were taken at a depth of 24 cm. Although many sites were within 100 m of roads, the roads contained only light vehicular traffic or were newly

introduced interstates. The geometric mean of 450 samples of soils and other surficial materials lying east of the 97th meridian was 33,000 ppm aluminum, with a range of 7,000-100,000 ppm.

Arsenic

The average amount of arsenic found in soils is 5 ppm (Vinogradov, 1959; Reay, 1972; Peterson and Alloway, 1979; Miesch and Claude, 1972; Woolson, 1983). No clearly defined relationship exists between the arsenic content of soils and the parent material or the climate conditions under which the soils were formed. Walsh et al (1977) stated that arsenic in uncontaminated soils is usually found in the range of 0.2 - 40 ppm. For 195 U.S. soil samples the arsenic content ranged from 0.1 - 42 ppm (Vinogradov, 1959). From erosion experiment stations widely scattered throughout the midwest and south, covering 5 major soil types, the arsenic content fell in the range of 1 - 20 ppm (Mitchell, 1964). Greaves (1934) found arsenic in western virgin soils to the extent of 4 ppm. A study of virgin soils of Colorado in 1910 found arsenic in amounts of 2.5 - 5.0 ppm.

Frank et al (1976) sampled 296 agricultural fields throughout Ontario, Canada. For 207 samples from soils with no history of arsenic use, the arsenic concentration ranged from 1.1 - 16.7 ppm with an average of 6.27 ppm. The arsenic content of uncontaminated soils was slightly increased with increased clay content. Sandy soils averaged 5.84 ppm arsenic and 6.43 ppm was the average arsenic content for clay soils.

A profile from a Muskingum silt loam - a gray-brown podzolic soil, with an immature profile, from Zanesville, Ohio revealed 10 ppm arsenic in the 0 - 17.5 cm zone, 16 ppm in the 17.5 - 32.5 cm zone, 10 ppm in the 32.5 - 60 cm zone (Slater et al, 1937).

Chattopadhyay et al (1974) determined the mean arsenic content from a crop growing organic soil profile from a Holland marsh area near Toronto, Ontario to be 1.5 ppm.

In the Harrison Experiment Forest, near Saucier, Mississippi, having a strongly acidic, poarch fine sandy loam soil, the arsenic content for the 0 - 75 cm profile ranged from 0.6 - 1.4 ppm (DeGroot, 1979). In a sandy loam control plot the arsenic concentration averaged 7 ppm for 0 - 30 cm (Hiltbolt, 1975).

Walsh et al (1975) gave a range of 3 - 12 ppm for the arsenic content in uncontaminated New York State soils. The geometric mean content of arsenic in the surficial materials of the eastern United States was found to be 4.8 ppm, with a range of <0.1 - 73 ppm by Shacklette and Boerngen (1984).

Barium

Vinogradov (1959) quoted 500 ppm as the average amount of barium in world soils. For ~~40 various~~ soil samples from the U.S. the barium content ranged from 10 - 3,000 ppm. In another study of 100 U.S. soil samples the barium level ranged from 60 - 800 ppm. Bowen (1979) stated 500 ppm as the average barium content in soils, with a range of

100 - 3,000 ppm. In 1910 the great plains soils were found to contain between 100 - 1,100 ppm barium (Slater et al, 1937).

The average barium content of a cultivated soil profile, 0 - 30 cm, from Eastham, MA was 180 ppm, with a range of 140 - 250 ppm (Laul, 1983).

From an organic crop growing soil profile from the Holland Marsh area near Toronto, Ontario the barium level in the surface, was found to be 285 ppm, in surface, it was 270 ppm. For a depth of 0 - 7.5 cm the barium content was 252 ppm, for 7.5 - 15 cm it was 293 ppm and 300 ppm for 15 - 22.5 cm (Chattopadhyay et al, 1974).

Shacklette and Boerngen (1984) found the geometric mean for 541 samples east of the 97th meridian in the U.S. to be 290 ppm, with a range of 10 - 1,500 ppm.

Beryllium

Beryllium is estimated to have a crustal abundance of 2 ppm (Tepper, 1980). Mitchell (1964) gave 0.3 - 10 ppm as the common range for beryllium in soils. Bowen (1979) gave 0.3 ppm as the average level of beryllium in soils with a range of 0.01 - 40 ppm. Adriano (1986) gave the range of 0.1 - 0.89 ppm for the concentration of beryllium in Canadian surface soils. Shacklette and Boerngen (1984) determined the geometric mean of beryllium in 169 soil samples of the eastern U.S. to be 0.55 ppm with a range of <1-7 ppm. The arithmetic mean was 0.85 ppm.

Cadmium

Vinogradov (1959) gave 0.5 ppm as the average amount of cadmium in world soils. Mitchell (1964) quoted 0.2 ppm as the average crustal abundance for cadmium. Peterson and Alloway (1979) stated that cadmium had an estimated crustal abundance of 0.15 - 0.20 ppm. Bowen (1979) gave an average of 0.35 ppm for world soil cadmium concentration, with a range of 0.01 - 2 ppm. Eisler (1985) stated that for soils of nonvolcanic origin the cadmium content ranged from 0.01 - 1.0 ppm and for soils of volcanic origin the cadmium concentration could be as high as 0.45 ppm. Based on the cadmium level found in common rocks it can be concluded that, on the average, soils derived from igneous rocks would contain the lowest total cadmium concentration, soils from metamorphic rocks intermediate and those derived from sedimentary rocks would contain the largest amounts of cadmium. Soils derived from igneous rocks range in cadmium concentration from 0.1 - 0.3 ppm, metamorphic soils 0.1 - 1.0 ppm and sedimentary soils 0.3 - 11 ppm (Page and Bingham, 1973).

For 173 agricultural soils from New York State, removed from mobile and point source contamination, the mean cadmium content was 0.45 ppm. For 40 West Virginia agricultural soils the mean cadmium level was 0.32 ppm, for 81 crop growing soils from Ohio 0.38 ppm, for

57 Maryland farms 0.08 ppm, 0.17 ppm cadmium for 4 agricultural soils of Delaware, 0.17 ppm for 31 farms from Maine, and 0.21 ppm for 45 agricultural soils from Pennsylvania (Sommers, 1987).

Page et al (1987) gave a range of 0.1 - 1.0 ppm for non-contaminated agricultural soils of the U.S., except for a number of soils derived from parent materials high in cadmium. Organic soils (Histosols) tend to contain the highest total cadmium concentrations and highly weathered soils (Ultisols and Alfisols) contain the lowest cadmium levels.

An extensive study of 3,305 soil samples from crop-producing areas in 36 states, took great care to insure that these areas were free from any known source of contamination. The cadmium content from these soils ranged from 0.05 - 2.4 ppm with a mean and median values of 0.27 ppm and 0.20 ppm respectively. For 293 samples from the northeast, including 5 states, the Cd content ranged from 0.08 - 0.21 ppm with an average of 0.17 ppm.

Adriano (1986) reported that normal Canadian soils contain from 0.01 - 0.10 ppm total Cd with a mean of 0.07 ppm. Normal glacial tills and other glacial materials had a Cd concentration of 0.01 - 0.70 ppm with an average of 0.07 ppm.

Pierce et al (1982) sampled 16 Minnesota soils from 7 major materials to obtain a baseline for 6 metals. The average cadmium concentration, from a depth of 0 - 15 cm, was 0.39 ppm and ranged from 0.24 - 0.68 ppm. The highest Cd content was found in calcareous soils developed in the lacustrine sediment and Des Moines Lobe Till (prairie) and generally in surface soils and soils with free carbonates. The association of Cd with carbonates reflects its ability to substitute for Cd²⁺ in the crystal lattice of calcite, due to similarities in ionic radii 1.03A and 1.06A respectively.

Luce (1985) quoted a range of 0.01 - 0.7 ppm and an average of 0.06 ppm for the cadmium content of soils. For 98 New York mineral soils used in the production of commercial fruits and vegetables the cadmium content averaged 0.21 ppm, with a maximum value of 0.67 ppm. For 63 New York State organic soils the average Cd content was 0.74, with a maximum value of 1.80 ppm.

A regional study of 15 benchmark or major soils of the Northeast containing 6 soils with a coarse - loamy texture had an average total Cd level of 0.22 ppm, the other 9 had a fine loamy to clayey texture contained 0.56 ppm cadmium on the average. The total Cd content of 26 Massachusetts surface soils (Ap or A horizons) averaged 0.2 ppm and ranged from 0.01 - 0.88 ppm.

Calcium

Mitchell (1964) stated that calcium makes up 3.6% (36,000 ppm) of the earth's crust by weight and 1.48% (14,800 ppm) by volume. Vinogradov (1959) gave 13,700 ppm as the average content of calcium in soils. Calcium makes up approximately 1% (10,000 ppm) of soils (Jackson, 1964). Bowen (1979) gave 15,000 ppm as the average amount of calcium to be found in soils.

In three experimental fields, in Illinois, the calcium content ranged from 450 - 2,170 ppm, for the profile of 0 - 72" (Snider, 1943). From a study by Holmes et al (1938) of Norfolk and related soil series, within a 15 mile radius of Kingston, NC, the A horizon of an Orangeburg fine sandy loam soil contained 6,100 ppm Ca, the B horizon 280 ppm Ca and the C 500 ppm Ca. A profile of a Dunbar fine sandy loam horizons; A₁, A₂, B₁ and B₂, all contained 70 ppm Ca. A profile of a Coxville fine sandy loam contained 640 ppm calcium in the A horizon, 357 ppm in the B and 100 ppm in the C. A profile of a Bladen loam soil contained 500 ppm Ca in A, B and C horizons.

Seventy residential soil samples from Grand Rapids, Michigan, taken from low density population areas and areas with substantial amounts of unimproved woodlands, averaged 2,300 ppm calcium. All samples were taken 30 - 50' from any road and usually taken from an established grassy area. Ninety one agricultural samples in the area contained 1,400 ppm calcium (Klein, 1972).

In 1979 approximately 20,000 field crop samples from approximately 200,000 acres were sampled from New York. The calcium content ranged from 778 - 3,532 ppm and averaged 1,651 ppm for 127 samples (Klausner and Reid, 1981). Shacklette and Boerngen (1984) gave the geometric mean of 3,400 ppm for the eastern U.S. with a range of 100 - 280,000 ppm.

Chromium

Chromium has an estimated crustal abundance of 100 ppm and an estimated mean soil content of 100 ppm (Peterson and Alloway, 1979). Vinogradov (1959) gave 20 ppm as the average chromium content of world soils. A study of 50 American soils by Slater, Holmes and Byers in 1937 gave a range of 2 - 270 ppm chromium. Cary (1982) gave an average of 43 ppm chromium for Canadian soils.

A profile of crop growing organic soils from the Holland Marsh area near Toronto, Ontario had an average of 24.6 ppm chromium (Chattopadhyay et al, 1974). For 12 organic soils from farmlands from throughout Ontario, Canada the average chromium content was 14.6 ppm, with a range of 4.1 - 39.0 ppm, 125 sandy soils had a mean chromium content of 10.0 ppm and ranged from 2.6 - 33.5 ppm, 98 loam soils ranged from 3.9 - 46.2 ppm and averaged 14.7 ppm, 60 clay soils had a range of 10.2 - 45.8 ppm chromium and a mean of 22.3 ppm. Samples having a chromium content over 35 ppm were mainly located on the Canadian shield or were soils high in clay content (Frank et al, 1976). Mills and Zwarich (1975) gave an average chromium content of 23 ppm for the A horizon of 16 agricultural soils from Manitoba, Canada and a mean of 16 ppm for the C horizon. The average chromium for 6 noncultivated fields was 22 ppm. Adriano (1986) reported a range of 20 - 125 ppm in Canadian soils and stated that the majority of U.S. soils contain between 20 - 75 ppm chromium.

A Rubicon sand from Muskegon Co., Michigan, sampled from the top 5-10 cm, contained <0.1 ppm chromium. The total chromium concentration from a Morley clay loam from Ionia Co., Michigan was 16 ppm (Grove and Ellis, 1980). Sixteen Minnesota soils derived from 7 major parent materials, from throughout the state, were tested to determine a baseline for 6 metals. The chromium content averaged 39 ppm for a depth of 0 - 75 cm and ranged 14 - 104 ppm. The three high concentrations of 104, 106 and 111 ppm were from a Rainy Lobe Till. If the Rainy Lobe Till values are excluded the range in chromium content would be 14 - 50 ppm (Pierce et al, 1982). A muskingum silt loam, a gray-brown podzolic soil with an immature profile from Zanesville, Ohio, had a mean chromium concentration of 3 ppm for the depth of 0 - 72", ranging from 2-4 ppm (Slater et al, 1937).

For 70 residential soil samples from Grand Rapids, Michigan the mean chromium level was 3.2 ppm and for 91 agricultural samples the mean was 4.6 ppm (Klein, 1972). Prince (1957) gave a range of 20-75 ppm chromium and an average of 38.5 ppm for 10 major agricultural soils from throughout New Jersey. The range in chromium concentration, in a poarch fine sandy loam of high acidity, from the Harrison Experiment Forest near Saucier, Mississippi was 3.8 - 9.2 ppm, for the depth of 0-62 cm (DeGroot et al, 1979).

Chromium extracted by 1M HCl, from a recent survey of Vermont soils, ranged from 0.1 - 18 ppm. Higher levels were associated with spodic horizons (Bartlette and Kimble, 1976). A cultivated soil profile from Eastham, MA contained an average of 120 ppm chromium, with a range of 90 - 140 ppm, for the depth of 0 - 30 cm (Laul, 1983). Luce (1985) quoted an average of 100 ppm for the chromium content in soils. For 6 major coarse loamy textured soils of the northeast the average total chromium concentration was 72 ppm. Nine other benchmark soils, loams to clays, averaged 93 ppm chromium. Uncultivated Elkton silt loam surface soils of Delaware average 65 ppm chromium.

Shacklette and Boerngen (1984) gave 33 ppm as the geometric mean content of chromium in 541 soils east of the 97th meridian, in the U.S., and a range of 1 - 1,000 ppm.

Cobalt

Vinogradov (1959) gave an average of 8 ppm for the concentration of cobalt in world soils. The cobalt content of 49 U.S. soils ranged from 0.1 - 2.4 ppm. Bowen (1979) also gave 8 ppm as the average content of cobalt in soils and a range of 0.05 - 65 ppm.

Virgin profiles of four major soil groups from eastern Canada had a range of 1.4 - 10.3 ppm for a podzol soil profile, 7.5 - 18.2 ppm for a brown podzol profile, 5.9 - 11.7 ppm for a gray-brown podzol and 7.3 - 11.3 ppm for a brown forest soil type (Wright et al, 1955). Agricultural soils from 296 farms from throughout Ontario had a range of 1.0 - 16.7 ppm cobalt and a mean of 4.4 ppm (Frank et al, 1976).

Ten important agricultural soil types from throughout New Jersey were sampled and ranged from 2 ppm - 18 ppm cobalt (Prince, 1957). For 70 residential soil samples, from the Grand Rapids, Michigan area,

the cobalt level averaged 2.3 ppm and for 91 agricultural samples the cobalt content had a mean of 2.7 ppm (Klein, 1972). From a cultivated soil profile from Eastham, MA, 0 - 30 cm, the average cobalt content was 2.2 ppm with a range of 1.7 - 2.5 ppm (Laul, 1983).

Shacklette and Boerngen (1984) gave 5.9 ppm as the geometric mean for 403 samples from the eastern United States, with a range of <0.3 - 70 ppm.

Copper

Goldschmidt (1958) stated that copper in virgin soils, under humid conditions, usually ranges from 1-10 ppm and rarely exceeds 20 ppm. In arid regions 50 ppm copper have been reported. Vinogradov (1959) gives an average copper content in soils of 20 ppm. For 51 various U.S. soils sampled the copper content ranged from 1 - 34 ppm. Adriano (1986) gave a mean value of 25 ppm for the copper concentration in U.S. soils with a range of 5 - 50 ppm for Canadian soils with an average of 22 ppm.

Pierce et al (1982) sampled 16 Minnesota soils from 7 major parent materials to obtain baselines for 6 metals. The average copper content of surface soils was 23 ppm and ranged from 16 - 28 ppm. For 70 residential soil samples from the Grand Rapids, Michigan area the average copper content was 8.0. Ninety one agricultural soils had a mean copper content of 8.8 ppm (Klein, 1972).

Seven Atlantic Coastal Plain soil profiles, from within 15 miles of Kingston, NC all formed from essentially the same parent material and developed under similar climatic conditions were sampled. All 7 of these soil groups are severely weathered and leached. The average copper content was 16 ppm, through the varying depths, and ranged from 5 - 27 ppm. The copper concentration of alluvial soils, of eastern tributaries to the Mississippi River, ranged from 19-28 ppm with an average of 23 ppm. A Brasau sandy loam from Groton, NH developed from granitic and gneissic till ranged 13-28 ppm copper for a depth of 0-19". A Hermon sandy loam from Canaan, NH, developed from granitic and other coarse-grained gneissic materials, for a depth of 0-32" ranged 17-28 ppm copper (Holmes, 1943).

For 15 unimproved agricultural fields, from Ontario, Canada, the copper content averaged 23 ppm and ranged 7.3 - 36.7 ppm (Frank et al, 1976). Wright et al (1955) studied virgin profiles from four great soil groups of eastern Canada. The range in copper content for the brown forest soil type was 5 - 19 ppm, the brown podzolic ranged 4-23 ppm copper and 5-21 ppm was the range for the podzolic soil type.

For a Muskingum silt loam, a gray-brown podzolic soil, with an immature profile that grades into the weathered parent shale, from Zanesville, Ohio contained 18 ppm copper in the 0-7" zone, 27 ppm for 8-13", 28 ppm for 14-24", and 34 ppm copper from 25-46" (Slater et al, 1937). Prince (1957) studied 10 major agricultural soils throughout New Jersey, the copper content ranged from 9-61 ppm, with an average of 23 ppm.

For 173 agricultural soils, removed from mobile and point source contamination, from New York the copper content averaged 74.8 ppm. From 81 farms in Ohio the copper content averaged 28.1 ppm, for 57 agricultural soils from Maryland the mean copper concentration was 8.1 ppm, for 47 samples from Virginia 9.4 ppm copper were found, for 4 farms in Delaware the average copper content was 5.0 ppm, for 31 agricultural soils of Maine 0.7 ppm was the mean copper content and 5.3 ppm was the mean copper content for 45 agricultural soils from Pennsylvania (Sommers et al, 1987).

Luce (1985) stated that for 54 U.S. samples the average copper level was 24 ppm with a range of 9 - 57 ppm. Seven sandy soils from the Atlantic coastal plain ranged from 9 - 25 ppm in their copper content and averaged 16 ppm. Two virgin spodosols from NH contained 24 ppm copper in the surface mineral horizon. The range for 26 Mass. soils was 5 - 38 ppm copper and averaged 16 ppm. Uncultivated surface soils of Connecticut, formed from glacial sediments from gneiss and schist, averaged 13 ppm in their copper concentration and ranged 6 - 20 ppm. The average for surface soils formed in glacial sediment derived from trap rock was 9 ppm and ranged 5-21 ppm. Glacial sediment derived from arkose sandstone averaged 6 ppm with a range of 5-8 ppm. The A horizon of 13 NJ soils from the Appalachian Province averaged 26 ppm copper and ranged from 13 - 61 ppm. The B horizon of these soils ranged from 12 - 32 ppm in copper concentration with an average of 20 ppm. Seven surface soils from coastal plains province of NJ averaged 9 ppm copper with a range of 2 -19 ppm. Fifteen major soils of the northeast averaged 59 ppm copper.

Shacklette and Boerngen (1984) found the geometric average copper content of eastern United States soils to be 13 ppm with a range of <1-700, and an estimated arithmetic mean of 22 ppm.

Iron

Jackson (1964) stated that iron makes up 1-6% (10,000 - 60,000 ppm) of soils. Kraushopf (1972) gave 10,000 - 100,000 ppm for the range of iron concentration in soils. Bowen (1979) and Vinogradov (1959) gave 40,000 ppm and 38,000 ppm respectively as the average amount of iron to be found in soils.

For 296 farms throughout Ontario, Canada the iron content ranged from 2,560 - 38,900 ppm with a mean of 14,470 ppm. Sandy soils contained the lowest iron and the clays the highest. From 13 organic soil samples the iron content averaged 13,480 ppm with a range of 2,660 - 24,800 ppm. For the 125 sandy soils the iron content was 9,030 ppm and ranged from 2,650 - 25,300 ppm, 98 loam samples averaged 16,440 ppm iron and ranged 5,400 - 32,300 ppm, the 60 clay samples averaged 22,770 and ranged 9,900 - 38,900 ppm (Frank et al, 1976).

The iron content of a poarch fine sandy loam, a strongly acidic soil from the Harrison Experiment Forest of Saucier, Miss. ranged from 4,000 - 11,000 ppm in a 0-52" profile (DeGroot et al, 1979). For 70 residential soil samples from the Grand Rapids, Michigan area the iron

concentration average 2,200 ppm and from 91 agricultural samples the iron content average was 2,600 (Klein, 1972).

Holmes et al (1938) studied the Norfolk and related soils all within a 15 mile radius of Kingston, NC. A profile of a Dunbar fine sandy loam contained 3,070 ppm iron in the A₁ horizon, 3,870 ppm in the A₂ horizon, 8,020 ppm in the B₁ and 54,700 ppm in the B₂ horizon. A profile from the Coxville fine sandy loam contained 5,760 ppm in the A horizon, 20,180 ppm in the B and 18,900 in the C horizon. A profile of the Bladen loam contained 3,870 ppm iron in the A horizon, 11,700 ppm in the B and 11,200 in the C horizon. The iron content of a cultivated soil profile from Eastham, MA ranged from 11,000 - 14,000 ppm with a mean of 13,000 ppm (Laul, 1983).

Shacklette and Boerngen (1984) determined the geometric mean content of iron of soils east of the 97th meridian in the continental U.S. to be 14,000 ppm with a range of 100 - 100,000 ppm for 539 samples, the estimated arithmetic mean was 25,000 ppm.

Lead

Miesch and Claude (1972) stated that the average concentration of lead in uncontaminated soils was 16 ppm and that 95% of soils in the U.S. contain between 4 and 61 ppm lead. Soils outside but adjacent to Helena Valley, Montana contained 15 ppm lead and surface soils remote from Helena Valley contained 15 ppm lead. Peterson and Alloway (1979) and Vinogradov (1969) stated the average concentration of lead in soil was 10 ppm, with a range between 2-200 ppm. Bowen (1979) gave 12 ppm as the average soil content of lead. Nriagu (1978) gave a range of 10-37 ppm for lead in normal soils and an average of 20 ppm.

Mills and Zwarich (1975) studied the agricultural soils of southern and western Manitoba, Canada. The parent material of most mineral soils in the agricultural areas of Manitoba are Late-Wisconsin glacial deposits. The components of which are derived from the shales of the western uplands, the carbonate rocks of the lowlands and the igneous rocks of the Canadian shield. The A and C horizon of summer fallow fields, including a range of textures and parent material were sampled. The mean lead concentration for 16 agricultural soils of the A horizon was 17 ppm and 19 ppm for the C horizon. For 6 samples from uncultivated soils (pasture or hayland adjacent to cultivated fields) averaged 16 ppm lead.

For 15 unimproved soils from Ontario, Canada the average lead concentration was 12.5 ppm and ranged from 3.2 - 33.7 ppm (Frank et al, 1976).

The lead content of two virgin profiles of four major soil groups of eastern Canada was determined by Wright et al (1955). The brown forest soil type contained between 8-23 ppm lead, the gray-brown podzol 16-33 ppm, the brown podzolic 13-30 ppm and the podzolic 9-15 ppm.

Pierce et al (1982), in establishing baseline levels of 6 metals for 16 soil series in Minnesota, stated that the total lead for all soils was low, in all cases below the detectable limit of 25 ppm.

Adriano (1986) gave an average of 5-25 ppm as an average amount of lead in soils far from human activity. Background levels of lead in 173 samples from 53 soils widely dispersed in Canada averaged 20 ppm.

For 173 New York State agricultural soil samples, from sites removed from mobile and point source contamination, the mean lead content was 17 ppm, for 81 Ohio farm samples the average lead concentration was 19 ppm, for 57 agricultural soils from Maryland 11 ppm was the mean lead level, for 4 agricultural soils from Delaware 10 ppm was the average lead content, from 31 Maine farms 10 ppm was the mean lead concentration, and for 45 Pennsylvania agricultural sites the average lead content was 24 ppm (Sommers, 1987).

For 98 mineral soils from New York State, utilized in the production of commercial fruits and vegetables, contained 15 ppm lead, on the average, with a maximum value of 30 ppm. For 63 organic soils the lead content averaged 20 ppm, with a maximum of 36 ppm (Luce, 1985).

Shacklette and Boerngen (1984) determined the geometric mean for the lead content of soils found in the eastern U.S. to be 14 ppm and ranged from <10-300 ppm, for 422 samples.

Magnesium

Vinogradov (1959) stated the average content of magnesium in soils was 6,300 ppm. Bowen (1979) gave 5,000 ppm as the average content of magnesium in soils, with a range of 400-9,000 ppm.

Crop growing organic soils from the Holland Marsh area near Toronto, Ontario were found to contain 780 ppm and 765 ppm magnesium in two surface soil samples. A soil profile from 0 - 7.5 cm was found to contain 640 ppm, the depth 7.5 - 15 cm contained 420 ppm and from 15 - 22.5 cm 400 ppm magnesium were found (Chattopadhyay, 1974).

Holmes et al (1938) determined the chemical composition of soils and colloids of Norfolk and related soil series. For a Fuston fine sandy loam the magnesium content in the A horizon was 241 ppm in the B horizon 723 ppm and 543 ppm in the C horizon. The Dunbar fine sand loam profile revealed a magnesium content of 60 ppm in the A₁ horizon, 60 ppm in the A₂ horizon, 600 ppm in the B₁ horizon, and 180 ppm in the B₂. The chemical analysis of the Coxville fine sandy loam revealed 543 ppm magnesium in the A horizon, 663 ppm in the B and 543 ppm in the C.

Shacklette and Boerngen (1984) determined the geometric mean content of magnesium in soils and surficial materials to be 2,100 ppm in the eastern U.S. with a range of 50-50,000 ppm, for 528 samples.

Manganese

Vinogradov (1959) gave 850 ppm as the average amount of manganese to be found in soils. In 162 samples of New Jersey soils the manganese concentration ranged from 100-2,000 ppm. Bowen (1979) stated 1,000 ppm as the average amount of manganese to be found in soils. Goldschmidt (1958) stated that the manganese content in soils varies from 200-5,000 ppm. Adriano (1986) gives 850 ppm as the average manganese content of soils, with a range of 100-4,000 ppm.

Two virgin profiles were taken from four great soil types of eastern Canada. The manganese content ranged from 328-667 ppm in the podzol profile, 508-1,329 ppm in the brown podzolic, 358-1,088 ppm in the gray-brown podzolic and 406-1,380 ppm in the brown forest soil type (Wright et al, 1955). For 15 unimproved agricultural soils from throughout Ontario the average amount of manganese found was 490 ppm with a range of 91-1,190. For 13 organic agricultural soils the mean manganese content was 338 ppm, with a range of 240-540 ppm, for 125 sandy soils the average manganese content was 428 ppm with a range of 90 - 1,790 ppm, for 98 loam soils 606 ppm was the average manganese content with a range of 138-2,010 ppm, for 60 clay samples 662 ppm was the mean manganese content with a range of 140-3,000 ppm. For all 296 agricultural samples 530 ppm was the mean manganese content with a range of 90 - 3,000 ppm (Frank et al, 1976).

Blair and Prince (1936) determined the manganese content of virgin soils from Burlington, Co., New Jersey to be 46.5 ppm. In fields with no fertilizer treatment the manganese content ranged from 101-302 ppm. From some uncultivated soils of New Jersey the manganese content was found to range from 264-736 ppm. For ten major agricultural soils from throughout New Jersey the manganese content was found to be 130-1,560 ppm, with an average of 789 ppm (Prince, 1957). A control plot at Oklahoma State University contained 268 ppm manganese (Mortvedt, 1987). For a cultivated soil profile from Eastham, MA, 0-30 cm, the manganese content ranged from 340-350 ppm (Laul, 1983).

For 173 samples from 53 Canadian soils the manganese content ranged from 100-1,200 ppm with a mean of 520 ppm. The mean manganese content of Ontario soils was 530 ppm and ranged from 90-3,000 ppm (Adriano, 1986).

Shacklette and Boerngen (1984) gave the mean content of manganese in soils in the eastern U.S. to be 260 ppm with a range of <2 - 7,000 ppm for 537 samples.

Mercury

The average concentration of mercury in soil, according to Vinogradov (1959), is 0.01 ppm. Bowen (1979) gave 0.06 ppm as the average content of mercury in soils, with a range of 0.01 - 0.5 ppm. Dewey (1983) quoted 0.05 ppm as the average concentration of mercury in soils and rocks. Organic matter in soils may contain up to 1.0 ppm mercury. The upper limit of the mercury concentration in soils of the northeastern U.S. is 0.04 ppm.

Adriano (1986) gave 0.161 ppm as the average content of mercury in the A horizon of soils, with a range of 0.06 - 0.2 ppm. An average of 0.089 ppm for the B horizon ranging between 0.03 - 0.14 ppm and 0.096 ppm for the C horizon ranging between 0.025 - 0.15 ppm. A mean content of 0.013 ppm was given by Anderson (1979) for the mercury amount found in the sand fraction of soil, 0.029 ppm for silt and 0.094 ppm for clay. This indicates that the mercury concentration increases with increased surface area and increased alteration from the parent material.

For 17 samples of cultivated U.S. soils the average mercury content was 0.06 ppm, forest soils from the A horizon of Norway contained 0.02-0.15 ppm mercury, cultivated and uncultivated A horizon soils from Canada had a range of 0.005 - 0.036 ppm mercury for 27 samples, for 65 virgin Canadian soil samples the range in mercury concentration was 0.005 - 0.66 ppm with an average of 0.06 ppm (Anderson, 1979).

MacLean et (1973) stated that normal soils contain 0.07 ppm mercury. Sites on the Central Experiment Farm Ottawa, Ontario contained 0.05 ppm mercury. The average mercury level of 65 virgin soils of Canada 234 samples from various layers, was found to be 0.081 ppm by McKeague and Kloosterman (1974). Gracey and Stewart (1974) found a range of 0.005 - 0.057 ppm mercury in 9 uncultivated soil profiles, 3-6 samples were taken from each profile, from settled areas of Saskatchewan, Canada. For 15 samples from unimproved fields of Ontario the mercury content ranged from 0.03 - 0.49 ppm, with an average of 0.08 ppm (Frank et al, 1976).

Fifty agricultural soils from four areas throughout N. Dakota revealed a mean of 0.03 ppm mercury (Sell et al, 1975). A survey of farm soils from 16 major wheat-growing states of the U.S. revealed a geometric mean mercury concentration of 0.105 ppm, with a range of 0.05 - 0.36 ppm, for 24 samples. Agricultural surface soils from 29 eastern U.S. states gave a mean mercury content of 0.08 ppm for 275 samples and 0.07 ppm for 104 noncropland samples (Adriano, 1986).

Shacklette and Boerngen (1984) gave 0.081 ppm as the geometric mean for 534 samples from the eastern U.S., with a range of 0.01 - 3.4 ppm.

Nickel

Peterson and Alloway (1979) gave 40 ppm as the average content of nickel in soils, with a range of 10 - 1,000 ppm. Bowen (1979) gave 50 ppm for a mean value of nickel in soils and a range of 2 - 750 ppm. An average of 40 ppm was given by Vinogradov (1959). In 49 soils sampled in the U.S. the nickel concentration ranged from 0.5 - 23 ppm. The average nickel content for U.S. soils is 20 ppm and ranges from 5 - 50 ppm for Canadian soils (Adriano, 1986).

Sixteen agricultural soils from Manitoba on the average contained 42 ppm nickel in the A horizon, 39 ppm in the C horizon. For 6

noncultivated soil samples the nickel content averaged 39 ppm (Mills and Zwarich, 1975). Two surface soil samples, from crop growing organic soils from the Holland Marsh area near Toronto, Ontario, averaged 7.98 ppm nickel. From 0-7.5 cm the nickel concentration was 6.21 ppm, 6.64 ppm for 7.5 - 15 cm and for 15 - 22.5 cm it was 5.23 ppm (Chattopadhyay et al, 1974).

For 17 organic agricultural soils from Ontario the nickel content averaged 28.6 ppm and ranged 6.6 - 119 ppm, for 125 sandy soils the nickel concentration averaged 7.6 ppm with a range of 1.3 - 34.2 ppm, for 97 loam samples the mean was 17.9 ppm, ranging from 3.0-97.5 ppm, 60 clay samples averaged 27.8 ppm, ranging 8.0 - 88.0 ppm. For all 293 agricultural samples the mean nickel level was 15.9 ppm and ranged from 1.3 - 119.0 ppm (Frank et al, 1976).

Sixteen Minnesota soils from 7 major parent materials were analyzed to obtain a baseline for 6 metals. The average nickel concentration from surface soils from throughout the state was 18 ppm, ranging from 7 - 39 ppm (Pierce et al, 1982). From 10 major agricultural soils from throughout New Jersey the nickel level ranged from 14 - 61 ppm with a mean of 27.3 ppm (Prince, 1957). A muskingum silt loam, a gray-brown podzolic soil from Zanesville, Ohio, had an average nickel content of 26 ppm from 0 - 72" (Slater et al, 1937).

For 26 Massachusetts soils the nickel content ranged from 6 - 41 ppm. With an average of 26 ppm. Thirteen surface soils (A or Ap horizon), of the Appalachian Province of N.J., ranged from 11 - 40 ppm in their nickel content with a mean of 20 ppm. The B horizon had on average of 22 ppm with a range of 14 - 41 ppm. Fifteen benchmark soils from the northeast averaged 37 ppm in their nickel content, these soils were found in Connecticut River Valley alluvium. An average nickel content of 23 ppm was determined for the Ap horizon of four Hadley Silt loam pedons sampled from Connecticut, the range was from 20 - 27 ppm (Luce, 1985).

The mean nickel content for 173 New York State agricultural soils sampled away from mobile and point source contamination was 19.5 ppm. For 40 W. Virginia agricultural samples the mean nickel concentration was 23.3 ppm, for 81 Ohio farm 28.2 ppm, for 57 Maryland agricultural soils 12.4 ppm, for 46 Virginia farms 22.3 ppm, for 31 Maine samples 41.5 ppm and for 45 Pennsylvania farms the mean nickel content was 10.4 ppm (Sommers et al, 1987).

Shacklette and Boerngen (1984) determined the geometric mean nickel content for 443 samples from the eastern U.S. to be 11 ppm, with a range of <5 - 700 ppm.

Potassium

Vinogradov (1959) gave 13,600 ppm as the average amount of potassium in soils. Bowen (1979) gave 14,000 ppm as the mean content of potassium in soils with a range of 80 - 37,000 ppm. Jackson (1964)

stated that potassium made up 0.05-3.5% (500-35,000 ppm) of mineral soils and that agricultural soils of the U.S. contain between 1-2% (10,000 - 20,000 ppm) potassium.

Holmes et al (1938) studied the chemical composition of the Norfolk and related soil series. The potassium content in an Orangeburg fine sandy loam was 249 ppm in the A horizon, 995 ppm in the B and 912 ppm in the C horizon. A profile from the Dunbar fine sandy loam revealed a potassium content of 83 ppm in the A₁ horizon, 83 ppm in the A₂, 497 ppm in the B₁ and 249 ppm in the B₂. In the Coxville fine sand loam 1,244 ppm potassium were found in the A horizon, and 2,736 ppm in both the B and C horizons.

From a cultivated soil sample from Eastham, MA, 0-30 cm, the potassium concentration averaged 11,000 ppm (Laul, 1983).

In 1979 Klausner and Reid (1981) compiled 20,000 field samples covering roughly 200,000 acres of New York State. The potassium ranged from 47.5 - 117.5 ppm for 127 samples with an average of 79.6 ppm.

Shacklette and Boerngen (1984) gave the geometric mean of the potassium level in soils of the eastern U.S. to be 12,000 ppm for 537 samples with a range of 50 - 37,000 ppm.

Selenium

Peterson and Alloway (1979) stated that 0.05 ppm was the average crustal abundance of selenium. The estimated average soil concentration of selenium was 0.2 ppm with a range of 0.01 - 2 ppm. Eisler (1985) gave 0.2 ppm as the average soil content of selenium. Vinogradov (1959) stated that 0.01 ppm was the mean selenium content of soils. From a study conducted in 1936 of 1,406 plains soil samples the selenium content ranged from 0.2 - 140 ppm. Bowen (1979) gave 0.4 ppm as the average content of selenium in soils with a range of 0.01 - 12 ppm.

Levesque (1974) obtained 54 soil samples from 4 soil types and 6 horizon layers from the northwest territories of Canada, chosen for remoteness. The selenium concentration ranged from 0.073 - 2.090 ppm. Two surface soil samples from crop growing organic soils, from the Holland Marsh area near Toronto, Ontario, contained 1.10 and 1.43 ppm selenium. A profile of this soil contained 1.22 ppm from 0-7.5 cm, 0.81 ppm from 7.5 - 15.0 cm and 0.62 ppm selenium from 15 - 22.5 cm and 0.62 ppm selenium from 15 - 22.5 cm (Chattopadhyay et al, 1974).

A cultivated soil profile, 0 - 30 cm, from Eastham, MA had a range in selenium content from 2.4 - 5.1 with an average of 3.5 ppm (Laul, 1983). A soil profile, 0.72", was taken from a muskingum silt loam, a gray-brown podzolic soil, from Zanesville, Ohio had an average selenium content of 0.25 ppm with a range of 0.02 - 0.5 ppm (Slater et al, 1937).

Shacklette and Boerngen (1984) found the geometric mean content of selenium in soils of the eastern U.S. to be 0.3 ppm with a range of <0.1 - 3.9 ppm for 449 samples.

Sodium

Vinogradov (1959) gave 6,300 ppm as the average concentration of sodium in soils. Jackson (1964) stated that sodium makes up between 0.1 - 1% (1,000 - 10,000 ppm) of soils. Bowen (1979) quoted 5,000 ppm as the mean concentration of sodium in soil with a range of 150 - 25,000 ppm.

Holmes et al (1938) studied the chemical make up of the Norfolk and related soils. The B horizon of the Orangeburg fine sandy loam contained 223 ppm sodium and the C horizon 74 ppm sodium. A profile of the Ruston fine sandy loam revealed 1,261 ppm sodium in the A horizon, 223 ppm in the B and 445 ppm in the C. A profile of the Dunbar fine sandy loam contained 816 ppm sodium in the A₁ horizon, 74 ppm in the A₂, 446 ppm in the B₁ and 74 ppm in the B₂.

A profile from a cultivated soil sample from Eastham, MA from 0-30 cm, on the average contained 4,300 ppm sodium and ranged from 3,900 - 4,800 ppm (Laul, 1983).

Shacklette and Boerngen (1984) determined the geometric mean for 363 soil samples from the eastern U.S. to be 2,500 ppm, with a range of 500 - 50,000 ppm.

Vanadium

Vinogradov (1959) gave 100 ppm as the average content of vanadium in soils. For 50 various U.S. soils the vanadium concentration ranged from 2 - 270 ppm. Bowen (1979) gave 90 ppm as the mean concentration of vanadium in soils.

Adriano (1986) stated that the vanadium content in igneous rocks, shale, sandstone and limestone of the U.S. was 135 ppm, 130 ppm, 20 ppm and 20 ppm respectively. Soils from sandstone and limestone contain lower amounts of vanadium than soils developed from shales and igneous rocks.

Prince (1957) found the vanadium content of 10 major agricultural soils from throughout New Jersey to range from 11-119 ppm with an average of 53.6 ppm. A profile of a crop growing organic soil from the Holland Marsh area near Toronto, Ontario revealed a vanadium content of 11.0 ppm in the surface, 15.2 ppm 0-7.5 cm, 21.4 ppm 7.5-15.0 cm, and 26.1 ppm from 15-22.5 cm (Chattopadhyay et al, 1974).

A soil profile of a muskingum silt loam, a gray-brown podzolic soil from Zanesville, Ohio, had a mean vanadium content of 72 ppm for 0-72", with a range of 20-96 ppm (Slater et al, 1937).

The geometric mean content of vanadium in the superficial materials of the eastern U.S. was found to be 43 ppm by Shacklette and Boerngen (1984) with a range of <7-300 ppm for 516 samples.

Zinc

The average concentration of zinc in soils is 50 ppm (Vinogradov, 1959; Peterson and Alloway, 1979; Schroeder, 1967). Miesch and Claude (1972) gave 44 ppm as the average zinc content in soils. The zinc content of soils often ranges from 10 - 300 ppm (Peterson and Alloway, 1979; Schroeder et al, 1967).

Four great soil groups, all developed on glacial till and all well drained, from eastern Canada had two virgin profiles analyzed. The range in zinc content for the podzolic profile, 0-30", the zinc range was from 53-150 ppm, for the gray-brown podzolic 62-87 ppm and for the brown forest soil 36-74 ppm (Wright et al, 1955). For 15 unimproved fields in Ontario the average zinc content was 48.5 ppm, ranging from 5.3 - 116 ppm (Frank et al, 1976). The mean zinc concentration from the A horizon of 16 agricultural soils of Manitoba, Canada was 116 ppm, and 66 ppm for the C horizon of these soils. For 6 noncultivated soil samples the average zinc content was 119 ppm (Mills and Zwarich, 1975).

Various soils and horizons from the U.S. Erosion Experiment Stations revealed a range of 3-147 ppm for acid soluble zinc (Goldschmidt, 1958). Sixteen Minnesota soils from 7 major parent materials zinc concentration ranged from 40-74 ppm for 0-15 cm, with an average of 60 ppm (Pierce et al, 1982). For 70 residential soil samples the mean zinc content was 21.1 ppm from the Grand Rapids, Michigan area. And for 91 agricultural samples from this area revealed a mean zinc content of 22.1 ppm (Klein, 1972).

Holmes (1943) gave a range of 59-97 ppm zinc, from a depth of 0-12", for the eastern tributaries to the Mississippi River. A Brasau sandy loam from Groton, NH, from 0-20", had a zinc content of 27-42 ppm. A Hermon sandy loam from Canaan Ctr. NH, from 0-32", had a range in zinc content from 26-40 ppm.

The mean zinc content for a soil profile from a muskingum silt loam a gray-brown podzolic soil, from Zanesville, Ohio was 7 ppm for 0-72" (Slater et al, 1937). For ten agricultural soils from throughout NJ the zinc concentration ranged from 21-180 ppm with an average of 82.7 ppm (Prince, 1957). A soil profile, 0-30 cm, from Eastham, MA had an average zinc concentration of 33 ppm with a range of 30-40 ppm (Laul, 1983).

From 173 agricultural soils from New York State, removed from mobile and point source contamination, the zinc content averaged 64 ppm. For 40 agricultural soils from W. Virginia the zinc content averaged 84 ppm, for 81 Ohio farms the zinc mean concentration was 89 ppm, for 57 Maryland agricultural soils 31 ppm, for 4 Delaware farms 25 ppm, 46 Virginia soils 56 ppm, for 31 Maine agricultural soils 74 ppm and 45 Pennsylvania farms the zinc content averaged 30 ppm (Sommers et al, 1987).

Two virgin spodzols from NH contained 28 ppm zinc. For 6 coarse-loamy textured soils of the northeast the mean zinc content was 53 ppm, while 9 fine-loamy to clayey soils averaged 86 ppm zinc.

Twenty five Mass. soils ranged from 15 - 104 ppm zinc and averaged 62 ppm (Luce, 1985).

Shacklette and Boerngen (1984) have determined the geometric mean of 473 samples from the eastern U.S. to be 40 ppm, with a range of <5-2,900 ppm.

**AVERAGES AND RANGES OF THE CONCENTRATION OF SOME ELEMENTS
IN UNCONTAMINATED SOILS**

All values in ppm, dry weight

	Average Conc. of Element Found in Uncontaminated Soils	References for Averages	Conc. Range of Element Found in Uncontaminated Soils	References for Ranges
Aluminum	Eastern U.S.* 33,000	8, 43	Albany, NY Area 1,000 - 25,000	8, 43
	Agricultural Soil 0 - .30 cm			
	Eastham, MA 34,000	24		
Arsenic	5	5, 8, 16, 29, 36, 40, 43, 44, 50, 53	U.S. Range 0.1 - 45	1, 5, 29, 36, 50, 52 53
			NYS 3-12	52
			Albany Area <0.1-6.5	43
Barium	Average abundance in earth's crust 430	31	NYS 15-600	43, 44
	Eastern U.S.* 290	8, 43	Albany Area 250-350	43
	Eastham, MA Soil 180	24		
Beryllium	All Soils 0.3	5	All Soils 0.1-10	31, 50
	Eastern U.S.* 0.6	8, 43, 44	Canadian Surface Soils 0.1 - 0.89	1
			NYS 0 - 1.75 (except for 1 sample 1.75-7)	43, 44
			Albany Area 0 - 0.9	43, 44
Cadmium	Average abundance in earth's crust 0.15-0.2	31, 36	0.01 - 2	5
	26 MA soils and 15 northeastern soils 0.2	13, 26	0.0001 - 1.0	26, 35, 36, 41, 47
			soils of nonvolcanic origin 0.01-1.0	11
	0.35	5	soils of volcanic origin up to 0.45	11
	98 NYS mineral agricultural soils 0.21	26	26 MA soils 0.01 - 0.88	26

	Average Conc. of Element Found in Uncontaminated Soils	References for Averages	Conc. Range of Element Found in Uncontaminated Soils	References for Ranges
Calcium	Eastern U.S.* 3,400	8, 23	Eastern U.S.* 100-28,000	43
	-----	-----	-----	-----
	70 Residential Soils, Mich. 2,300	22	Eastern U.S.* 100-16,000	8
	-----	-----	-----	-----
	91 Agricultural Soils, Mich. 1,400	22	NYS 130-35,000	43
	-----	-----	-----	-----
	127 NYS Agri- cultural Soils 1,651	21	Albany Area 150-5,000	44
	-----	-----	-----	-----
			Albany Area 2,900-6,500	43
Chromium	Canadian soils 43	6	Most U.S. soils 25-85	1
	-----	-----	-----	-----
	World soils 20	50	Eastern U.S.* 1-100	8
	-----	-----	-----	-----
	Eastern U.S.* 33	8,43	10 NJ soils 20-75	39
			-----	-----
			NYS 1.5-40	8
			-----	-----
			Albany Area 1.5-25	8, 43
Cobalt	All soils 7	5, 8, 31, 36, 50	0.1-40	14, 36
	-----	-----	-----	-----
	Eastern U.S.* 5.9	43	NJ Agr. Soils 2-18	39
			-----	-----
			NYS 2.5-60	8, 43
			-----	-----
			Albany Area 2.5-6	43
Copper	All soils 30	26	2-250	5, 36
	-----	-----	-----	-----
	All soils 20	36, 49, 50	10-80	23
	-----	-----	-----	-----
	10 NJ Agr. Soils 23	39	1-10 under humid conditions	14
	-----	-----	-----	-----
	Eastern U.S.* 13	8.43	up to 50 in arid conditions	14
			-----	-----
			26 MA Soils 5-38	26
			-----	-----
			Albany Area <1-15	8, 43

	Average Conc. of Element Found in Uncontaminated Soils	References for Averages	Conc. Range of Element Found in Uncontaminated Soils	References for Ranges
Iron	Eastern U.S.* 14,000	8, 43	2,000 - 550,000	5
	-----	-----	-----	-----
	Eastham MA Agr. Soil 13,000	24	700 - 100,000	23, 43
			-----	-----
			Eastham, MA 11,000-14,000	24
			-----	-----
			Albany Area 17,500 - 25,000	8, 43
Lead	All soils 10	5, 36, 50	Range in "normal" soils 10-37	1, 33
	-----	-----	-----	-----
	Eastern U.S.* 14	8, 29, 33, 43	95% of U.S. soils 4-61	29
			-----	-----
	98 NJ agr. mineral soils 15	26	Albany Area 1 - 12.5	8, 43
	soils organic 20			
	-----	-----	-----	-----
	173 NY agr. soils 17	47		
Magnesium	All soils 6,300	50	400 - 9,000	5
	-----	-----	-----	-----
	Eastern U.S.* 2,300	8	100 - 5,000	9, 43
	2,100	43	-----	-----
			Albany Area 2,500 - 6,000	8
			1,700 - 4,000	43
Manganese	All soils 850	1, 50	100 - 4,000	1
	-----	-----	-----	-----
	Eastern U.S.* 285	8	10 Agr. NJ soils	
	260	43	130-1,560	39
	-----	-----	-----	-----
	10 Agr. NJ Soils 789	38	NJ Cultivated Soils 264-736	4
	-----	-----	-----	-----
	Eastham, MA Agr. Soil 345	24	NYS 50-5,000	8, 43
			-----	-----
			Albany Area 400-600	8, 43
Mercury	All Soils 0.06	1, 2, 5	0.001 - 0.2	2, 13, 28, 50
	-----	-----	-----	-----
	Eastern U.S.* 0.081	43	Albany Area 0.042 - 0.066	43
	-----	-----	-----	-----

	Average Conc. of Element Found in Uncontaminated Soils	References for Averages	Conc. Range of Element Found in Uncontaminated Soils	References for Ranges
Mercury (cont.)	234 samples Sackatchewan, Canada 0.081	15		
	Northeastern U.S. upper limit 0.04	10		
Nickel	All Soils 40	5, 26, 36, 50	0.5 - 60	26, 39, 47
	All Soils 20	1	26 MA Agr. Soils 6-41	26
	173 NY Agr. Soils 19.5	47	NYS 0.5-25	8
	Eastern U.S. 12	8.43	Albany Area 6-12.5	8, 43
Potassium	U.S. Average 12,000	5, 8, 20, 24, 50	All Soils 100-37,000	5, 8, 20, 43
	Eastern U.S.* 7,400 12,000	8 43	NYS 8,500-43,000	43
			Albany Area 12,500 - 17,500	42, 43
Selenium	0.2	12, 36	0.01 - 12	5, 36
	Eastern U.S.* 0.3	43	Eastern U.S. <0.1-3.9	43
	Eastham, MA 3.5	24	Albany Area <0.1-0.125	43
Sodium	All Soils 6,300	50	Eastern U.S.* <500-50,000 150-15,000	43 8
	Eastern U.S.* 2,500	8, 43	Albany Area 6,000 - 8,000	43
Vanadium	All Soils 100	5, 50	Eastern U.S.* 1-300	8, 43
	Eastern U.S.* 43	8, 43	10 NJ Agr. Soils 11-119	50
	10 NJ Agr. Soils 53.6	39	50 U.S. Soils 2-270	39
			Albany Area 25-60	

	Average Conc. of Element Found in Uncontaminated Soils	References for Averages	Conc. Range of Element Found in Uncontaminated Soils	References for Ranges
Zinc	50	26, 36, 41, 50	All Soils 10-300	26, 36, 41
	-----	-----	-----	-----
	Eastern U.S.* 40	8, 24, 29, 43	9-50	31
	-----	-----	-----	-----
	173 NY Agr. Soils 64	47	Albany Area 37-60	43

* Eastern U.S. Soil values are the geometric mean element concentration from a depth of 24 cm, in soils east of the 97th meridian.

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PA Scoresheets

PRELIMINARY ASSESSMENT

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NOV 06 1990

CERCLIS IDENTIFICATION NUMBER

STATE

NY

SITE NUMBER

NYD986929280

SITE LOCATION

SITE NAME: Legal, common or descriptive name of site

United Plating, Inc.

STREET ADDRESS, ROUTE or SPECIFIC LOCATION IDENTIFIER

1776 Foster Avenue

CITY

Schenectady

STATE

NY

ZIP CODE

12308

TELEPHONE

()

N/A

Site Inactive

COORDINATES: LATITUDE and LONGITUDE

42° 49' 33" N and 73° 55' 32" W

TOWNSHIP, RANGE, and SECTION

OWNER/OPERATOR IDENTIFICATION

OWNER

J.C. Donadio Enterprises, Inc.

OPERATOR

Christopher LeGere

OWNER ADDRESS

P.O. Box 810

OPERATOR ADDRESS

1776 Foster Avenue

CITY

Schenectady

CITY

Schenectady

STATE

NY

ZIP CODE

12301

TELEPHONE

()

Unlisted

STATE

NY

ZIP CODE

12305

TELEPHONE

()

Site Inactive

TYPE OF OWNERSHIP

- ☒ PRIVATE
☐ FEDERAL: Agency name _____
☐ STATE
☐ COUNTY
☐ MUNICIPAL
☐ OTHER: _____
☐ NOT SPECIFIED

OWNER/OPERATOR NOTIFICATION ON FILE

- ☒ NONE
☐ CERCLA 103 C, UNCONTROLLED WASTE SITE
DATE: _____
☐ RCRA 3001
DATE: _____

SITE STATUS

- ☐ ACTIVE
☒ INACTIVE
☐ UNKNOWN

YEARS OF OPERATION

BEGINNING YEAR: Unknown
ENDING YEAR: 1990
☐ UNKNOWN

APPROXIMATE SIZE OF SITE

1 acre

SITE EVALUATION

AGENCY / ORGANIZATION

US Corporation Region II FIF

INVESTIGATOR

Valerie A. Mathers

CONTACT

Amy Brochu

ADDRESS

USEPA Region II, Edison, New Jersey 08837

TELEPHONE

(908) 906-6802

DATE

March 27, 1991

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INSTRUCTIONS FOR SCORESHEETS

Introduction

These scoresheets require you to record information collected during the PA, indicate references used, select values ("scores") for factors, calculate pathway scores and a site score, and conclude with a site recommendation. You are encouraged to write notes on the scoresheets and especially on the Criteria Lists. On pages with a reference column, indicate a number corresponding to attached sources of information or pages containing rationale for hypotheses; attach to the scoresheets a numbered list of these references. Evaluate all four pathways. Complete and submit all Criteria Lists, scoresheets, and tables. Show calculations, as appropriate. Do not enter values or scores in shaded areas of the scoresheets.

General Information

Site Description and Operational History: Provide a brief description of the site and its operating history. State the site name, owner/operator, type of facility and operations, size of property, active or nonactive status, and years of waste generation. Summarize waste treatment, storage, or disposal activities that have or may have occurred at the site; note also if these activities are documented or alleged. Identify probable source types and prior spills. Summarize highlights of previous investigations.

Probable Contaminants of Concern: List hazardous substances you think may have been stored, handled, disposed of at this site, based on your knowledge of site operations. The purpose of identifying probable substances of concern is to consider the mobility of wastes to hypothesize whether a release has occurred. Identify the sources to which the substances may be related. Summarize any analytical data that may exist concerning contamination detected onsite or impacting targets, as a result of previous investigations performed on the site.

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Site Name: *United Plating, Inc*
Date: *March 27, 1991*

2

GENERAL INFORMATION

Site Description and Operational History:

Refer to the attached "Site Summary and Recommendation".

Probable Contaminants of Concern:

(Previous investigations: analytical data)

Analysis of water samples collected from trenches at the site demonstrated elevated levels of Cd and Pb in the groundwater. This determination was made relative to Maximum Contaminant Levels established by the Safe Drinking Water Act. There is no evidence, however, to directly link this groundwater contamination below the site to feedstocks used or hazardous wastes generated on the premises.

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Site Sketch: Prepare a sketch of the site. Indicate all pertinent features of the site and nearby environs, including: sources of wastes, areas of visible and buried wastes, buildings, residences, access roads, parking areas, drainage patterns, water bodies, vegetation, wells, sensitive environments, etc.

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Site Name: *United Plating Inc.*

Date: *March 27 1991*

3

GENERAL INFORMATION (continued)

Site Sketch:

Show all pertinent features; indicate sources and closest targets)

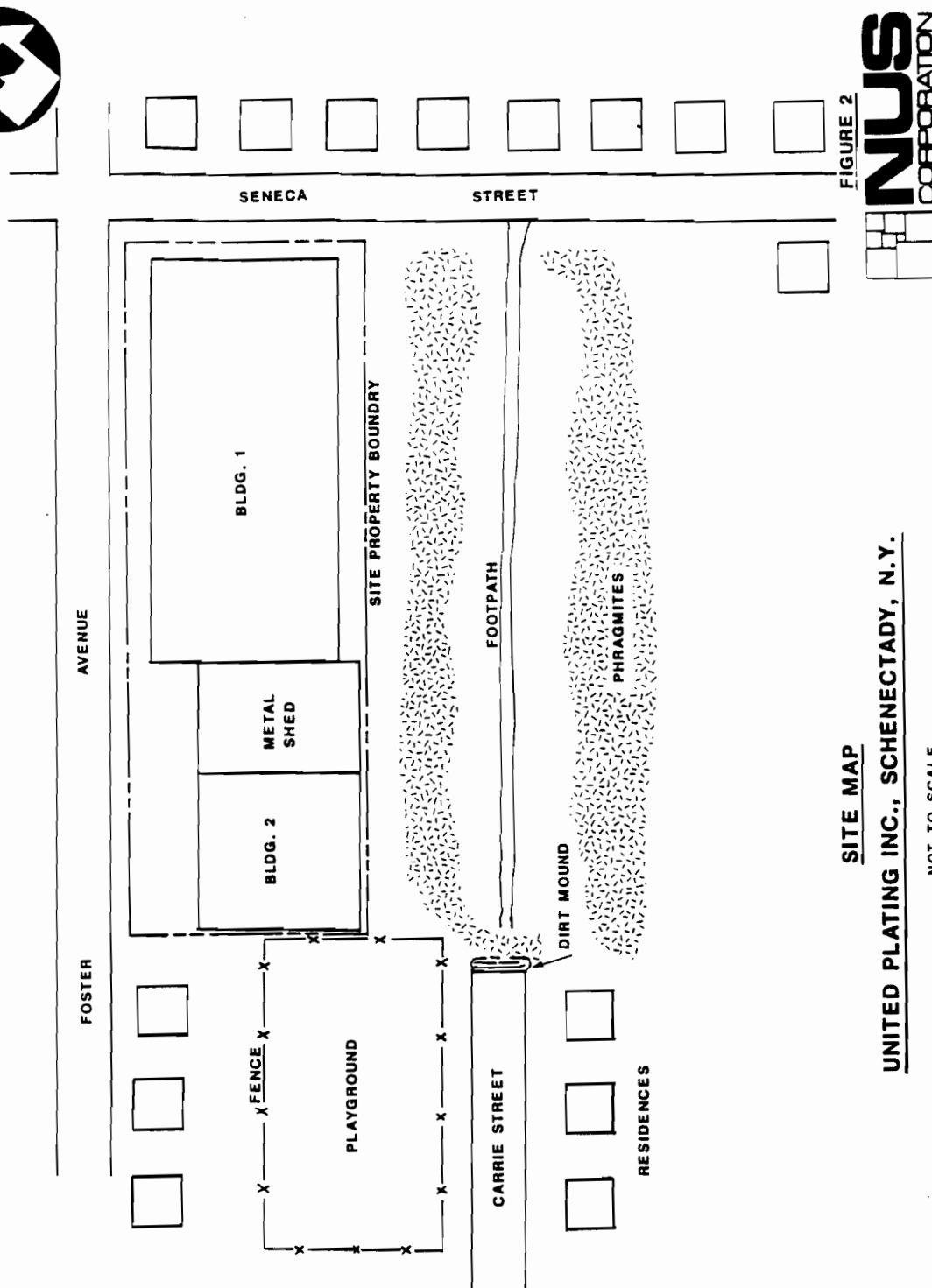


FIGURE 2



SITE MAP

UNITED PLATING INC., SCHENECTADY, N.Y.

NOT TO SCALE

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Source Descriptions: Identify and describe all sources (for example, surface impoundments, landfills, underground tanks, drums, piles, areas of contaminated soil, etc.) at the site. Provide source dimensions and the best available waste quantity information. Indicate if there are any containment structures present (are the sources poorly contained?).

SOURCE TYPE DEFINITIONS

Landfill: a man-made (by excavation or construction) or natural hole in the ground into which wastes have come to be disposed by backfilling, or by contemporaneous soil deposition with waste disposal.

Surface Impoundment: a natural topographic depression, man-made excavation, or diked area, primarily formed from earthen materials (lined or unlined) which was designed to hold an accumulation of liquid wastes, wastes containing free liquids, or sludges that were not backfilled or otherwise covered; depression may be wet with exposed liquid, or dry if deposited liquid has evaporated, volatilized or leached; structures that may be more specifically described as lagoon pond, aeration pit, settling pond, tailings pond, sludge pit, etc. A surface impoundment that has been covered with soil after the final deposition of waste materials (i.e., buried or backfilled) is also considered a surface impoundment.

Drums: a portable container, designed to hold a standard 55-gallon volume of wastes.

Tanks and Non-Drum Containers: any device other than drums, designed to contain an accumulation of waste, that provides structural support and is constructed primarily of fabricated materials (such as wood, concrete, steel, or plastic); any portable or mobile device in which waste is stored or otherwise handled.

Contaminated Soil: an area or volume of soil onto which hazardous substances are suspected to have been spilled, spread, disposed, or deposited.

Pile: any non-contaminized accumulation above the ground surface of solid, non-flowing wastes; includes open dumps. Some types of waste piles are: **Chemical Waste Pile:** a pile consisting primarily of discarded chemical products, by-products, radioactive wastes, or used or unused feedstocks; **Scrap Metal or Junk Pile:** a pile consisting primarily of scrap metal or discarded durable goods such as appliances, automobiles, auto parts, batteries, etc., composed of materials suspected to contain or have contained hazardous substances; **Tailings Pile:** a pile consisting primarily of any combination of overburden from a mining operation and tailings from a mineral mining, beneficiation, or processing operation; and **Trash Pile:** a pile consisting primarily of paper, garbage, or discarded non-durable goods which are suspected to contain or have contained hazardous substances.

Land Treatment: landfarming or other land treatment method of waste management in which liquid wastes or sludges are spread over land and tilled, or liquids are injected at shallow depths into soils.

Waste Characteristics: Evaluate hazardous waste quantity for all sources at the site to determine the Waste Characteristics factor category score (WC).

Use PA Table 1a (page 5) to determine the WC score for sites with only one source. If more than one source is present, you will need to calculate an intermediate waste quantity value (WQ) for each source using a divisor, then sum the WQ values to determine the total WQ for the site (see instructions opposite Table 1, page 5). Use PA Table 1b (page 5) to determine the WC score.

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Site Name: United Plating, Inc.

1

Date: March 27, 1991

GENERAL INFORMATION (continued)

Source Descriptions:

See Attachment

Waste Characteristics (WC) Calculations:

See PA Table 1, page 51

Multiple Source Type:

Drums

$$\sim 290 \div 10 = \boxed{29}$$

drums

Tank

$$10,000 \text{ gallons} \div 500 = \boxed{20}$$

Non-Drum Containers

$$2311 \text{ gallons} \div 500 = \boxed{4.6}$$

$$95 \text{ pounds} \div 5000 = \boxed{0.019} = \boxed{0.02}$$

Pile

$$18 \text{ ft}^3 \div \frac{\text{yd}^3}{27 \text{ ft}^3} = 0.67 \text{ yd}^3$$

$$0.67 \text{ yd}^3 \div 2.5 = \boxed{0.27}$$

WC Total: 53.89

WC =

18

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Determining the Waste Characteristics (WC) Score: WC, based on waste quantity, may be determined by one or all of four measures called "tiers": constituent quantity, wastestream quantity, source volume, and source area. PA Table 1a (page 5) is structured according to these tiers. The amount and level of detail of information available to you determine which tier(s) you can use for each source. For each source, evaluate waste quantity for as many of the tiers as you have information to support, and select the result that gives you the highest WC score. For any one source or for all sources at a site, if no information is available regarding waste quantity, assign a WC score of 18 (minimum).

PA Table 1a has 6 columns: column 1 indicates the quantity tier; column 2 lists source types for the four tiers; columns 3, 4, and 5 provide ranges of waste amount for sites with only one source, which correspond to WC scores at the tops of the columns (18, 32, or 100); column 6 provides formulas to obtain source waste quantity (WQ) values at sites with multiple sources.

To determine WC for sites with only one source:

1. Identify source type (see definitions).
2. Examine all waste quantity data available.
3. Estimate the mass and/or dimensions of each source.
4. Determine which quantity tiers you can use based on available source information.
5. Convert source measurements to appropriate units for each tier you can evaluate for the source.
6. Identify the range into which the total quantity falls for each tier evaluated (PA Table 1a).
7. Determine the highest WC score obtained for any tier (18, 32, or 100, at top of PA Table 1a columns 3, 4, and 5, respectively).
8. Use this WC score for all pathways.*

To determine WC for sites with multiple sources:

1. Identify each source type (see definitions).
2. Examine all waste quantity data available for each source.
3. Estimate the mass and/or dimensions of each source.
4. Determine which quantity tiers you can use for each source based on the available information.
5. Convert the measurements to the appropriate units for each tier you can evaluate for each source.
6. For each source, use the formulas in column 6 of PA Table 1a to determine the WQ value for each tier that can be evaluated. The highest WQ value obtained for any tier is the WQ value for the source.
7. Sum the WQ values for all sources to get the site WQ total.
8. Use the site WQ total from step 7 to assign the WC score from PA Table 1b.
9. Use this WC score for all pathways.*

* The WC score is considered in all four pathways. However, if there are primary targets for ground water, surface water, or air migration pathways, assign the determined WC or a score of 32, whichever is greater, as the WC score for that pathway.

Source Description: At the site, there are approximately 750 drums, hundreds of non-drum containers, 70 vats or tanks and a junk pile to the rear of the premises. The smaller building of two on site contains only drums of acids and caustics. A larger six-story building contains drums of cyanide solutions, acids and bases, in addition to, vats or tanks used in the metal plating process and non-drum containers of assorted size and content. In both buildings, drums are poorly arranged with regard to chemical compatibility and accessibility, and no containment is provided for either drums or vats. Several drums, non-drum containers and vats are corroded, and their contents unknown due to mislabeling or destruction of labels by corrosion. Of wastes that could be identified by source, the following are quantities of each:

<u>Drums</u>	<u>No. of each or Volume</u>
Spent Plating Chemicals (FO07)	100
"Corrosives" and Oxidizers	10-12
Cyanide solutions	150
Assorted Acids	14
Trichloroethane	>1
Ammonia	1
Sodium Hydroxide	11

<u>Tanks</u>	
Cyanide Solutions	~8000 gallons
"Acid"	~2000 gallons

(Continued)

Source Description (Continued)

<u>Non-drum Containers</u>	<u>Volume or Weight</u>
Assorted Acids	~286 gallons
"Corrosives"	25 gallons
Lead Acetate	15 pounds
Capric Sulfate	80 pounds

In the junk pile to the rear of the site property, there were numerous empty drums stacked against the process building and abandoned equipment. A box of plating sludge was also found in a wooden box 3' x 3' x 2' ($\approx 18 \text{ ft}^3$).

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PA TABLE 1: WASTE CHARACTERISTICS (WC) SCORES

PA Table 1a: WC Scores for Single Source Sites and Formulas for Multiple Source Sites

TIER	SOURCE TYPE	SINGLE SOURCE SITES (assigned WC scores)			MULTIPLE SOURCE SITES
		WC = 18	WC = 32	WC = 100	
CONSTITUENT	N/A	≤ 100 lbs	> 100 to 10,000 lbs	> 10,000 lbs	lbs + 1
WASTE VOLUME	N/A	≤ 500,000 lbs	> 500,000 to 50 million lbs	> 50 million lbs	lbs + 5,000
VOLUME	Landfill	≤ 6.75 million ft ³ ≤ 250,000 yd ³	> 6.75 million ft ³ to 675 million ft ³ > 250,000 to 25 million yd ³	> 675 million ft ³ > 25 million yd ³	ft ³ + 67,500 yd ³ + 2,500
	Surface impoundment	≤ 6,750 ft ³ ≤ 250 yd ³	> 6,750 ft ³ to 675,000 ft ³ > 250 to 25,000 yd ³	> 675,000 ft ³ > 25,000 yd ³	ft ³ + 67.5 yd ³ + 2.5
	Drums	≤ 1,000 drums	> 1,000 to 100,000 drums	> 100,000 drums	drums - 10
	Tanks and non-drum containers	≤ 50,000 gallons	> 50,000 to 5 million gallons	> 5 million gallons	gallons - 500
	Contaminated soil	≤ 6.75 million ft ³ ≤ 250,000 yd ³	> 6.75 million ft ³ to 675 million ft ³ > 250,000 to 25 million yd ³	> 675 million ft ³ > 25 million yd ³	ft ³ + 67,500 yd ³ + 2,500
	Pile	≤ 6,750 ft ³ ≤ 250 yd ³	> 6,750 ft ³ to 675,000 ft ³ > 250 to 25,000 yd ³	> 675,000 ft ³ > 25,000 yd ³	ft ³ + 67.5 yd ³ + 2.5
AREA	Landfill	≤ 340,000 ft ² ≤ 7.8 acres	> 340,000 to 34 million ft ² > 7.8 to 780 acres	> 34 million ft ² > 780 acres	ft ² + 3,400 acres + 0.078
	Surface impoundment	≤ 1,300 ft ² ≤ 0.029 acres	> 1,300 to 130,000 ft ² > 0.029 to 2.9 acres	> 130,000 ft ² > 2.9 acres	ft ² + 13 acres + 0.00029
	Contaminated soil	≤ 3.4 million ft ² ≤ 78 acres	> 3.4 million to 340 million ft ² > 78 to 7,800 acres	> 340 million ft ² > 7,800 acres	ft ² + 34,000 acres + 0.78
	Pile*	≤ 1,300 ft ² ≤ 0.029 acres	> 1,300 to 130,000 ft ² > 0.029 to 2.9 acres	> 130,000 ft ² > 2.9 acres	ft ² + 13 acres + 0.00029
	Land treatment	≤ 27,000 ft ² ≤ 0.62 acres	> 27,000 to 2.7 million ft ² > 0.62 to 62 acres	> 2.7 million ft ² > 62 acres	ft ² + 270 acres + 0.0062

1 ton = 2,000 lbs = 1 yd³ = 4 drums = 200 gallons

* Use area of land surface under pile, not surface area of pile.

PA Table 1b: WC Scores for Multiple Source Sites

WQ Total	WC Score
> 0 to 100	18
> 100 to 10,000	32
> 10,000	100

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GROUND WATER PATHWAY

Ground Water Use Description: Provide information on ground water use in the vicinity. Present the general stratigraphy, aquifers used, and distribution of private and municipal wells.

Calculations of Ground Water Drinking Water Populations: Provide populations from private wells and municipal supply systems in each distance ring. Show apportionment calculations for blended supply systems.

Date: March 27, 1991

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GROUND WATER PATHWAY
GROUND WATER USE DESCRIPTION

Describe Ground Water Use Within 4-miles of the Site:

Provide generalized stratigraphic information on aquifers, municipal, and/or private wells:

Uses of groundwater within a 4-mile radius of the site include industrial, commercial, municipal, private ^{and} stock. Ground water for this area is withdrawn from the Schenectady Aquifer. This aquifer consists of well sorted sands and gravels overlain by highly transmissive alluvial silts and sands. The nearest private well to the site used for potable supply is approximately 0.8 miles. Within 4-miles of the site, there are 165 private wells and 3 municipal well fields.

The total population served by the municipal wells is 127022 persons.

→ Depth to ground water most closely reflects the level of the Mohawk River. Within the flood plain of the river, depth to groundwater is generally less than 30 feet.

Show calculations of ground water drinking water populations:

Distance (miles)	Public Well Supply	Private Well Supply	Population Totals
0-0.25	0	0	0
>0.25-0.50	0	0	0
>0.50-1.0	0	2 (~8.0)	8
>1.0 -2.0	0	31 (~118.0)	118
>2.0 -3.0	0	56 (~213.0)	213
>3.0 -4.0	20 (117022)	76 (~289.0)	117,311

Assuming the usage per domestic (Private) well is 3.8 persons, the value in parenthesis beside the number of Private Well Supply is the total number of persons on Private supply per distance range. Niskayuna obtains 50 percent of its potable supply from the Schenectady well field in the range of 3-4 miles from the site. This is blended with groundwater that Niskayuna gets from a well field outside the 4-mile radius. The Niskayuna Water Dept. serves approximately 20,000 people and an apportioned population

GROUND WATER PATHWAY CRITERIA LIST

Site Name: *United Plating, Inc.*Date: *March 27, 1991*

This chart provides guidelines to assist you in hypothesizing the presence of a suspected release and identifying primary targets. It is expected that not all of this information will be available during the PA. Also, these criteria are not all-inclusive; list any other criteria you use to hypothesize a suspected release or to identify primary targets. This chart will record your professional judgment in evaluating these factors.

The "Suspected Release" section of the chart guides you through evaluation of some site, source, and pathway conditions to help hypothesize whether a release from the site is likely. If a release is suspected, use the "Primary Targets" section to guide you through evaluation of some conditions that will help identify targets likely to be exposed to hazardous substances. You may use this section of the chart more than once, depending on the number of targets you feel may be considered "primary." In the "Primary Targets" section on this sheet, record the responses for the well that you feel has the highest probability of being exposed to hazardous substances.

Check the boxes to indicate a "yes", "no", or "unknown" answer to each question. If you check the "Suspected Release" box as "yes", make sure that you assign a Likelihood of Release value of 550 for the pathway.

GROUND WATER PATHWAY			
SUSPECTED RELEASE			PRIMARY TARGETS
Y es	N o	U nknown	
☒	☐	☐	Are sources poorly contained?
☐	☐	☐	Is the source a type likely to contribute to ground water contamination (e.g., wet lagoon)?
☐	☒	☐	Is waste quantity particularly large?
☒	☐	☐	Is precipitation heavy and infiltration rate high?
☐	☒	☐	Is the site located in an area of karst terrain?
☒	☐	☐	Is the subsurface highly permeable or conductive?
☒	☐	☐	Is drinking water drawn from a shallow aquifer?
☒	☐	☐	Are suspected contaminants highly mobile in ground water?
☐	☒	☐	Does any circumstantial evidence of ground water or drinking water contamination exist?
☐	☒	☐	Other criteria? _____
☒	☐	☐	SUSPECTED RELEASE?
☐	☒	☐	Is any drinking-water well nearby?
☐	☐	☒	Is any nearby drinking-water well closed?
☐	☐	☒	Has foul-tasting or foul-smelling water been reported by any nearby drinking-water users?
☐	☒	☐	Do any nearby wells have a large drawdown or high production rate?
☐	☒	☐	Are drinking-water wells located between the site and other wells that are suspected to be exposed to hazardous substances?
☒	☐	☐	Does any circumstantial evidence of ground water or drinking water contamination exist?
☐	☒	☐	Does any drinking-water well warrant sampling?
☐	☒	☐	Other criteria? _____
☐	☒	☐	PRIMARY TARGET(S) IDENTIFIED?

Summarize the rationale for suspected release (attach an additional page if necessary):

(See Attached Page)

Summarize the rationale for Primary Targets (attach an additional page if necessary): Although a release to ground-water is suspected, the nearest potable well is approximately 0.8 miles from the site and is not expected to be within the contaminant boundary of release. No primary targets, therefore, are identified.

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GROUND WATER PATHWAY

Pathway Characteristics

Answer the questions at the top of the page. Refer to the Ground Water Pathway Criteria List (page 7) to hypothesize whether you suspect that hazardous substances associated with the site have been released to ground water (GW). Record the depth to the aquifer (in feet): the difference between the deepest depth of waste deposited and the shallowest depth of the top of the aquifer at or as near as possible to the site. Note whether the site is in karst terrain (characterized by abrupt ridges, sink holes, caverns, springs, disappearing streams). State the distance (in feet) from any source to the nearest well used for drinking water.

Likelihood of Release (LR)

1. **Suspected Release:** Hypothesize based on professional judgment guided by the Ground Water Pathway Criteria List (page 7). Remember to use only Column A for this pathway if you score a suspected release to ground water, and do not evaluate factor 2.

2. **No Suspected Release:** If you do not suspect a release, determine the GW LR score based on depth to aquifer or whether the site is in an area of karst terrain. If you do not suspect a release to ground water, remember to use only Column B to score this pathway.

Targets (T)

Evaluates the threat to populations who obtain their drinking water from GW supplies. To apportion population served by blended drinking-water supply systems, determine the percentage of population served by each well within the 4-mile target distance limit based on its production.

3. **Primary Target Population:** Populations served by any drinking-water wells that you suspect have been exposed to hazardous substances released from the site. Use professional judgment guided by the Ground Water Pathway Criteria List (page 7) to make this determination. In the space provided, enter the population served by any wells you suspect have been exposed to hazardous substances from the site. If only the number of residences is known, use the average county residents per household (rounded to the next integer) to determine population served. Multiply the population by 10 to determine the Primary Target Population score. Note that if you do not suspect a release, there is no Primary Target Population.

4. **Secondary Target Population:** Populations served by any drinking-water wells within four miles of the site that you do not suspect have been exposed to hazardous substances should be evaluated on PA Table 2a or 2b (used for wells drawing from karst aquifers) (page 9). Circle the assigned value for the population in each distance ring and enter it in the column on the far right side of the table. Sum the far right column and enter the total as the Secondary Target Population factor score.

5. **Nearest Well** represents the threat posed to the well that is most likely to be exposed to hazardous substances. If you have identified a Primary Target Population, enter 50. Otherwise, obtain the Nearest Well score from PA Table 2a or 2b for the closest distance category with a drinking-water well population.

6. **Wellhead Protection Area (WHPA):** WHPAs are special areas designated by States for protection under Section 1428 of the Safe Drinking Water Act. Local/State and EPA Regional water officials can provide information regarding the location of WHPAs.

7. **Resources:** Score automatically assigned. Do not override; do not investigate resources.

Target Scoring Instructions: Sum the target scores in Column A (Suspected Release) or Column B (No Suspected Release). Note that if there are no drinking-water wells within the target distance limit, the target scores for either Column A or Column B will be 5 (automatically assigned for resources).

Waste Characteristics (WC)

8. **Waste Characteristics** score is assigned from page 4. However, if any Primary Target has been identified for GW, assign the higher of the score calculated on page 4 or a score of 32.

Ground Water Pathway Score: Multiply the scores for LR, T, and WC. Divide the product by 82,500. Round the result to the nearest integer. If the result is greater than 100, assign 100.

Rationale for suspected release: A release of contaminants to groundwater is suspected from an unlined sump area below the chrome plating room of the process building and from a wooden box containing plating sludges in the rear yard of the facility. The sump area collects spillage by way of floor drains from the chrome plating room. If the sump area is an underground tank and leaking, a release to groundwater is highly probable. Likewise, the box of plating sludges could be releasing contaminants to groundwater if left uncovered and exposed to precipitation. Excess moisture in the sludge could drain off through seams in the box and onto the ground. Once in the soil, the sludge leachate could migrate to groundwater representing a contaminant release.

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NOV 06 1990

Site Name: *United Plating, Inc 8.*
Date: *March 27, 1991*

GROUND WATER PATHWAY SCORESHEET

Pathway Characteristics	
Do you suspect a release (see Ground Water Pathway Criteria List, page 7)?	Yes ☒ No ☐
Is the site located in karst terrain?	Yes ☐ No ☒
Depth to aquifer:	<i>30 ft</i>
Distance to the nearest drinking-water well:	<i>0.8 miles</i>

LIKELIHOOD OF RELEASE

	A Suspected Release	B No Suspected Release	Reference
1. SUSPECTED RELEASE: If you suspect a release to ground water (see page 7), assign a score of 550, and use only column A for this pathway.	550	—	5, 16, 17
2. NO SUSPECTED RELEASE: If you do not suspect a release to ground water, and the site is in karst terrain or the depth to aquifer is 70 feet or less, assign a score of 500; otherwise, assign a score of 340. Use only column B for this pathway.	—	—	25, 26, 27, 30 & 35
LR =	550	—	

TARGETS

3. PRIMARY TARGET POPULATION: Determine the number of people served by drinking water from wells that you suspect have been exposed to hazardous substances from the site (see Ground Water Pathway Criteria List, page 7). <i>0</i> people x 10 =	0		2, 9, 23
4. SECONDARY TARGET POPULATION: Determine the number of people served by drinking water from wells that you do NOT suspect have been exposed to hazardous substances from the site, and assign the total population score from PA Table 2. Are any wells part of a blended system? Yes ☒ No ☐ If yes, attach a page to show apportionment calculations. (See page 6).	1312		19, 20, 22, 23, 31, 32, 33 & 34
5. NEAREST WELL: If you have identified any Primary Targets for ground water, assign a score of 50; otherwise, assign the highest Nearest Well score from PA Table 2. If no drinking-water wells exist within 4 miles, assign a score of zero.	9		2, 23
6. WELLHEAD PROTECTION AREA (WHPA): Assign a score of 20 if any portion of a designated WHPA is within 1/4 mile of the site; assign 5 if from 1/4 to 4 miles.	5		2, 23, 41
7. RESOURCES: A score of 5 is assigned.	5	5	42 & 43
T =	1331		

WASTE CHARACTERISTICS

8. A. If you have identified any Primary Targets for ground water, assign the waste characteristics score calculated on page 4, or a score of 32, whichever is GREATER; do not evaluate part B of this factor.	—	
8. B. If you have NOT identified any Primary Targets for ground water, assign the waste characteristics score calculated on page 4.	18	
WC =	18	

GROUND WATER PATHWAY SCORE:

$$\frac{LR \times T \times WC}{82.500}$$

100

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Site Name: United Planting
Date: March 27, 1991

PA TABLE 2: VALUES FOR SECONDARY GROUND WATER TARGET POPULATIONS

PA Table 2a: Non-Karst Aquifers

Distance from Site	Population	Nearest Well (choose Highest)	Population Served by Wells Within Distance Category										Population Value
			1	11	31	101	301	1,001	3,001	10,001	30,001	100,001	
			10	10	100	100	1,000	1,000	10,000	30,000	100,000	100,000	
0 to 1/4 mile	0	20	1	2	5	16	52	163	521	1,633	5,214	16,325	0
> 1/4 to 1/2 mile	0	18	1	1	3	10	32	101	323	1,012	3,233	10,121	0
> 1/2 to 1 mile	8	9	1	1	2	5	17	52	167	522	1,668	5,224	1
> 1 to 2 miles	118	5	1	1	1	3	9	29	94	294	939	2,938	3
> 2 to 3 miles	213	3	1	1	1	1	7	21	68	212	678	2,122	2
> 3 to 4 miles	117,311	2	1	1	1	1	4	13	42	131	417	1,306	1,306
Nearest Well = 9			Score =										1312

PA Table 2b: Karst Aquifers

Distance from Site	Population	Nearest Well (use 20 for karst)	Population Served by Wells Within Distance Category										Population Value
			1	11	31	101	301	1,001	3,001	10,001	30,001	100,001	
			10	10	100	100	1,000	1,000	10,000	30,000	100,000	100,000	
0 to 1/4 mile		20	1	2	5	16	52	163	521	1,633	5,214	16,325	
> 1/4 to 1/2 mile		20	1	1	3	10	32	101	323	1,012	3,233	10,121	
> 1/2 to 1 mile		20	1	1	3	8	26	82	261	816	2,607	8,162	
> 1 to 2 miles		20	1	1	3	8	26	82	261	816	2,607	8,162	
> 2 to 3 miles		20	1	1	3	8	26	82	261	816	2,607	8,162	
> 3 to 4 miles		20	1	1	3	8	26	82	261	816	2,607	8,162	
Nearest Well =			Score =										

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SURFACE WATER PATHWAY

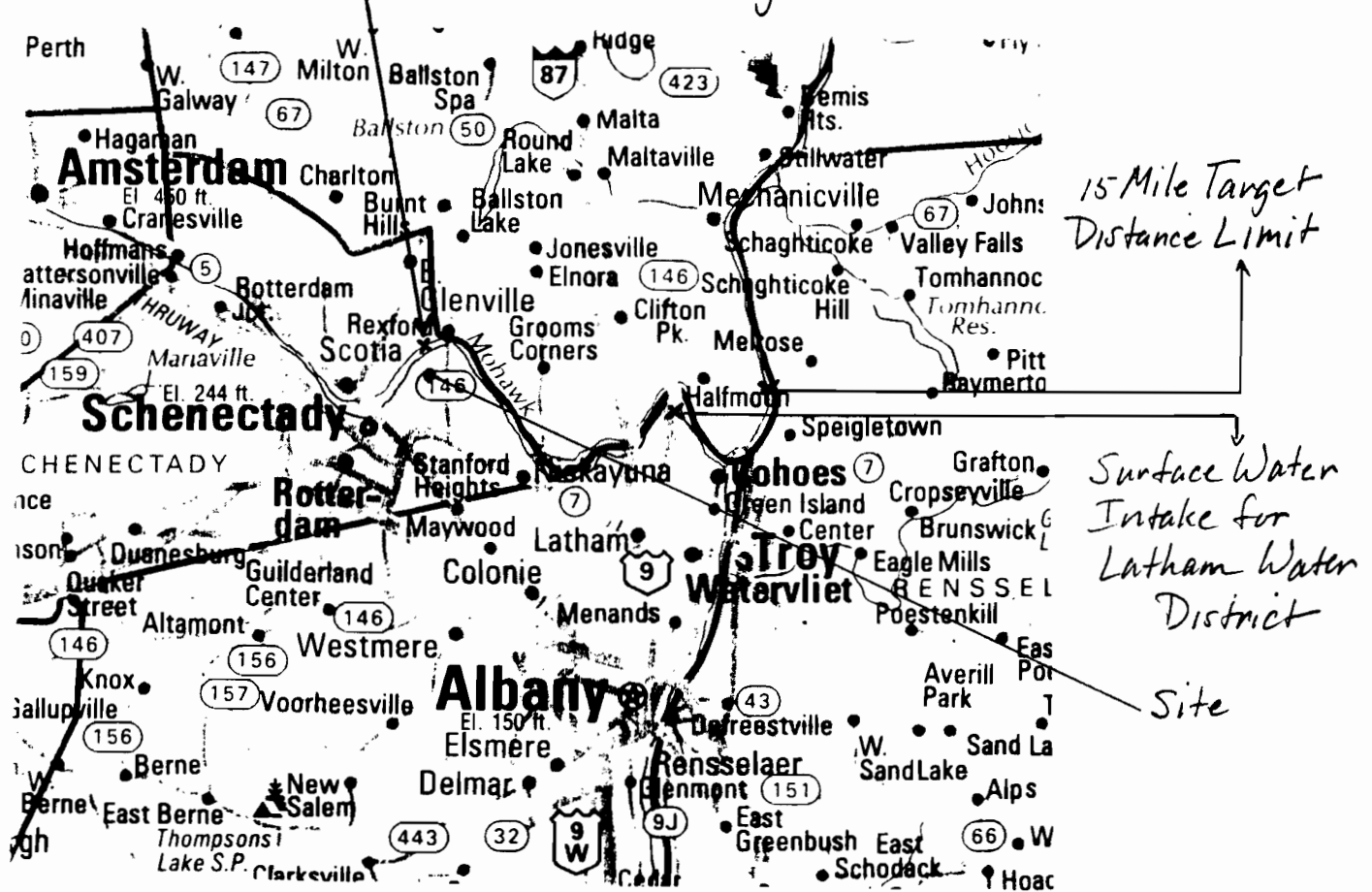
Migration Route Sketch: Sketch the surface water migration pathway illustrating the drainage route and identifying water bodies, the probable point of entry, flows, and targets.

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SURFACE WATER PATHWAY
MIGRATION ROUTE SKETCH

Provide a Sketch of the Surface Water Migration Route:

(include runoff route, probable point of entry, 15-mile target distance limit, intakes, fisheries, and sensitive environments)

Probable Point of Runoff Entry.

The Mohawk River is a major fishery in the state of New York. There are no sensitive environments other than wetlands along the surface water pathway migration route. See attached project notes regarding wetland locations.

TO: United Plating, Inc.

DATE: 3/26/91

FROM: Valerie Mathers

COPIES:

SUBJECT: Wetlands within 15 miles downstream of the point of runoff entry to the Mohawk River.

REFERENCE: File

The NYSDEC regards information identifying the location of sensitive environments, including wetlands, to be confidential and unavailable to the general public. The purpose of this project note, therefore, is to define wetlands that exist within 15 miles downstream on the Mohawk River from the point where runoff from the site would be expected to enter the river. It should be noted that this project note addresses only wetlands in Region 5 and not those in Region 4 where the site is located. Wetlands in Region 4 are the subject of another project note included in the file for United Plating, Inc., dated 3/22/91. The original reference for this project note is a letter and attachment from Kevin R. Bliss, Environmental Analyst, NYSDEC, Div. of Regulatory Affairs, to Valerie Mathers, NUS Corp., March 18, 1991. This may also be found in the file for United Plating, Inc., TDD No. 02-9012-18-PA.

From the point of site runoff entry into the Mohawk River to a distance 15 miles downstream, approximately 1.6 miles of what appears to be one large wetland, lies adjacent to the Mohawk River. This wetland is classified as (VAM) N-20 and is the only one of Region 5 within the geographic area specified above.

TO: United Plating, Inc.

DATE: 3/22/91

FROM: Valerie Mathers

COPIES:

SUBJECT: Wetlands in vicinity of site and within 15 miles of the point of surface water entry.

REFERENCE: File

The NYSDEC regards information identifying the location of sensitive environments, including wetlands, to be confidential and unavailable to the general public. The purpose of this project note, therefore, is to define the wetlands that exist within 200 feet of the site United Plating, Inc. in Schenectady, New York, and within 15 miles downstream on the Mohawk River from the point where runoff from the site would be expected to ^{enter} the river. The reference for this information is in the file for United Plating, Inc., TDD No. 02-9012-18-PA.

Within 200 feet of the site, there are no wetlands. From the point of site runoff entry into the Mohawk River to a distance 15 miles downstream, there are 8 wetland areas either in or adjacent ^{to the} river of varying classification and frontage. All are greater than 12.4 acres in area. These are listed as follows from the closest wetland to the farthest ~~from~~ ^(VAM) downstream:

	Classification	Wetland Frontage (miles)
1	S-112	0.19
2	S-107	0.08
3	S-108	0.30
4	N-101	1.14
5	N-102	0.83
6	N-17	1.40
7	N-4	2.35
8	N-7	0.68

Note that these are only wetlands identified in Region 4 of the NYSDEC, the closest of which is 0.6 miles from the point of surface

SURFACE WATER PATHWAY CRITERIA LIST

 Site Name: *United Plating, Inc.*
 Date: *March 27, 1991*

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This chart provides guidelines to assist you in hypothesizing the presence of a suspected release and identifying primary targets. It is expected that not all of this information will be available during the PA. Also, these criteria are not all-inclusive; list any other criteria you use to hypothesize a suspected release or to identify primary targets. This chart will record your professional judgment in evaluating these factors.

The "Suspected Release" section of the chart guides you through evaluation of some site, source, and pathway conditions to help hypothesize whether a release from the site is likely. If a release is suspected, use the "Primary Targets" section to guide you through evaluation of some conditions that will help identify targets likely to be exposed to hazardous substances. You may use this section of the chart more than once, depending on the number of targets you feel may be considered "primary." In the "Primary Targets" section on this sheet, record the responses for the target that you feel has the highest probability of being exposed to hazardous substances.

Check the boxes to indicate a "yes", "no", or "unknown" answer to each question. If you check the "Suspected Release" box as "yes", make sure that you assign a Likelihood of Release value of 550 for the pathway.

SURFACE WATER PATHWAY			
SUSPECTED RELEASE			PRIMARY TARGETS
Y	N	UNKNOWN	
☒	☐	☐	Is surface water nearby?
☐	☒	☐	Is waste quantity particularly large?
☐	☐	☒	Is the drainage area large?
☐	☒	☐	Is precipitation heavy or infiltration rate low?
☐	☐	☒	Are sources poorly contained or prone to runoff or flooding?
☐	☐	☒	Is a runoff route well defined (e.g., ditch or channel leading to surface water)?
☐	☐	☒	Is vegetation stressed along the probable runoff path?
☒	☐	☐	Are suspected contaminants highly persistent in surface water?
☐	☐	☒	Are sediments/water unnaturally discolored?
☐	☐	☒	Is wildlife unnaturally absent?
☐	☒	☐	Has deposition of waste into surface water been observed?
☐	☐	☐	Is ground water discharge to surface water likely?
☒	☐	☐	Is there any circumstantial evidence of surface water contamination?
☐	☒	☐	Other criteria? _____
☒	☐	☐	SUSPECTED RELEASE?
☒	☐	☐	Is any target nearby? If yes:
			☐ Drinking-water intake
			☐ Fishery
			☐ Sensitive environment
☐	☐	☒	Has an intake, fishery, or recreational area been closed?
☐	☐	☒	Is there any circumstantial evidence of surface water contamination at or downstream of a target?
☒	☒	☐	Does any target warrant sampling? If yes:
			☐ Drinking-water intake
			☒ Fishery
			☒ Sensitive environment
☐	☒	☐	Other criteria? _____
☐	☒	☐	PRIMARY INTAKE(S) IDENTIFIED?
☐	☒	☐	PRIMARY FISHERY IDENTIFIED?
☐	☒	☐	PRIMARY SENSITIVE ENVIRONMENT(S) IDENTIFIED?

Summarize the rationale for suspected release (attach an additional page if necessary): *A release of contaminants to surface water is suspected from a wooden box containing plating sludges. The sludge if left uncovered and exposed to precipitation, would drain off excess moisture through seams in the box and onto the ground. Once on the ground, the sludge leachate could be carried overland from the site to the nearest surface water, the Mohawk River, via runoff.*

Summarize the rationale for Primary Targets (attach an additional page if necessary): *Although a release to surface water is suspected, the amount of leachate expected to be generated by ~18 ft³ of sludge contained in the box is nominal and would likely be diluted or absorbed by the soil before reaching the nearest surface water, the Mohawk River, approximately 0.3 miles from the site. No primary targets, therefore, are identified.*

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SURFACE WATER PATHWAY

Pathway Characteristics

The surface water pathway includes three threats: Drinking Water Threat, Human Food Chain Threat, and Environmental Threat. Answer the questions at the top of the page. Refer to the Surface Water Pathway Criteria List (page 11) to hypothesize whether you suspect hazardous substances have been released to surface water. Enter the distance to surface water (the shortest overland drainage distance from a source to a surface water body). State the floodplain in which the site is located (e.g., 100-yr, 200-yr). If the site is located in more than one floodplain, use the most frequent flooding event. Identify surface water uses for the 15-mile surface water migration path.

Likelihood of Release (LR)

1. **Suspected Release:** Hypothesize based on professional judgment guided by the Surface Water Pathway Criteria List (page 11). Remember to use only Column A for this pathway if you score a suspected release to surface water, and do not evaluate factor 2.
2. **No Suspected Release:** Determine score based on the shortest overland drainage distance from a source to a surface water body. If distance to surface water is greater than 2,500 feet, determine this score based on flood frequency. Remember to use only Column B to score this pathway if you do not suspect that hazardous substances have been released.

Drinking Water Threat Targets (T)

3. List all drinking-water intakes on downstream surface water bodies within the 15-mile target distance limit. Provide the intake name, the type of water body on which the intake is located, the flow of the water body, and the number of people served by the intake (apportion the population if part of a blended system).
4. **Primary Target Population:** Evaluate any populations served by drinking-water intakes that you suspect have been exposed to hazardous substances released from the site. Use professional judgment guided by the Surface Water Pathway Criteria List (page 11) to make this determination. In the space provided, enter the population served by all intakes you suspect have been exposed to hazardous substances, and multiply by 10 to derive the Primary Target Population score. Remember, if you do not suspect a release, there is no Primary Target Population.
5. **Secondary Target Population:** On PA Table 3 (page 13), evaluate any populations served by drinking-water intakes that you do not suspect have been exposed to hazardous substances. Enter the population served by intakes for each flow category. Circle the assigned population value and enter it in the far right column. Sum the population values and enter the total as the Secondary Target Population score.

Gauging station data for most surface water bodies should be available from USGS or other sources. In the absence of gauging station data, see PA Table 4 (page 13) for a listing of surface water body types and associated flow categories. The flow for lakes is determined by the sum of flows of streams entering or leaving the lake. Note that the flow category "mixing zone of quiet flowing rivers" can be used for rivers with flow of at least 10 cfs, but only for intakes within 3 miles of the probable point of entry.

6. **Nearest Intake score** represents the threat posed to the drinking-water intake that is most likely to be exposed to hazardous substances. If you have identified a Primary Target Population, assign a score of 50. Otherwise assign the score determined from PA Table 3 (page 13) for the lowest-flowing water body on which there is an intake.

7. **Resources:** Score automatically assigned. Do not override; do not investigate resources.

Target Scoring Instructions: Sum the target scores in Column A (Suspected Release) or Column B (No Suspected Release).

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Site Name: *United Plating Inc.*
Date: *March 27, 1991*

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SURFACE WATER PATHWAY LIKELIHOOD OF RELEASE AND DRINKING WATER THREAT SCORESHEET

Pathway Characteristics

Do you suspect a release (see Surface Water Pathway Criteria List, page 11)? Yes ☒ No ☐

Distance to surface water: ~1584 ft

Flood Frequency: None yrs

What is the downstream distance to the nearest drinking-water intake? 11.2 miles

nearest fishery? 0.3 miles nearest sensitive environment? 0.6 miles

LIKELIHOOD OF RELEASE

1. **SUSPECTED RELEASE:** If you suspect a release to surface water (see page 11), assign a score of 550, and use only column A for this pathway.
2. **NO SUSPECTED RELEASE:** If you do not suspect a release to surface water, and the distance to surface water is 2,500 feet or less, assign a score of 500; otherwise, assign a score from the table below. Use only column B for this pathway.

<i>Floodplain</i>	<i>Score</i>
Site in annual or 10-yr floodplain	500
Site in 100-yr floodplain	400
Site in 500-yr floodplain	300
Site outside 500-yr floodplain	100

A	B
<i>Suspected Release</i>	<i>No Suspected Release</i>
5601	
550	
	[500,400.300 = 100]
	—
5601	[500,400.300 = 100]
550	

References

5

LR =

DRINKING WATER THREAT TARGETS

3. Determine the water body types, flows (if applicable), and number of people served by all drinking-water intakes within the 15-mile target distance limit. If there are no drinking-water intakes within the target distance limit, assign a total Targets score of 5 at the bottom of this page (Resources only) and proceed to page 14.

Intake Name	Water Body Type	Flow	People Served
Latham Water District (Mohawk River)	Large Stream to River	1,000 to 10,000 cfs	75,000
		cfs	
		cfs	

4. **PRIMARY TARGET POPULATION:** If you suspect any drinking-water intake listed above has been exposed to hazardous substances from the site (see Surface Water Pathway Criteria List, page 11), list the intake name(s) and calculate the factor score based on the number of people served.

people x 10 =

5. **SECONDARY TARGET POPULATION:** Determine the Secondary Target Population score from PA Table 3 based on the populations using drinking-water from intakes that you do NOT suspect have been exposed to hazardous substances from the site.

Are any intakes part of a blended system? Yes ☒ No ☐
If yes, attach a page to show apportionment calculations.

6. **NEAREST INTAKE:** If you have identified any Primary Targets for the drinking water threat (Factor 4), assign a score of 50; otherwise, assign the Nearest Intake score from PA Table 3. If no drinking-water intake exists within the 15-mile target distance limit, assign a score of zero.

- 7. RESOURCES:** A score of 5 is assigned.

—	
5	
(50, 20, 10, 2, 1, ∞ 0)	(20, 10, 2, 1, ∞ 0)
0	
(5)	(5)
5	5
10	

6, 12

6

6,39

T =

Question 5, Page 12

The Latham Water District has an intake for potable supply on the Mohawk River downstream from the site. This water is mixed with ground water prior to distribution to the City of Colonie, approximately 75,000 people. It is assumed, therefore, that all residents in Colonie on public water supply receive both ground- and surface water. The apportioned population

Ref. No. 6 served by this surface water intake is
37,500 persons.

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13

Site Name: United Plating Inc
Date: March 27, 1991

PA TABLE 3: VALUES FOR SECONDARY SURFACE WATER TARGET POPULATIONS

Surface Water Body Flow Characteristics (see PA Table 4)	Population	Nearest Intake (choose highest)	Population Served by Intakes Within Flow Category										Population Value
			1 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	
			1	2	3	4	5	6	7	8	9	10	
10 cfs	—	20	2	5	16	52	163	521	1,633	5,214	16,325	52,136	163,248
100 to 100 cfs	—	2	1	1	2	5	16	52	163	521	1,633	5,214	16,325
100 to 1,000 cfs	—	1	0	0	1	1	2	5	16	52	163	521	1,633
1,000 to 10,000 cfs	37,500	0	0	0	0	0	1	1	2	5	16	52	163
10,000 cfs or greater	—	0	0	0	0	0	0	0	1	1	2	5	16
1 mile Mixing Zone	—	10	1	3	8	26	82	261	816	2,607	8,182	26,068	81,663
Nearest Intake =			Score =										5

PA TABLE 4: SURFACE WATER TYPE / FLOW CHARACTERISTICS
WITH DILUTION WEIGHTS FOR SECONDARY SURFACE WATER SENSITIVE ENVIRONMENTS

Water Body Type	Type of Surface Water Body		Dilution Weight
	OR	Flow Characteristics	
minimal stream		flow less than 10 cfs	1
small to moderate stream		flow 10 to 100 cfs	0.1
moderate to large stream		flow greater than 100 to 1,000 cfs	N/A
large stream to river		flow greater than 1,000 to 10,000 cfs	N/A
large river		flow greater than 10,000 cfs	N/A
3-mile mixing zone of quiet flowing streams or rivers		flow 10 cfs or greater	N/A
coastal tidal water (harbors, sounds, bays, etc.), ocean, or Great Lakes		N/A	N/A

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SURFACE WATER PATHWAY HUMAN FOOD CHAIN THREAT

Likelihood of Release (LR)

LR is the same for all threats in the Surface Water Pathway. Enter the LR score determined on page 12.

Human Food Chain Threat Targets (T)

8. The only human food chain targets are fisheries. A fishery is "any area of a surface water body from which food chain species are taken or could be taken for human consumption on a subsistence, sporting, or commercial basis." Food chain organisms include fish, shellfish, crustaceans, amphibians, and amphibious reptiles. Fisheries are delineated by changes in surface water body type (i.e., streams and rivers, lakes, coastal tidal waters, and oceans/Great Lakes) and whenever the flow characteristics of a stream or river change. In the space provided, identify all fisheries within the 15-mile target distance limit. Indicate the surface water body type and stream flow for each fishery. Gauging station data should be available for most surface water bodies from USGS and other sources. In the absence of gauging station data, see PA Table 4 (page 13) for a listing of surface water body types and associated flow categories. The flow for lakes is determined by the sum of flows of streams entering or leaving the lake. Note that, if there are no fisheries within the 15-mile target distance limit, the Human Food Chain Threat Targets score is zero; and you should proceed to the Environmental Threat evaluation.

9. **Primary Fisheries** are any fisheries within the 15-mile target distance limit that you suspect have been exposed to hazardous substances released from the site. Use professional judgment guided by the Surface Water Pathway Criteria List (page 11) to make this determination. If you identify any Primary Fisheries, enter 300 as the Primary Fisheries factor score, and do not evaluate Secondary Fisheries. Note that if you do suspect a release, there are no Primary Fisheries.

10. **Secondary Fisheries:** Evaluate fisheries that you do not suspect have been exposed to hazardous substances. Determine the lowest flow for which you have identified a Secondary Fishery. Use this flow to select the Secondary Fisheries score from the table. Enter the score into either Column A or Column B.

Target Scoring Instructions: Sum the target scores in Column A (Suspected Release) or Column B (Not Suspected Release).

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Site Name: United Plating, Inc.
Date: March 27, 1991

14

SURFACE WATER PATHWAY (continued) HUMAN FOOD CHAIN THREAT SCORESHEET

LIKELIHOOD OF RELEASE

Enter the Surface Water Likelihood of Release score from page 12.

LR =

A	B
Suspected Release	No Suspected Release
(500)	(500, 400, 300 or 100)
550	—

References

HUMAN FOOD CHAIN THREAT TARGETS

8. Determine the water body types and flows (if applicable) for all fisheries within the 15-mile target distance limit. If there are no fisheries within the target distance limit, assign a Targets score of 0 at the bottom of this page and proceed to page 15.

Fishery Name	Water Body Type	Flow
<u>Mohawk River</u>	<u>Large Stream to River</u>	<u>1,000 to</u> cfs <u>10,000</u> cfs
_____	_____	_____ cfs
_____	_____	_____ cfs
_____	_____	_____ cfs

9. PRIMARY FISHERIES: If you suspect any fishery listed above has been exposed to hazardous substances from the site (see Surface Water Criteria List, page 11), assign a score of 300 and do not evaluate Factor 10. List the Primary Fisheries:

10. SECONDARY FISHERIES: If you have not identified any Primary Fisheries, assign a Secondary Fisheries score from the table below using the LOWEST flow at any fishery within the 15-mile target distance limit.

Lowest Flow	Secondary Fisheries Score
< 10 cfs	210
10 to 100 cfs	30
> 100 cfs, coastal tidal waters, oceans, or Great Lakes	12

T =

(300 or 0)	
(210, 30, 12 or 0)	(210, 30, 12 or 0)
12	—
(300, 210, 30, 12 or 0)	(210, 30, 12 or 0)
12	—

3, 12, 35

12

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SURFACE WATER PATHWAY ENVIRONMENTAL THREAT

Likelihood of Release (LR)

LR is the same for all threats in the Surface Water Pathway. Enter the LR score determined on page 12.

Environmental Threat Targets (T)

11. There are many different types of Environmental Targets. Refer to PA Table 5 (page 16) for a listing of sensitive environments that are evaluated for the Surface Water Pathway Environmental Threat. In the space provided, identify all sensitive environments located within the 15-mile target distance limit. Indicate the surface water body type and flow at each sensitive environment. Gauging station data for most surface water bodies should be available from USGS or other sources. In the absence of gauging station data, see PA Table 4 (page 13) for a listing of surface water body types and associated flow categories. The flow for lakes is determined by the sum of flows of streams entering or leaving the lake. Note that, if there are no sensitive environments within the 15-mile target distance limit, the Environmental Targets score is zero; and you should proceed to the Waste Characteristics evaluation.

12. **Primary Sensitive Environments** are surface water sensitive environments within the 15-mile target distance limit that you suspect have been exposed to hazardous substances released from the site. Use professional judgment guided by the Surface Water Pathway Criteria List (page 11) to make this determination. If you identify any Primary Sensitive Environments, enter 300 as the Primary Sensitive Environments factor score, and do not evaluate Secondary Sensitive Environments. Note that if you do not suspect a release, there are no Primary Sensitive Environments.

13. **Secondary Sensitive Environments** are surface water sensitive environments that you do not suspect have been exposed to hazardous substances. If you have identified Secondary Sensitive Environments, evaluate them based on flow by the following process: if there are any Secondary Sensitive Environments on surface water bodies with flows of 100 cfs or less, list them in the table. Use PA Table 4 (page 13) to determine the appropriate dilution weight(s).

Use PA Tables 5 and 6 (page 16) to determine the appropriate value for sensitive environment type. When measuring length of wetlands that are located on both sides of a surface water body, sum the frontage areas. For sensitive environments that fall into more than one of the categories listed in PA Table 5, sum the values for each type to determine the environment value. For example, a wetland of 1.5 miles total length (value of 50) that is also a critical habitat for a Federally endangered species (value of 100) would receive an environment value of 150.

For each sensitive environment, multiply the dilution weight by the environment type/length of wetlands value and record the product in the far right column. Sum the values in the far right column and enter the total as the Secondary Sensitive Environments score. Do not evaluate any other Secondary Sensitive Environments. However, if all Secondary Sensitive Environments are on surface water bodies with flows of greater than 10 cfs, assign a Secondary Sensitive Environments score of 10.

Target Scoring Instructions: Sum the target scores in Column A (Suspected Release) or Column B (Not Suspected Release).

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Site Name: *United Plating, Inc.*
Date: *March 27, 1991*

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**SURFACE WATER PATHWAY (continued)
ENVIRONMENTAL THREAT SCORESHEET**

LIKELIHOOD OF RELEASE		A	B	References
		Suspected Release (1-500)	No Suspected Release (500, 400, 300 or 100)	
Enter the Surface Water Likelihood of Release score from page 12.	LR =	550		

ENVIRONMENTAL THREAT TARGETS

11. Determine the water body types and flows (if applicable) for all surface water sensitive environments within the 15-mile target distance limit (see PA Tables 4 and 5). If there are no sensitive environments within the 15-mile target distance limit, assign a Targets score of 0 at the bottom of this page, and proceed to page 17.

Environment Name	Water Body Type	Flow
Mohawk River Wetlands	Large Stream to River	1000 to 10,000 cfs
		cfs
		cfs
		cfs
		cfs

12. PRIMARY SENSITIVE ENVIRONMENTS: If you suspect any sensitive environment listed above has been exposed to hazardous substances from the site (see Surface Water Criteria List, page 11), assign a score of 300 and do not evaluate Factor 13. List the Primary Sensitive Environments:

13. SECONDARY SENSITIVE ENVIRONMENTS:

- A. For Secondary Sensitive Environments on surface water bodies with flows of 100 cfs or less, assign scores as follows, and do not evaluate part B of this factor:

Flow	Dilution Weight (PA Table 4)	Environment Type and Value (PA Tables 5 and 6)	Total
cfs	x	=	
cfs	x	=	
cfs	x	=	
cfs	x	=	
cfs	x	=	

Sum =

- B. If NO Secondary Sensitive Environments are located on surface water bodies with flows of 100 cfs or less, assign a score of 10.

T =

7, 11, 12, 37, 39

7, 11, 12, 37

Site Name: *United Plating, Inc.*
 Date: *March 27, 1991*

PA TABLE 5: SURFACE WATER AND AIR SENSITIVE ENVIRONMENTS VALUES

Sensitive Environment	Assigned Value
Critical habitat for Federally designated endangered or threatened species	100
Marine Sanctuary	
National Park	
Designated Federal Wilderness Area	
Ecologically important areas identified under the Coastal Zone Wilderness Act	
Sensitive Areas identified under the National Estuary Program or Near Coastal Water Program of the Clean Water Act	
Critical Areas identified under the Clean Lakes Program of the Clean Water Act (subareas in lakes or entire small lakes)	
National Monument	
National Seashore Recreation Area	
National Lakeshore Recreation Area	
Habitat known to be used by Federally designated or proposed endangered or threatened species	75
National Preserve	
National or State Wildlife Refuge	
Unit of Coastal Barrier Resources System	
Federal land designated for the protection of natural ecosystems	
Administratively Proposed Federal Wilderness Area	
Spawning areas critical for the maintenance of fish/shellfish species within a river system, bay or estuary	
Migratory pathways and feeding areas critical for the maintenance of anadromous fish species in a river system	
Terrestrial areas utilized by large or dense aggregations of vertebrate animals (semi-aquatic foragers) for breeding	
National river reach designated as recreational	
Habitat known to be used by State designated endangered or threatened species	50
Habitat known to be used by a species under review as to its Federal endangered or threatened status	
Coastal Barrier (partially developed)	
Federally designated Scenic or Wild River	
State land designated for wildlife or game management	25
State designated Scenic or Wild River	
State designated Natural Area	
Particular areas, relatively small in size, important to maintenance of unique biotic communities	
State designated areas for the protection/maintenance of aquatic life under the Clean Water Act	5
Wetlands	See PA Table 6 (Surface Water Pathway) or PA Table 9 (Air Pathway)

PA TABLE 6: SURFACE WATER
WETLANDS FRONTAGE VALUES

Total Length of Wetlands	Assigned Value
Less than 0.1 mile	0
0.1 to 1 mile	25
Greater than 1 to 2 miles	50
Greater than 2 to 3 miles	75
Greater than 3 to 4 miles	100
Greater than 4 to 8 miles	150
Greater than 8 to 12 miles	250
Greater than 12 to 16 miles	350
Greater than 16 to 20 miles	450
Greater than 20 miles	500

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SURFACE WATER PATHWAY WASTE CHARACTERISTICS, THREAT, AND PATHWAY SCORE

Waste Characteristics (WC)

14. **Waste Characteristics** score is assigned from page 4. However, if any Primary Target has been identified for any surface water threat, assign the higher of the score calculated on page 4 or a score of 32.

Surface Water Pathway Threat Scores

Fill in the matrix with the appropriate scores from the previous pages. To calculate the score for each threat: multiply the scores for LR, T and WC, divide the product by 82,500, and round the result to the nearest integer. The Drinking Water Threat and Human Food Chain Threat are subject to a maximum of 100. The Environmental Threat is subject to a maximum of 60. Enter the rounded threat scores into the right side of the table.

Surface Water Pathway Score

Sum the individual threat scores to determine the Surface Water Pathway Score. If the sum is greater than 100, assign 100.

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Site Name: *United Plating, Inc.*

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Date: *March 27, 1991*

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SURFACE WATER PATHWAY (concluded)
WASTE CHARACTERISTICS, THREAT, AND PATHWAY SCORE SUMMARY

WASTE CHARACTERISTICS	A	B
	Suspected Release	No Suspected Release
1. A. If you have identified ANY Primary Targets for surface water (pages 12, 14, or 15), assign the waste characteristics score calculated on page 4, or a score of 32, whichever is GREATER; do not evaluate part B of this factor.	32	32
B. If you have NOT identified any Primary Targets for surface water, assign the waste characteristics score calculated on page 4.	18	32
WC =	18	

SURFACE WATER PATHWAY THREAT SCORES

Threat	Likelihood of Release (LR) Score (from page 12)	Targets (T) Score	Pathway Waste Characteristics (WC) Score (determined above)	Threat Score $LR \times T \times WC$ / 82,500
Drinking Water	550	10	18	1.0
Human Food Chain	550	12	18	1.0
Environmental	550	10	18	1.0

SURFACE WATER PATHWAY SCORE
(Drinking Water Threat + Human Food Chain Threat + Environmental Threat)

3.0

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SOIL EXPOSURE PATHWAY CRITERIA LIST

18

Site Name: *United Plating, Inc.*
Date: *March 27, 1991*

This chart provides guidelines to assist you in hypothesizing the presence of a resident population. It is expected that not all of this information will be available during the PA. Also, these criteria are not all-inclusive; list any other criteria you use to hypothesize resident populations. This chart will record your professional judgment in evaluating this factor.

Use the resident population section to guide you through evaluation of some site and source conditions that will help identify targets likely to be exposed to hazardous substances. You may use this section of the chart more than once, depending on the number of nearby people you feel may be considered part of a resident population. Record the responses for the resident population target that you feel has the highest probability of being exposed to hazardous substances.

Check the boxes to indicate a "yes", "no", or "unknown" answer to each question.

SOIL EXPOSURE PATHWAY			
SUSPECTED CONTAMINATION	RESIDENT POPULATION		
Surficial contamination is assumed.	Y	N	UNKNOWN
	☒	☐	☐
	Are there residences, schools, or day care facilities on or within 200 feet of areas of suspected contamination?		
	☐	☒	☐
	Are residences, schools, or day care facilities located on adjacent land previously owned or leased by the site owner/operator?		
	☒	☐	☐
	Is there an overland migration route that might spread hazardous substances near residences, schools, or day care facilities?		
☐	☒	☐	
Are there any reports of adverse health effects from onsite or adjacent residents or students, exclusive of apparent drinking water or air contamination problems?			
☒	☐	☐	
Does any offsite property warrant sampling?			
☐	☒	☐	
Other criteria? _____			
☒	☐	☐	
RESIDENT POPULATION IDENTIFIED?			

Summarize the rationale for resident population (attach an additional page if necessary):

Within 200 feet of the site there are approximately 115 ^(AM) ~~per~~ residents and 40 workers in a garage across the street. There is a vacant lot behind the site where a foot path has been observed. It appears that foot traffic moves from Seneca St. across the lot to a deadend of Carrie St. A fenced playground is located adjacent to the site on Foster Avenue. The playground has been sampled, but analyses of the soil samples from this area did not conclusively demonstrate contaminant migration from United Plating, Inc. Soil samples have not been collected from the vacant lot behind the facility near the junk pile. It is highly probable that any contaminants present in the junk pile could run off and onto the vacant lot. This ~~rep~~ represents a health threat to persons accessing the lot via the foot path.

SOIL EXPOSURE PATHWAY

Pathway Characteristics

Answer the questions at the top of the page. Identify people who are most likely to be regularly exposed to contamination at the site because they work at the facility or reside or attend school or day care on or within 200 feet of an area of suspected contamination. If the site is active, estimate the number of full or part-time workers at this facility. Note that evaluation of targets is based on current site conditions.

Likelihood of Exposure (LE)

1. **Suspected Contamination:** The PA always assumes that surficial contamination exists. Do not override this assumption. Surficial contamination often exists even if wastes have been "removed" or are believed to be buried below the surface. A 550 is automatically assigned for this factor; only Column A can be scored for this pathway.

Resident Population Threat Targets (T)

2. **Resident Population** corresponds to "primary targets" for the migration pathways. Determine if there are people living or attending school or day care on or within 200 feet of areas of suspected contamination. Use professional judgment guided by the Soil Exposure Pathway Criteria List (page 18) to make this determination. Record the number of people identified as Resident Population. Multiply this population by 10 to determine the Resident Population factor score.

3. **Resident Individual:** If you have identified a Resident Population, assign a score of 50. Otherwise, assign a score of 0.

4. **Workers:** Estimate the number of full and part-time workers regularly present at this facility and other facilities where contamination is suspected. Assign a score for the workers factor from the table.

5. **Terrestrial Sensitive Environments:** In the table provided, list each Terrestrial Sensitive Environment located on areas of suspected contamination. Use PA Table 7 (page 20) to assign a value for each sensitive environment. Sum the values of all the terrestrial sensitive environments and assign the total as the factor score.

6. **Resources:** Score automatically assigned. Do not override; do not investigate resources.

Target Scoring Instructions: Sum the target scores in Column A.

Waste Characteristics (WC)

7. Enter the WC score determined on page 4. There is no exception for this pathway.

Soil Exposure Pathway Score: Calculate the Resident Population Threat Score by multiplying the scores for LE, T, and WC, and dividing the product by 82,500. Round the threat score to the nearest integer. If the result is greater than 100, assign 100. The Nearby Population Threat Score is always 2 for the PA; do not override this score. Add these 2 points to the calculated Resident Population Threat Score to determine the Soil Exposure Pathway Score, subject to a maximum of 100.

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Site Name: United Plating, Inc.
Date: March 27, 1991

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SOIL EXPOSURE PATHWAY SCORESHEET

Pathway Characteristics	
Do any people live on or within 200 ft of areas of suspected contamination?	Yes ☒ No ☐
Do any people attend school or day care on or within 200 ft of areas of suspected contamination?	Yes ☐ No ☒
Is the facility active? Yes ☐ No ☒	If yes, estimate the number of workers: <u>0</u>

LIKELIHOOD OF EXPOSURE

	A Suspected Contamination	B No Suspected Contamination	References
1. SUSPECTED CONTAMINATION: Surficial contamination is assumed. A score of 550 is assigned.	550		—

RESIDENT POPULATION THREAT TARGETS

2. RESIDENT POPULATION: Determine the number of people occupying residences or attending school or day care on or within 200 feet of areas of suspected contamination (see Soil Exposure Pathway Criteria List, page 18).

114 people x 10 = 1140 2,10,13

3. RESIDENT INDIVIDUAL: If you have identified any Resident Population (Factor 2), assign a score of 50; otherwise, assign a score of 0.

50 2,10,13

4. WORKERS: Assign a score from the following table based on the total number of workers at the facility and nearby facilities with suspected contamination:

Number of Workers	Score
0	0
1 to 100	5
101 to 1,000	10
> 1,000	15

5 14

5. TERRESTRIAL SENSITIVE ENVIRONMENTS: Assign a value from PA Table 7 for each terrestrial sensitive environment that is located on an area of suspected contamination:

Terrestrial Sensitive Environment Type	Value

Sum = 0 2,7,11

6. RESOURCES: A score of 5 is assigned.

5

T = 1200

WASTE CHARACTERISTICS

7. Assign the waste characteristics score calculated on page 4.

WC = 18

RESIDENT POPULATION THREAT SCORE:

$$\frac{LE \times T \times WC}{82,500}$$

100

NEARBY POPULATION THREAT SCORE:

Assign a score of 2

2

SOIL EXPOSURE PATHWAY SCORE:

Resident Population Threat + Nearby Population Threat

100

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Site Name: *United Plating Inc.* 20
Date: *March 27, 1991*

PA TABLE 7: SOIL EXPOSURE PATHWAY
TERRESTRIAL SENSITIVE ENVIRONMENT VALUES

<i>Terrestrial Sensitive Environment</i>	<i>Assigned Value</i>
Terrestrial critical habitat for Federally designated endangered or threatened species	100
National Park	
Designated Federal Wilderness Area	
National Monument	
Terrestrial habitat known to be used by Federally designated or proposed threatened or endangered species	75
National Preserve (terrestrial)	
National or State terrestrial Wildlife Refuge	
Federal land designated for protection of natural ecosystems	
Administratively proposed Federal Wilderness Area	
Terrestrial areas utilized by large or dense aggregations of animals (vertebrate species) for breeding	
Terrestrial habitat used by State designated endangered or threatened species	50
Terrestrial habitat used by species under review for Federally designated endangered or threatened status	
State lands designated for wildlife or game management	25
State designated Natural Areas	
Particular areas, relatively small in size, important to maintenance of unique biotic communities	

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AIR PATHWAY CRITERIA LIST

Site Name: *United Plating, Inc.*
Date: *March 27, 1991*

This chart provides guidelines to assist you in hypothesizing the presence of a suspected release. It is expected that not all of this information will be available during the PA. Also, these criteria are not all-inclusive; list any other criteria you use to hypothesize a suspected release. This chart will record your professional judgment in evaluating this factor.

The "Suspected Release" section of the chart guides you through evaluation of some conditions to help hypothesize whether a release from the site is likely. For the Air Pathway, if a release is suspected, "Primary Targets" are any residents, workers, students, or sensitive environments within 1/4 mile of the site.

Check the boxes to indicate a "yes", "no", or "unknown" answer to each question. If you check the "Suspected Release" box as "yes", make sure that you assign a Likelihood of Release value of 550 for the pathway.

AIR PATHWAY			
SUSPECTED RELEASE		PRIMARY TARGETS	
Y • • •	N • • •	UNKNOWN • • •	
☐	☒	☐	
Have odors been reported?		<i>If you suspect a release to air, evaluate all populations and sensitive environments within 1/4 mile (including those onsite) as Primary Targets.</i>	
☐	☒		☐
Has a release of hazardous substances to the air been directly observed?			
☐	☐		☒
Are there any reports of adverse health effects (e.g., headaches, nausea, dizziness) potentially resulting from migration of hazardous substances through the air?			
☐	☒		☐
Is there any circumstantial evidence of an air release?			
☐	☒	☐	
Other criteria? _____			
☐	☒	☐	
SUSPECTED RELEASE?			

Summarize the rationale for suspected release (attach an additional page if necessary):

Although no release of contaminants to the air from the site is suspected, there exists the potential for such a release should a fire occur at the facility. If a fire on the site were to include areas of chemical storage and processing, toxic gases (ie. hydrogen cyanide) could be produced and released. On June 7, 1990, a fire occurred at the site, but no chemicals were involved. Therefore, no release of contaminants ^{to the air} was observed or ^{is} suspected.

Pathway Characteristics

Answer the questions at the top of the page. Refer to the Air Pathway Criteria List (page 21) to hypothesize whether you suspect hazardous substances have been released from the site to the air. Due to dispersion, releases to air are not as persistent as releases to water migration pathways and are much more difficult to detect. Develop hypotheses concerning the release of hazardous substances to air based on "real time" considerations. Record the distance (in feet) from any source to the nearest regularly occupied building.

Likelihood of Release (LR)

1. **Suspected Release:** Hypothesize based on professional judgment guided by the Air Pathway Criteria List (page 21). Remember to use only Column A for this pathway if you score a Suspected Release, and proceed to the target evaluation section.
2. **No Suspected Release:** If you do not score a Suspected Release, enter 500. Remember to use only Column B to score this pathway if you do not suspect hazardous substances are being released.

Targets (T)

3. **Primary Target Population** are those people subject to exposure from a suspected air release of hazardous substances from the site. Use professional judgment, guided by the Air Pathway Criteria List (page 21), to make this determination. Note that if you do not suspect a release, there are no primary population targets. If you score a Suspected Release, record the residential, student, and worker population located on or within ¼-mile of the site. Multiply this number of people by 10; enter the factor score in Column A.
4. **Secondary Target Population** are those people in distance categories not suspected to be subject to exposure from airborne hazardous substances. Determine the number of residents, students, and workers, and enter the summed population in PA Table 8 (page 23) for each distance category. Circle the population value for the distance category and record the value in the far right column of the table. Sum these values and enter the total as the factor score.
5. **Nearest Individual** represents the threat posed to the person most likely to be exposed to hazardous substances released from the site. If you have identified any Primary Population, enter 50. Otherwise, assign the score from the "Nearest Individual" column of PA Table 8 (page 23), for the nearest distance ring in which you have identified a Secondary Population.
6. **Primary Sensitive Environments:** List the sensitive environments (on or within ¼ mile of the site) subject to exposure from a suspected air release of hazardous substances from the site. Assign values for sensitive environment type (from PA Table 5, page 16) and/or wetland acreage (from PA Table 9, page 23). Sum the values and enter the total as the factor score.
7. **Secondary Sensitive Environments:** On PA Table 10 (page 23), list the sensitive environments that are in distance categories within ½ mile not suspected to be subject to exposure from airborne hazardous substances. Assign a value for each environment (PA Tables 5 and 9). Record the value for each Secondary Sensitive Environment on PA Table 10 (page 23), and multiply by the distance weight for that distance category. Sum the products, and enter the total as the factor score.
8. **Resources:** Score automatically assigned. Do not override; do not investigate resources.

Target Scoring Instructions: Sum the target scores in Column A (Suspected Release) or Column B (No Suspected Release).

Waste Characteristics (WC)

9. **Waste Characteristics** score is assigned from page 4. However, if any Primary Target has been identified for the air pathway, assign the higher of the score calculated on page 4 or a score of 32.

Air Pathway Score: Multiply the scores for LR, T, and WC. Divide the product by 82,500. Round the result to the nearest integer. If the result is greater than 100, assign 100.

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Site Name: *United Plating, Inc.*
Date: *March 27, 1991*

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AIR PATHWAY SCORESHEET

Pathway Characteristics	
Do you suspect a release (see Air Pathway Criteria List, page 21)?	Yes _____ No ☒
Distance to the nearest individual:	<u>200</u> ft

LIKELIHOOD OF RELEASE

1. SUSPECTED RELEASE: If you suspect a release to air (see page 21), assign a score of 550, and use only column A for this pathway.
2. NO SUSPECTED RELEASE: If you do not suspect a release to air, assign a score of 500, and use only column B for this pathway.

	A	B	References
	Suspected Release	No Suspected Release	
	(550)	(500)	
		500	
LR =		500	

TARGETS

3. PRIMARY TARGET POPULATION: Determine the number of people subject to exposure from a release of hazardous substances through the air (see Air Pathway Criteria List, page 21). _____ people x 10 =
4. SECONDARY TARGET POPULATION: Determine the number of people within the 4-mile target distance limit, and assign the total population score from PA Table 8.
5. NEAREST INDIVIDUAL: If you have identified any Primary Targets for the air pathway, assign a score of 50; otherwise, assign the highest Nearest Individual score from PA Table 8.
6. PRIMARY SENSITIVE ENVIRONMENTS: Sum the sensitive environment values (PA Table 5) and wetland acreage values (PA Table 9) for environments subject to exposure from air hazardous substances (see Air Pathway Criteria List, page 21).

Sensitive Environment Type	Value
_____	_____
_____	_____

Sum =

7. SECONDARY SENSITIVE ENVIRONMENTS: Use PA Table 10 to determine the score for secondary sensitive environments.
8. RESOURCES: A score of 5 is assigned.

T =

WASTE CHARACTERISTICS

9. A. If you have identified any Primary Targets for the air pathway, assign the waste characteristics score calculated on page 4, or a score of 32, whichever is GREATER; do not evaluate part B of this factor.
- B. If you have NOT identified any Primary Targets for the air pathway, assign the waste characteristics score calculated on page 4.

	(100 or 32)	(100, 32, or 18)	(100, 32, or 18)
			18
WC =			18

AIR PATHWAY SCORE:

LR x T x WC
82,500

(subject to a minimum of 100)

16.0

Site Name: *United Housing, Inc.*
 Date: *March 27, 1991*

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PA TABLE 8: VALUES FOR SECONDARY AIR TARGET POPULATIONS

Distance from Site	Nearest Individual (choose highest)	Population Within Distance Category												Population Value
		1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,001 to 3,000,000	
Onsite	20	1	2	5	16	52	163	521	1,633	5,214	16,325	52,136	163,246	0
> 0 to ¼ mile	20	1	1	1	4	13	41	130	408	1,303	4,081	13,034	40,811	41
> ¼ to ½ mile	2	0	0	1	1	3	9	28	88	282	882	2,815	8,815	9
> ½ to 1 mile	1	0	0	0	1	1	3	8	26	83	261	834	2,612	26
> 1 to 2 miles	0	0	0	0	0	1	1	3	8	27	83	266	833	27
> 2 to 3 miles	0	0	0	0	0	1	1	1	4	12	38	120	376	12
> 3 to 4 miles	0	0	0	0	0	0	1	1	2	7	23	73	229	7
Nearest Individual =	20	Score =												122

PA TABLE 9: AIR PATHWAY VALUES FOR WETLAND AREA

Wetland Area	Assigned Value
Less than 1 acre	0
1 to 50 acres	25
Greater than 50 to 100 acres	75
Greater than 100 to 150 acres	125
Greater than 150 to 200 acres	175
Greater than 200 to 300 acres	250
Greater than 300 to 400 acres	350
Greater than 400 to 500 acres	450
Greater than 500 acres	500

PA TABLE 10: DISTANCE WEIGHTS AND CALCULATIONS FOR AIR PATHWAY SECONDARY SENSITIVE ENVIRONMENTS

Distance	Distance Weight	Sensitive Environment Type and Value (from PA Table 5 or 9)	Product
Onsite	0.10	x	
		x	
		x	
0-1/4 mi	0.025	x	
		x	
		x	
1/4-1/2 mi	0.0054	x	
		x	
		x	
Mohawk River Wetlands (< 3 acres)			0.0
Total Environments Score =			0.0

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SITE SCORE CALCULATION

In the column labeled S, record the Ground Water Pathway score, the Surface Water Pathway score, the S Exposure Pathway score, and the Air Pathway score. Square each pathway score and record the result in the S² column. Sum the squared pathway scores. Divide the sum by 4, and take the square root of the result to obtain the Site Score.

Recommendation

Provide a recommendation for site disposition in accordance with EPA guidelines.

SITE SCORE CALCULATION

	S	S ²
GROUND WATER PATHWAY SCORE (S _{gw}):	100	10,000
SURFACE WATER PATHWAY SCORE (S _{sw}):	3	9
SOIL EXPOSURE PATHWAY SCORE (S _{so}):	100	10,000
AIR PATHWAY SCORE (S _a):	16	256
SITE SCORE:	$\sqrt{\frac{S_{gw}^2 + S_{sw}^2 + S_{so}^2 + S_a^2}{4}} = 71$	

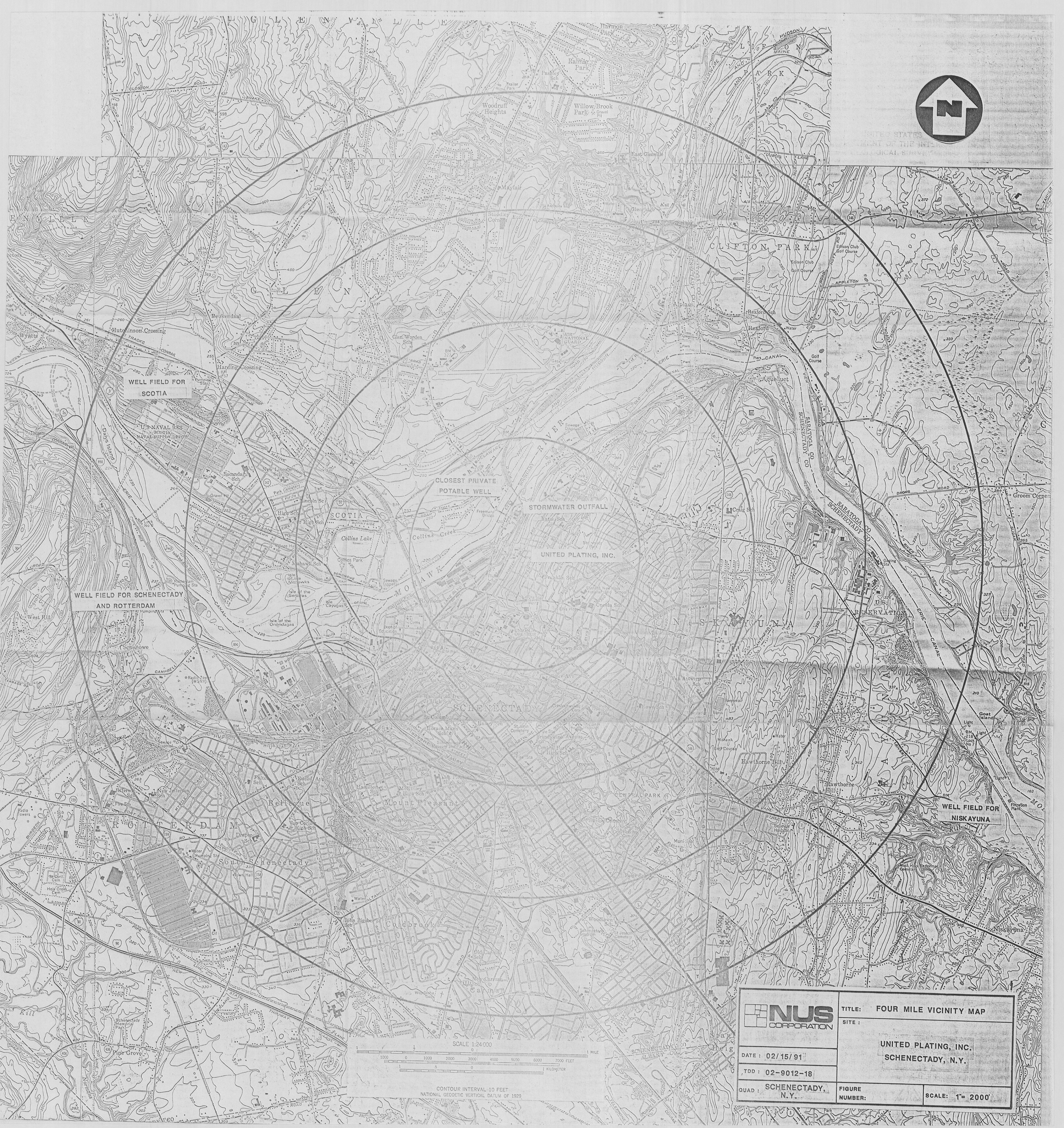
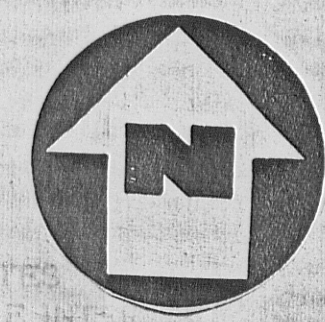
RECOMMENDATION

A site investigation is recommended for United Plating, Inc. A release of contaminants from the site to surface water, groundwater and soil is suspected. This in conjunction with a large target population, 33,500 to 117,300, to be affected by either surface or groundwater contamination, warrants further investigation of the site, particularly in areas surrounding the chrome plating sump tank and the rear yard of the facility where ^{prior} probable release to the environment is probable.

(VAM)

SUMMARY

	YES	NO
1. Is there a high possibility of a threat to nearby drinking water wells by migration of hazardous substances in ground water?	☐	☒
A. If yes, identify the wells recommended for sampling during the SI.		
B. If yes, how many people are served by these threatened wells? _____		
2. Are any of the following suspected to have been exposed to hazardous substances through surface water migration from the site?		
A. Drinking water intake	☐	☒
B. Fishery	☐	☒
C. Sensitive environment: wetland, critical habitat, others	☐	☒
D. ^(VAM) If yes, identify the targets recommended for sampling during the SI.		
* If surface water contamination is occurring, it would most likely be found at the point of surface water entry from the site. It is recommended, therefore, that the Mohawk River be sampled at the storm sewer outfall.	☒	☐
3. Do people reside or attend school or day care on or within 200 ft of any area of suspected contamination?	☒	☐
4. Are there public health concerns at this site that are not addressed by PA scoring considerations? If yes, explain:	☒	☐
There is potential release to surface water in the event of a fire on site.		



WELL FIELD FOR
SCOTIA

WELL FIELD FOR SCHENECTADY
AND ROTTERDAM

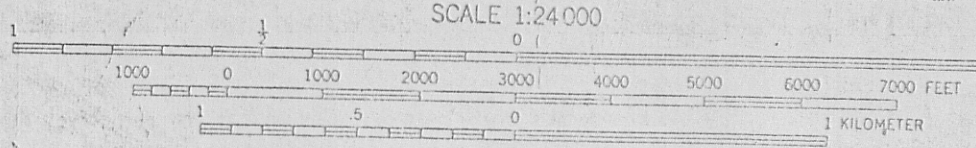
CLOSEST PRIVATE
POTABLE WELL

STORMWATER OUTFALL

UNITED PLATING, INC.

WELL FIELD FOR
NISKAYUNA

	TITLE: FOUR MILE VICINITY MAP	
	SITE:	
DATE: 02/15/91		UNITED PLATING, INC. SCHENECTADY, N.Y.
TDD: 02-9012-18		
QUAD: SCHENECTADY, N.Y.	FIGURE NUMBER:	SCALE: 1" = 2000'



CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929



SCALE 1:24,000
0 1000 2000 3000 4000 5000 6000 7000 FEET
0 1 2 3 4 5 6 7 8 9 10 KILOMETER
CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

ROAD CLASSIFICATION
Heavy-duty Light-duty
Medium-duty Unimproved dirt
Interstate Route U.S. Route State Route
SCHENECTADY, N.Y.
SW/4 SCHENECTADY 15' QUADRANGLE
N4245-W7352.5/7.5
1954
PHOTO-REVISED 1980
DMA 6209 IV SW-SERIES YB21
MAPPED, EDITED, AND PUBLISHED BY THE GEOLOGICAL SURVEY
Control by USGS and NOS/NOAA
Topography from aerial photographs by stereophotogrammetric methods. Aerial photographs taken 1952. Field checked 1954.
Polyconic projection. 10,000-foot grid based on New York coordinate system, east zone. 1000-meter Universal Transverse Mercator grid ticks, zone 18, shown in blue. 1927 North American Datum. To place on the 1983 datum, the National or State reservations shown on this map must be moved 4 meters south and 35 meters west as shown by dashed corner ticks.
Revisions shown in purple compiled from aerial photographs taken 1978 and other source data. This information not field checked. Map edited 1980.

UTM GRID AND 1983 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET
11° 23' 11" N
0° 48' 14" E
11.4 KILOMETERS
1.4 KILOMETERS
SCALE 1:24,000
0 1000 2000 3000 4000 5000 6000 7000 FEET
0 1 2 3 4 5 6 7 8 9 10 KILOMETER
CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

SCALE 1:24,000
0 1000 2000 3000 4000 5000 6000 7000 FEET
0 1 2 3 4 5 6 7 8 9 10 KILOMETER
CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
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A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

ROAD CLASSIFICATION
Heavy-duty Light-duty
Medium-duty Unimproved dirt
Interstate Route U.S. Route State Route
NISKAYUNA, N.Y.
SE/4 SCHENECTADY 15' QUADRANGLE
N4245-W7345/7.5
1954
PHOTO-REVISED 1980
DMA 6209 IV SE-SERIES YB21
MAPPED, EDITED, AND PUBLISHED BY THE GEOLOGICAL SURVEY
Control by USGS and USGS
Topography from aerial photographs by stereophotogrammetric methods. Aerial photographs taken 1952. Field checked 1954.
Polyconic projection. 10,000-foot grid based on New York coordinate system, east zone. 1000-meter Universal Transverse Mercator grid ticks, zone 18, shown in blue. 1927 North American Datum. To place on the 1983 datum, the National or State reservations shown on this map must be moved 4 meters south and 35 meters west as shown by dashed corner ticks.
Revisions shown in purple compiled from aerial photographs taken 1978 and other source data. This information not field checked. Map edited 1980.

UTM GRID AND 1983 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET
11° 23' 11" N
0° 48' 14" E
11.4 KILOMETERS
1.4 KILOMETERS
SCALE 1:24,000
0 1000 2000 3000 4000 5000 6000 7000 FEET
0 1 2 3 4 5 6 7 8 9 10 KILOMETER
CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
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A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST