ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES

PHASE I INVESTIGATION

Chisholm Ryder
City of Niagara Falls

Site No. 932009
Niagara County

Date: January 1986

Prepared for:

New York State Department of Environmental Conservation

50 Wolf Road, Albany, New York 12233
Henry G. Williams, *Commissioner*

Division of Solid and Hazardous Waste
Norman H. Nosenchuck, P.E., *Director*

By:
ENGINEERING-SCIENCE
In Association With
DAMES & MOORE

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

CHISHOLM-RYDER
3800 HIGHLAND AVENUE
NYS SITE NUMBER 932009
CITY OF NIAGARA FALLS
NIAGARA COUNTY
NEW YORK STATE, 14305

Prepared For

DIVISION OF SOLID AND HAZARDOUS WASTE
NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
50 WOLF ROAD
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DATE OF SUBMITTAL: JANUARY, 1986

CHISHOLM-RYDER

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SECTION I

EXECUTIVE SUMMARY

CHISHOLM-RYDER

This report, prepared for the New York State Department of Environmental Conservation (NYSDEC), presents the preliminary results of the Phase I investigation for the Chisholm-Ryder site (NYS Number 932009, EPA Number D002106656) located in Niagara Falls, Niagara County, New York (see Figure I-1).

The Chisholm-Ryder landfill is approximately two (2) acres in size and is located adjacent to the Chisholm-Ryder plant facility (see Figure I-2). The landfill was used from the mid-1940's to 1959 for the disposal of plant wastes. No detailed records exist concerning the quantities of materials disposed on-site. According to plant employees, combustible plant refuse (i.e., wood, trash, etc.) were burned and the ash was buried in the landfill. Other plant wastes suspected of being disposed in the landfill include boiler ash, paint filters and residues, water soluble coolants, vapor degreasing solvents and sludges, and metallic sludges from the plating operation. The disposal of plant wastes in the landfill was discontinued in 1959 when the Chisholm-Ryder plant was temporarily closed. In the 1960's, the site was used to dispose of excavation material (ash, cinder, rubble, brick, etc.) from the construction of power project tunnels (Chisholm-Ryder, 1985).

On two occasions, the U.S. Geological Survey (USGS) collected and analyzed three soil samples from test borings placed around the perimeter of the Chisholm-Ryder landfill. The samples collected on 30 June 1982 were analyzed for heavy metals; the concentrations of zinc in two of the samples were substantially higher than in the background samples.

The additional soil samples collected on 25 May 1983 were analyzed for organic contaminants. Fourteen (14) priority pollutants and fifteen (15) non-priority pollutants were detected (USGS, 1983). Note that the holding time was exceeded for some of the samples collected by the USGS.

ASSESSMENT

In an attempt to quantify the risk associated with this site, the Hazard Ranking Scoring system (HRS) was applied as currently being used by the NYSDEC to evaluate abandoned hazardous waste sites in New York State. This system takes into account the types of wastes at the site, receptors, and transport routes to apply a numerical ranking of the site. As stated in 40 CFR Subpart H Section 300.81, the HRS scoring system was developed to be used in evaluating the relative potential of uncontrolled hazardous substance facilities to cause health or safety problems or ecological or environmental damage. It is assumed by the EPA that a uniform application of the ranking system in each state will permit EPA to identify those releases of hazardous substances that pose the greatest hazard to humans or the environment.

Under the HRS, three numerical scores are computed for each site, to express the relative risk or danger from the site, taking into account the population at risk, the potential for contamination of drinking water supplies, for direct human contact, and for destruction of sensitive ecological systems and other appropriate factors. The three scores are:

- S_M reflects the potential for harm to humans or the environment from migration of a hazardous substance away from the facility by routes involving groundwater, surface water or air. It is a composite of separate scores for each of the three routes (S_{GW} = groundwater route score, S_{SW} = surface water route score, and S_A = air route score).

- S_{FE} reflects the potential for harm from substances that can explode or cause fires.

- S_{DC} reflects the potential for harm from direct contact with hazardous substances at the facility (i.e., no migration need be involved).

The preliminary HRS score was:

S_M	= 10.88	S_A	= 0
S_{GW}	= 17.58	A_{FE}	= 0
S_{SW}	= 6.71	S_{DC}	= 0

These scores reflect the possible disposal of solvents and metals in the landfill.

RECOMMENDATIONS

Insufficient information was available to complete a final HRS score. The following recommendations are made for the completion of Phase II:

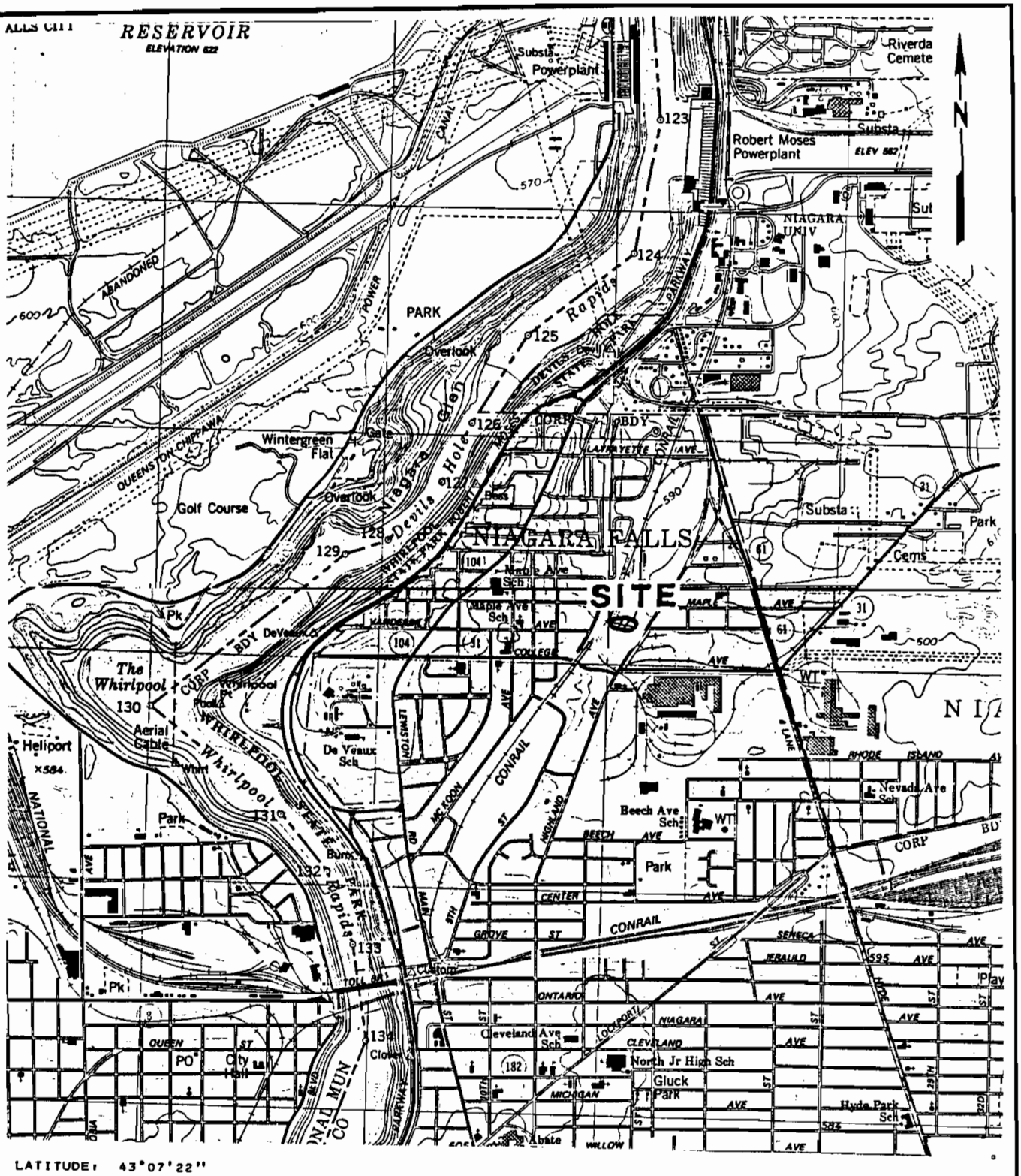
- Groundwater monitoring system consisting of one upgradient and two downgradient wells.

- Surface water and sediment monitoring system consisting of three monitoring stations.

- Waste monitoring consisting of two sampling locations at the landfill site.

- Analyses to include priority pollutants.

The estimated man-hour requirements to complete Phase II are 795, while the estimated cost is $54,616.



LATITUDE: 43°07'22"
LONGITUDE: 79°02'41"

SCALE

0 1000 2000 3000 4000 FEET

REFERENCE: U.S.G.S. 7.5' Topographic Map
Niagara Falls, NY-ONT. (1980) and
Lewiston, NY-ONT. (1980) Quadrangles

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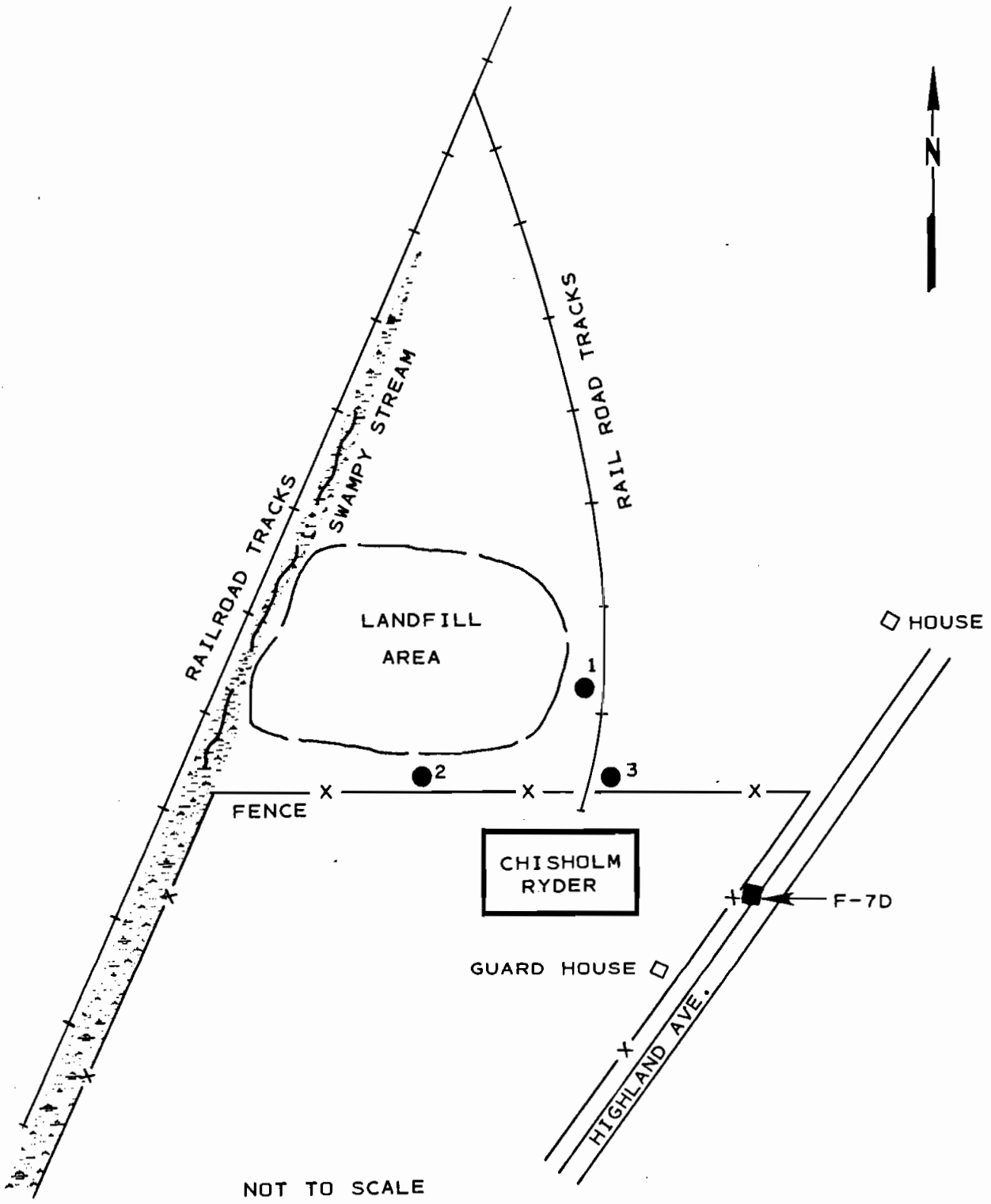
SITE LOCATION MAP
CHISHOLM RYDER

FIGURE I-1



EXPLANATION:

- ● 1 — U.S.G.S. TEST BORING AND SUBSTRATE SAMPLE (1982)
- ■ F-7D — HYDE PARK LANDFILL STUDY BORING/WELL (EPA)

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PLOT PLAN

CHISHOLM RYDER

FIGURE I-2

SECTION II

PURPOSE

The purpose of the Phase I investigation at the Chisholm-Ryder site was to assess the hazard to the environment caused by the present condition of the site. This assessment is based on the Hazard Ranking System, which involves the compilation and rating of numerous geological, toxicological, environmental, chemical, and demographic factors and the calculation of an HRS score. Details of HRS implementation are included in Section V. During the initial portion of the investigation, all available data and records, combined with information collected from a site inspection, were reviewed and evaluated. The investigation at this site focused on the disposal of plant wastes in the two acre landfill site adjacent to the plant. Based on this initial evaluation of the Chisholm-Ryder site, a Phase II Work Plan has been prepared for collecting any additional data needed to complete the HRS score. In addition, a cost estimate for the recommended Phase II work is provided.

SECTION III

SCOPE OF WORK

The scope of work for the New York State Inactive Site Investigation Program (Phase I) was to collect and review all available information necessary for the documentation and preparation of a Hazard Ranking System score and a Phase II work plan and cost estimate if required. The work activities performed included data collection and review, a site inspection, and interviews with knowledgeable individuals of past and present disposal activities at the site.

The sources contacted during this Phase I investigation included government agencies (federal, state and local), present site owners and operators, and any other individuals that may have knowledge of the site, as identified during the performance of the investigation. These sources are listed in Appendix A. The intent of the list is to identify all persons, departments, and/or agencies contacted during the third round of the Phase I investigations even though useful information may not have been collected from each source contacted.

SECTION IV

SITE ASSESSMENT

SITE HISTORY

The Chisholm-Ryder Company, manufacturer of food harvesting and processing equipment, has been at their present location since approximately 1885. Adjacent to the plant site is a 20 acre parcel of land owned by the Chisholm-Ryder Company. This acreage was used during the early 1940's for a government housing project. Following the end of WWII until about 1959, approximately two acres of the Chisholm-Ryder site was used as a disposal area for plant wastes. After the plant temporarily closed in 1959, the site was used to dispose of excavation material (i.e., ash, cinders, rubble, brick, etc.) from construction projects. These materials were placed in a low lying area on-site (Niagara County Health Department, 1982 and Chisholm-Ryder, 1985).

The past and present manufacturing operations at the Chisholm-Ryder plant include machining, metal fabrication, machinery assembly, parts degreasing, parts painting and metal plating. The wastes generated from these plant activities include general plant refuse (i.e., wood, trash, floor sweepings) boiler ash, paint filters and small amounts of paint wastes, metal turnings, water soluble coolants, vapor degreasing solvent and sludge, and rinse water and metallic sludges (tin, cadmium, copper) from the plating operations (NYSDEC, 1978).

From the mid-1940's to 1959, when the disposal area was used, combustible plant refuse was burned on-site and the ash was disposed in the landfill. Other plant wastes suspected of being disposed in the landfill from this time period include sludges generated from the vapor

degreasing and plating operations, boiler ash, coolants, and paint filters. Spent solvents from the painting and degreasing operations and sawdust floor sweepings used to adsorb small oil spills may have also been disposed in the on-site landfill. No detailed waste disposal records were kept by the plant (Chisholm-Ryder, 1985).

Following the closure of the landfill site in the 1960's, the inactive site was used to store drummed materials including speedi-dry with oil, aluminum cuttings, metal turnings, and welding slags. On 27 August 1979, an EPA site inspection discovered several drums in the area of the landfill containing metal turnings and a partially filled fiber pack container of copper cyanide. The drums were subsequenty removed from the site following the EPA inspection. The metal turnings were recycled and the copper cyanide was liquified and used in the plant's copper plating process (NYSDEC, 1980).

Presently, the chemical wastes generated by the Chisholm-Ryder Company are either recycled or disposed off-site. The disposal site is closed and the construction debris and fill from the power project excavations serve as cover for the landfill (Chisholm-Ryder, 1985).

SITE TOPOGRAPHY

The Chisholm-Ryder site is located in the City of Niagara Falls, Niagara County, New York State. The disposal area is located north of the plant building outside of a fenced area. The site ground surface has been raised approximately 4 feet with fill material. The ground surface slopes southeastward. Runoff flows over the ground surface into the plant area or, at the western margin, into the adjacent stream, which drains north.

The 2 acre triangular-shaped disposal area is located in an industrial area. North of the site is unused property owned by Chisholm-Ryder beyond which is a home. West of the site is a stream, beyond which occur railroad tracks and more urban housing. South of the site is a Chisholm-Ryder factory building, south of which is Route 31. East of the site is Highland Avenue, across which is a large industrial complex.

Regional Sensitive Environments

There are no nearby wetlands nor critical habitats for endangered species. There are numerous monitoring wells in the area, which were installed as part of the Hyde Park Landfill Study.

SITE HYDROLOGY

This summary is based on information from USGS Topographic Maps, NYS Museum and Science Service Bedrock Geology Map and Quaternary Geology Map, Bergeron (1984), Johnston (1964), USGS Boring Logs (1982), and a recent Hyde Park Landfill study by the USEPA.

Regional Geology and Hydrology

The site is located in the Erie-Ontario lowlands physiographic province. The bedrock of this region is predominantly limestone, dolostone, and shale. Most of the rocks are deep aquifers with regional flow to the south.

In the recent past, most of New York State, including the site, has been repeatedly covered by a series of continental ice sheets. The activity of the glacier widened pre-existing valleys, and deposited widewpread accumulations of till. The melting of ice, ending approximately 12,000 years ago, produced large volumes of meltwater; this water subsequently shaped channels and deposited thick accumulations of stratified, granular sediments.

As glacial ice retreated from the region, meltwater formed lakes in front of the ice margin. This region is covered by both lake sediments and morainal materials. Sediments associated with Lake Tonawanda are especially widespread in this region. Lake Tonawanda was a shallow elongate lake which occupied an east-west valley and drained north into Lake Iroquois. The sediments consist of beach ridges and lacustrine silts and clays (indicating quiet or deeper water deposition).

Granular deposits in this region frequently act as shallow aquifers, whereas lacustrine clays, as well as tills, often inhibit groundwater movement. However, fine-grained, water-lain sediments, such as silts and clays, frequently contain horizontal laminations and sand seams. These internal features facilitate lateral groundwater movement through otherwise low permeability materials.

Site Hydrology

Bedrock beneath the site is expected to be Lockport Dolomite occuring at elevations between 578' and 573' above sea level and depths of 10 to 15 feet (MSL). The top-of-rock surface slopes to the southwest at a 1:50 slope. The Lockport Dolomite forms the uppermost bedrock aquifer. The piezometric surface occurs approximately at the top-of-rock, sloping to the southwest. A contaminant plume has been identified in this aquifer, emanating from the Hyde Park Landfill (which is approximately 1 mile northeast of the site). Approximately 1/2 mile south of the site an industrial well was owned by American Sales Book Company during the 1960's. This well yielded approximately 100 gpm, and was 64' deep. The water was high in H_2S. Numerous monitoring wells exist east and north of the site, as part of PASNY Power and Reservoir projects and the Hyde Park Landfill study.

The soil stratigraphy (interpreted from drilling information in the Hyde Park study as well as logs of on-site USGS borings) is expected to be:

Unit	Depth Range (ft)
Fill	2 - 5
Brown, clayey silt (layered red-brown silt and grey clay)	5 - 10
Top of Bedrock	approx. 10

Soils are moist below 6', however, no soil aquifer is anticipated. The soils are generally thin and low permeability. For HRS scoring, a permeability range of 10^{-5} cm/sec to 10^{-7} cm/sec was assumed.

SITE CONTAMINATION

The Chisholm-Ryder manufacturing operations generated plant wastes including general plant refuse (i.e., wood, trash, floor sweepings) boiler ash, paint filters and small amounts of paint wastes, metal turnings, water soluble coolants, vapor degreasing solvent and sludge and rinse water, and metallic sludges (tin, cadmium, copper) from the plating operations (NYSDEC, 1978). Ash from the burning of plant refuse were known to be disposed in the landfill. With the exception of metal turnings that were recycled, all other wastes generated at the plant are assumed to be disposed in the landfill. However, no detailed waste disposal records were maintained by the plant.

The USGS drilled test borings on-site on 30 June 1982 as part of the Niagara River Toxics Study. The location of the test holes are indicated on the plant site plan (see Figure IV-1). Three soil samples were collected from the test borings and analyzed for heavy metals including cadmium, chromium, copper, iron, lead, mercury and zinc. The concentration of zinc in samples 2 and 3 were substantially higher than background samples collected from soils not affected by hazardous waste disposal practices. The results of the heavy metal analysis are presented in Table IV-1 (USGS, 1983).

Additional soil samples were collected by the USGS on 25 May 1983 and analyzed for organic contaminants. Fourteen priority pollutants were detected, all of which were in concentrations of 60 ug/kg or less. Fifteen organic non-priority pollutants and some unknown hydrocarbons were also detected (USGS, 1983). It should also be noted that these samples were collected next to the railroad tracks adjacent to the disposal site. Therefore, the organic constituents detected may be attributed to creasote coating of the railroad ties rather than on-site disposal practices. These analytical results are provided in the appendix.

The acceptable holding time for the samples collected for organic analyses was exceeded for all of the soil samples collected from the Chisholm-Ryder disposal site. Therefore, the organic compounds identified by this sampling and analysis effort are not of sufficient quality for site evaluation. However, because the concentration of organics in the soil samples may have decreased during holding, the concentration of organic constituents may be found in higher concentrations on-site.

It should be further noted that the USGS test borings were placed along the eastern perimeter of the disposal site. Therefore, if wastes containing organic constituents were disposed of on-site, the waste materials with the highest concentration of contaminants were probably not sampled during the USGS's sample collection effort because waste disposal occurred west of the area sampled.

On 14 October 1980 and 1 March 1982, site inspections were conducted by the NYSDEC and the Niagara County Health Department, respectively. No new signs of waste disposal activites were noted during these site inspections.

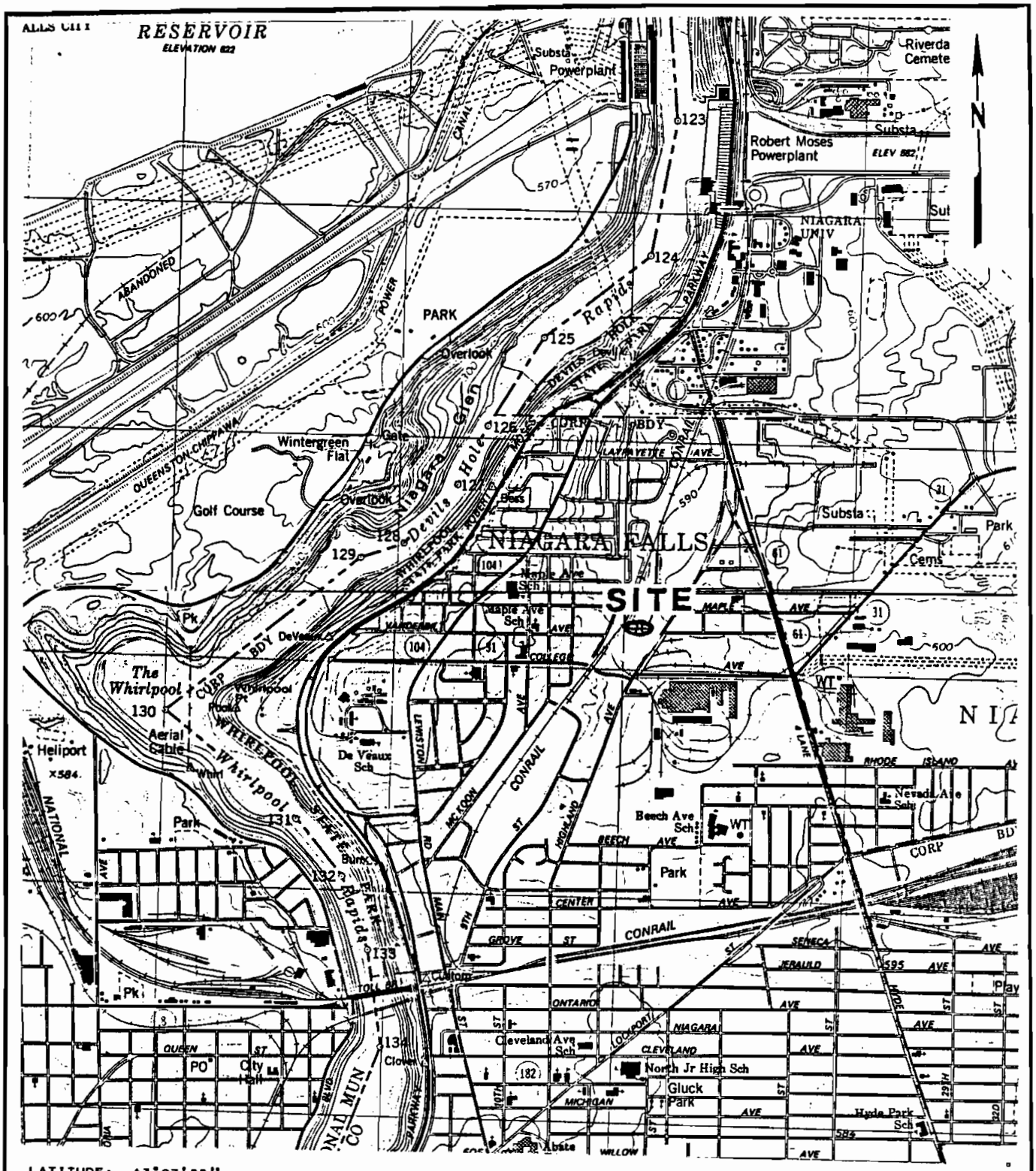
HNu meter readings were taken during the site inspection conducted by ES and D&M in March, 1985. All measurements for volatile organics were less than 1 ppm.

TABLE IV-1

	Sample number and depth land surface (ft)		
	1	2	3
First Sampling (06-30-82)	2.0	8.5	5.0
Inorganic Constitutents			
Cadmium	1,000	2,000	2,000
Chromium	10,000	2,000	3,000
Copper	5,000	3,000	12,000
Iron	13,000	26,000	1,500,000
Lead	10,000	20,000	50
Mercury	----	----	----
Zinc	2,000	200,000	220,000*

Analyses of substrate samples from Chisholm-Ryder, Niagara Falls, NY. Concentrations are in ug/kg (ppb); dashes indicate that constituent or compound was not found.

* Exceeds concentrations in samples taken from undisturbed soils in the Niagara Falls area.



LATITUDE: 43°07'22"
LONGITUDE: 79°02'41"

SCALE

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REFERENCE: U.S.G.S. 7.5' Topographic Map
Niagara Falls, NY-ONT. (1980) and
Lewiston, NY-ONT. (1980) Quadrangles

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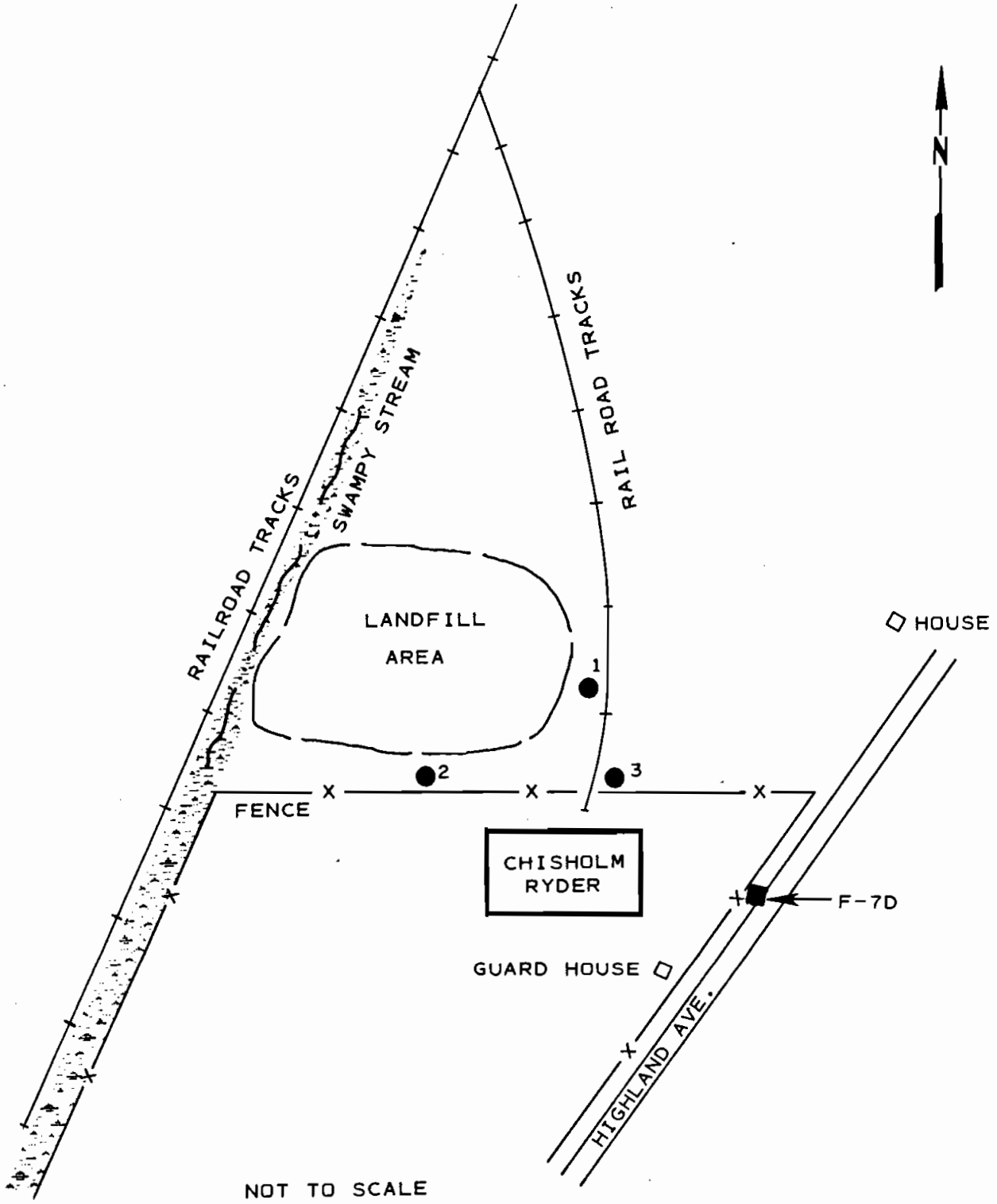
SITE LOCATION MAP
CHISHOLM RYDER

FIGURE IV-1



EXPLANATION:

- ●1 U.S.G.S. TEST BORING AND SUBSTRATE SAMPLE (1982)
- ■ F-7D HYDE PARK LANDFILL STUDY BORING/WELL (EPA)

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PLOT PLAN

CHISHOLM RYDER

FIGURE IV-2

PRELIMINARY APPLICATION OF HAZARD RANKING SYSTEM

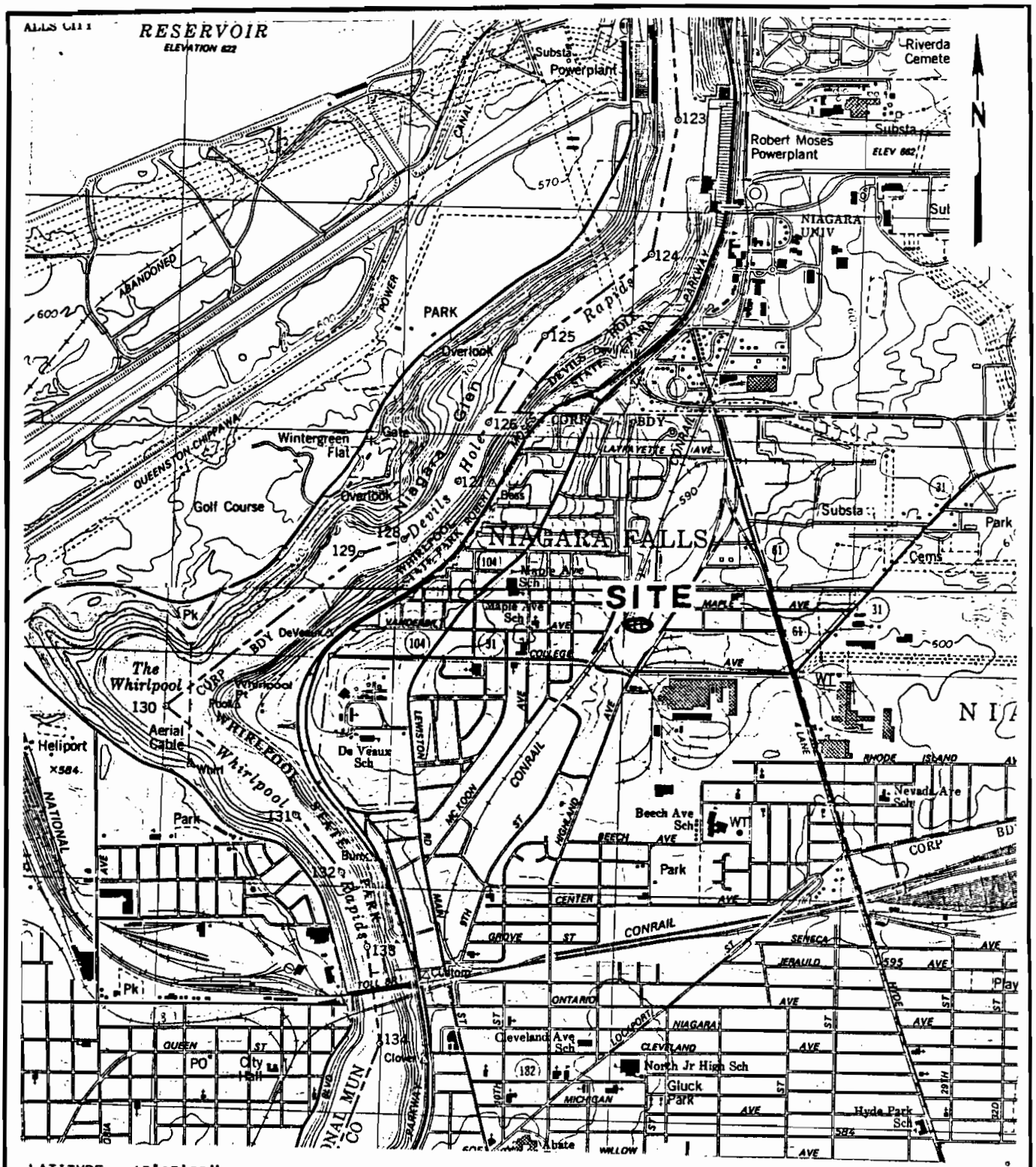
NARRATIVE SUMMARY

The Chisholm-Ryder landfill site, located in Niagara Falls, Niagara County, New York, is adjacent to the plant on a 20 acre parcel of land, of which approximately two (2) acres was used for disposal of plant wastes. The Chisholm-Ryder Company has manufactured food processing and harvesting equipment since approximately 1885.

From the 1940's until 1959, combustible plant wastes (i.e., wood, trash, etc.) were open burned and buried on-site. Plant wastes suspected of being disposed in the landfill include boiler ash, paint filters and residues, water soluble coolants, vapor degreasing solvents and sludges and metallic sludges from the plating operation. In the 1960's, the landfill site was used to dispose of excavation material (Chisholm-Ryder, 1985).

The USGS collected and analyzed soil samples from three borings. High concentrations of heavy metals above background concentrations, were detected. Fourteen priority and fifteen non-priority pollutants were also detected (USGS, 1983). However, the acceptable holding time for the samples collected for organic analyses was exceeded for all of the soil samples collected from the Chisholm Ryder site.

The population within a one mile radius of the closed landfill site is approximately 9,000 people. The closest water supply well, used for drinking and other domestic purposes, is approximately 1/2 mile from the disposal site. An estimated 19 people use groundwater for drinking within 3 miles of the site. HNu meter readings taken during the ES and D&M site inspection (3/20/85) did not detect volatile organics in concentrations in excess of 1 ppm. A contaminant plume identified in the bedrock aquifer in the vicinity of the site has been attributed to the Hyde Park Landfill, one mile northeast of Chisholm-Ryder (Hyde Park Landfill Study, USEPA). In 1979, several drums containing metal turnings and a fiber pack of copper cyanide were removed from the disposal area following an EPA site inspection.



LATITUDE: 43°07'22"
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SCALE

0 1000 2000 3000 4000 FEET

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SITE LOCATION MAP
CHISHOLM RYDER

REFERENCE: U.S.G.S. 7.5' Topographic Map
Niagara Falls, NY-ONT. (1980) and

Facility Name: Chisholm-Ryder

Location: 3800 Highland Ave., Niagara Falls, NY 14305

EPA Region: II

Person(s) in charge of the facility: Mr. William Socha, Plant Manager

Name of Reviewer: S. Robert Steele, II Date: 8 April 1985

General Description of the facility:

Wastes from the Chisholm-Ryder plant were disposed on a two (2) acre site located adjacent to the plant site. General plant refuse was burned and buried on-site. Other wastes suspected of being disposed on-site include plating sludge, degreasing solvents and sludge, paint residues and filters, boiler ash, and water soluble coolants. In the 1960's, construction debris (i.e., ash, cinder, rubble, brick, etc.) from the construction of power project tunnels was used as landfill cover.

Scores: $S_M = 10.88$ ($S_{gw} = 17.58$ $S_{sw} = 6.71$ $S_a = 0$)

$S_{FE} = 0$

$S_{DC} = 0$

Facility Name: Chisholm - Ryder Date: 4/8/85

Ground Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
[1] Observed Release	0 45	1	0	45	3.1
If observed release is given a score of 45, proceed to line [4]. If observed release is given a score of 0, proceed to line [2].					
[2] Route Characteristics					3.2
Depth to Aquifer of Concern	0 1 2 3	(2)	6	6	
Net Precipitation	0 1 (2) 3	1	2	3	
Permeability of the Unsaturated Zone	0 (1) 2 3	1	1	3	
Physical State	0 1 2 (3)	1	3	3	
Total Route Characteristics Score			12	15	
[3] Containment	0 1 2 (3)	1	3	3	3.3
[4] Waste Characteristics					3.4
Toxicity/Persistence	0 3 6 9 12 15 (18)	1	18	18	
Hazardous Waste Quantity	0 1 (2) 3 4 5 6 7 8	1	2	8	
Total Waste Characteristics Score			20	26	
[5] Targets					3.5
Ground Water Use	0 1 (2) 3	3	6	9	
Distance to Nearest Well/Population Served	0 4 6 (8) 10 12 16 18 20 24 30 32 35 40	1	8	40	
Total Targets Score			14	49	
[6] If line [1] is 45, multiply [1] x [4] x [5]. If line [1] is 0, multiply [2] x [3] x [4] x [5]			10080	57,330	
[7] Divide line [6] by 57,330 and multiply by 100			S_{gw} = 17.58		

GROUND WATER ROUTE WORK SHEET

Surface Water Route Work Sheet

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	Ref. (Sect.
1 Observed Release	(0) 45	1	0	45	4.
If observed release is given a value of 45, proceed to line 4. If observed release is given a value of 0, proceed to line 2.					
2 Route Characteristics					4.:
Facility Slope and Intervening Terrain	0 (1) 2 3	1	1	3	
1-yr. 24-hr. Rainfall	0 1 (2) 3	1	2	3	
Distance to Nearest Surface Water	0 1 2 (3)	2	6	6	
Physical State	0 1 2 (3)	1	3	3	
Total Route Characteristics Score			12	15	
3 Containment	0 1 2 (3)	1	3	3	4.:
4 Waste Characteristics					4..
Toxicity/Persistence	0 3 6 9 12 15 [18]	1	18	18	
Hazardous Waste Quantity	0 1 [2] 3 4 5 6 7 8	1	2	8	
Total Waste Characteristics Score			20	26	
5 Targets					4.:
Surface Water Use	0 1 (2) 3	3	6	9	
Distance to a Sensitive Environment	(0) 1 2 3	2	0	6	
Population Served/Distance to Water Intake Downstream	(0) 4 6 8 10 12 16 18 20 24 30 32 35 40	1	0	40	
Total Targets Score			6	55	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			4320	64,350	
7 Divide line 6 by 64,350 and multiply by 100		S_{sw} =	6.71		

Air Route Work Sheet

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	Ref (Sect
1 Observed Release	0 45	1	0	45	5.1
Date and Location:	Chisholm-Ryder landfill site, 3/20/85				
Sampling Protocol:	HNU METER READINGS				

If line 1 is 0, the S_a = 0. Enter on line 5.
If line 1 is 45, then proceed to line 2.

2 Waste Characteristics					Ref
Reactivity and Incompatibility	(0) 1 2 3	1	0	3	5.2
Toxicity	[0] 1 2 3	3	0	9	
Hazardous Waste Quantity	[0] 1 2 3 4 5 6 7 8	1	0	8	
Total Waste Characteristics Score			0	20	

3 Targets					Ref
Population Within 4-Mile Radius	0 9 12 15 18 (21) 24 27 30	1	21	30	5.3
Distance to Sensitive Environment	(0) 1 2 3	2		6	
Land Use	0 1 2 (3)	1	3	3	
Total Targets Score			24	39	

4 Multiply 1 x 2 x 3			35,100
5 Divide line 4 by 35,100 and multiply by 100	S_a =	0	

Facility Name: Chisholm Ryder Date: 4/8/85

Worksheet for Computing S_M

	S	S^2
Groundwater Route Score (S_{gw})	17.58	309.06
Surface Water Route Score (S_{sw})	6.71	45.62
Air Route Score (S_a)	0.	0
$S_{gw}^2 + S_{sw}^2 + S_a^2$		354.08
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		18.82
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$		10.88

WORK SHEET FOR COMPUTING S_M

Facility Name: Chisholm - Ryder Date: 4/8/85

Fire and Explosion Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	Ref. (Section)
1 Containment	1 3	1	0	3	7.1
2 Waste Characteristics					7.2
Direct Evidence	0 3	1		3	
Ignitability	0 1 2 3	1		3	
Reactivity	0 1 2 3	1		3	
Incompatibility	0 1 2 3	1		3	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
Total Waste Characteristics Score				20	
3 Targets					7.3
Distance to Nearest Population	0 1 2 3 4 5	1		5	
Distance to Nearest Building	0 1 2 3	1		3	
Distance to Sensitive Environment	0 1 2 3	1		3	
Land Use	0 1 2 3	1		3	
Population Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Buildings Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Total Targets Score				24	
4 Multiply 1 x 2 x 3				1,440	
5 Divide line 4 by 1,440 and multiply by 100			S_{FE} = 0		

FIRE AND EXPLOSION WORK SHEET

Facility Name: Chisholm-Ryder Date: 4/8/85

Direct Contact Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Incident	(0) 45	1	0	45	8.1
If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2					
2 Accessibility	0 1 2 (3)	1	3	3	8.2
3 Containment	(0) 15	1	0		8.3
4 Waste Characteristics Toxicity	(0) 1 2 3	5	0	15	8.4
5 Targets					8.5
Population Within 1-Mile Radius	0 1 2 (3) 4 5	4	12	20	
Distance to a Critical Habitat	0 (1) 2 3	4	4	12	
Total Targets Score			16	32	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			0	21,600	
7 Divide line 6 by 21,600 and multiply by 100			S_{DC} = 0		

DIRECT CONTACT WORK SHEET

DOCUMENTATION RECORDS
FOR
HAZARD RANKING SYSTEM

FACILITY NAME: Chisholm-Ryder

LOCATION: College Ave. at Highland Ave., Niagara Falls, Niagara Co., NY

GROUNDWATER ROUTE

1. OBSERVED RELEASE

Contaminants detected (5 maximum):

No groundwater samples analyzed for contamination (NYSDEC Registry Sheet, 12/83)

Rationale for attributing the contaminants to the facility:

Not applicable.

* * *

2. ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifer(s) in concern:

Bedrock aquifer is Lockport Dolomite (USGS Draft Report, 1982 and Hyde Park Landfill Study, 1984)

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

Approximately 10' to top of rock (USGS Boring Logs, 1982).

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

Less than 10' (ES and D&M site inspection, 3/20/85).

Net Precipitation

Mean annual or seasonal precipitation (list months for seasonal):

Mean annual precipitation is 36" (Climatic Atlas of the United States, USDOC, National Climatic Center, 1979).

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

Mean annual lake evaporation is 27" (Climatic Atlas of the United States, USDOC, National Climatic Center, 1979).

Net precipitation (subtract the above figures):

9" (36" - 27" = 9")

Permeability of Unsaturated Zone

Soil type in unsaturated zone:

Fill and topsoil underlain by lacustrine silts and clays (USGS Draft Report, 1982).

Permeability associated with soil type

$< 10^{-5}$ $> 10^{-7}$ cm/sec (Freeze, R.A., and J.A. Cherry, Groundwater, 1979).

Physical State

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

Liquid, solid (NYSDEC Registry Sheet, 12/83).

3. CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Wastes were disposed of in on-site landfill and drummed wastes were stored on-site (Interview of Chisholm-Ryder Employee During ES and D&M Site Visit, 3/20/85).

Method with highest socre:

Landfill is closed and does not have an adequate cover system (Interview of Chisholm-Ryder Employee During ES and D&M Site Visit, 3/20/85).

4. WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

Plating wastes (tin, cadmium, copper)
Degreasing solvents (type unknown)
Cutting oils
(Site inspection, interview of Chisholm-Ryder employees, 3/20/85, and NYSDEC Registry Sheet, 1983)

Compound with highest socre:

Plating wastes toxicity = 3, persistence = 3.

Hazardous Waste Quantity

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

35 cubic yards of plating wastes = 2. Interview with Chisholm-Ryder employee during site inspection conducted by ES and D&M, 3/20/85).

Basis of estimating and/or computing waste quantity:

Sludges removed from plating tanks including cadmium, tin, copper from about 1940 to 1959. An estimated 6 inches of sludge were removed from each tank every year. (Interview with Chisholm-Ryder employees during site inspection conducted by ES and D&M, 3/20/85).

5. TARGETS

Groundwater Use

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

Five residences have private well water supplies (Hopkins, 10/85); however, municipal water supply source is available.

DISTANCE TO NEAREST WELL

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

West of site within 1/2 mile of the Witmer Road Phase I study area (Hopkins, 10/85). Site map is provided in the appendix indicating the location of the Witmer Road site (Map is Attached to Hopkins Interview Form).

Distance to above well or building:

Approximately 1/2 mile.

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

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

Five private residences with 3.8 people estimated per house = 19 people (Hopkins, 10/85).

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

None (Johnston, 1964).

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

19 people.

SURFACE WATER ROUTE

1. OBSERVED RELEASE

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

Surface water not analyzed for contamination (NYSDEC Registry Sheet, 12/83).

Rationale for attributing the contaminants to the facility:

Not applicable.

2. ROUTE CHARACTERISTICS

(USGS Topographic Maps, Lewiston, NY and Niagara Falls, NY-ONT, 1980 Quadrangles)

Facility Slope and Intervening Terrain

Average slope of facility in percent:

0.0%

Name/description of nearest downslope surface water:

Small swampy stream to west of site (ES/D&M Site Inspection, 1985).

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

Approximately 4%.

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

No.

Is the facility completely surrounded by areas of higher elevation?

No.

1-Year 24-Hour Rainfall in Inches

2.1" (USDOC Technical Paper No. 40)

Distance to Nearest Downslope Surface Water

Approximately 25 feet.

Physical State of Waste

Solid, liquid (NYSDEC Registry Sheet, 12/83).

3. CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Wastes were disposed of in on-site landfill and drummed wastes were stored on-site (Interview of Chisholm-Ryder Employee During ES and D&M Site Inspection, 3/20/85).

Method with highest score:

Landfill not adequate covered (closed) and no diversion system present (Interview of Chisholm-Ryder Employee During ES and D&M Site Inspection, 3/20/85).

4. WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated

Plating wastes (tin, cadmium, copper)
Degreasing solvents
cutting oils

Compound with highest score:

Plating wastes. Suspected based on samples collected by USGS and no detailed information indicating where plant wastes were disposed.

Hazardous Waste Quantity

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

35 cubic yards of plating wastes (suspected).

Basis of estimating and/or computing waste quantity:

Sludges removed from plating tanks including tin, cadmium, copper, from about 1940 to 1959. An estimated 6 inches of sludge were removed each year (interview with Chisholm-Ryder employee during site inspection conducted by ES and D&M, 3/20/85).

* * *

5. TARGETS

(USGS Topographic Maps: Lewiston, NY and Niagara Falls, NY-ONT Quadrangles)

Surface Water Use

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

Scenic value and tourism
Recreation
Discharge from power plants

Is there tidal influence?

No.

Distance to a Sensitive Environment

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

None within 2 miles (western NYS not a coastal area).

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

None within 1 mile (NYS Wetlands Maps)

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

None within 1 mile (NYSDEC Region 9 Division of Fish & Wildlife Files)

Population Served by Surface Water

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

None within specificed area (NYS Atlas of Community Water System Sources, 1982).

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

0.0

Total population served:

0.0

Name/description of nearest of above water bodies:

Not applicable.

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

Not applicable.

AIR ROUTE

1. OBSERVED RELEASE

Contaminants detected:

HNU meter readings were taken during the site inspection conducted by ES and D&M, 3/20/85.

Date and location of detection of contaminants:

No volatile organics were detected.

Methods used to detect the contaminants:

HNU meter readings.

Rationale for attributing the contaminants to the site:

Not applicable.

* * *

2. WASTE CHARACTERISTICS

Reactivity and Incompatibility

Most reactive compound:

No known reactive compounds.

Most incompatible pair of compounds:

No known incompatible compounds.

Toxicity

Most toxic compound:

Spent solvents from degreasing operations were allegedly disposed on-site. The type of solvent is unknown. For purposes of rating the site, a score of zero is used because documentation does not exist. Heavy metals are not scored because they do not have a potential of entering the air pathway.

Hazardous Waste Quantity

Total quantity of hazardous waste:

The quantity of waste is scored as zero.

Basis of estimating and/or computing waste quantity:

The quantity of solvent disposed on-site is unknown. The estimated quantity of sludge disposed on-site (35 cubic yards) can not be used because heavy metals do not have the potential for entering the air pathway.

* * *

3. TARGETS

Population Within 4-Mile Radius

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

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

66,222 people (compiled from 1980 U.S. Bureau of the Census Data)

Distance to a Sensitive Environment

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

Greater than 2 miles (western NYS is not a coastal area).

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

None within 1 mile (NYS Wetlands Maps).

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

None within 1 mile (NYS Wetlands Maps).

Land Use

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

Adjacent (ES and D&M site inspection, 3/20/85).

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

1/2 mile to Whirlpool State Park (USGS Topographic Maps: Lewiston, NY-ONT, Niagara Falls, NY).

Distance to residential area, if 2 miles or less:

Adjacent (ES and D&M site inspection, 3/20/85).

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

More than 1 mile (USGS Topographic Map: Lewiston, NY-ONT, Niagara Falls, NY).

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

More than 2 miles.

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

No.

FIRE AND EXPLOSION

1. CONTAINMENT

Hazardous substances present:

No records were found during the Phase I investigation which indicate that a past or present fire and explosion hazard exists at the site.

Type of containment, if applicable:

* * *

2. WASTE CHARACTERISTICS

Direct Evidence

Type of instrument and measurements:

No measurements were taken to determine the potential for a fire or explosion on-site.

Ignitability

Compound used:

No ignitable compounds are known to exist on-site.

Reactivity

Most reactive compound:

No reactive compounds are known to exist on-site.

Incompatibility

Most incompatible pair of compounds:

No incompatible compounds are known to exist on-site.

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility:

Spent solvents from degreasing operation are suspected to be on-site. However, the material would be buried and pose no fire or explosion threat.

Basis of estimating and/or computing waste quantity:

Not applicable.

* * *

3. TARGETS

Distance to Nearest Population

0.0 mile, residential area is located adjacent to the site (ES and D&M Site Investigation, 3/20/85).

Distance to Nearest Building

Approximately 200 feet from the landfill to the Chisholm-Ryder Plant building (ES and D&M Site Investigation, 3/20/85).

Distance to Sensitive Environment

Distance to wetlands:

None within 1 mile (NYS Wetlands Maps).

Distance to critical habitat:

None within 1 mile (NYSDEC, Region 9, Division of Fish and Wildlife).

Land Use

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

Adjacent to the plant site (ES and D&M Site Investigation, 3/20/85).

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

1/2 mile to Whirlpool State Park (USGS Topographic Maps: Lewiston, NY-ONT, Niagara Falls, NY).

Distance to residential area, if 2 miles or less:

Adjacent to the site (ES and D&M Site Investigation, 3/20/85).

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

More than 1 mile (USGS Topographic Maps: Lewiston, NY-ONT, Niagara Falls, NY).

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

More than 2 miles (USGS Topographic Maps: Lewiston, NY-ONT, Niagara Falls, NY).

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

No.

Population with 2-Mile Radius

28,897 people (US Census Data, 1980).

Buildings Within 2-Mile Radius

7,605 buildings (USGS Topographic Maps: Lewiston, NY-ONT, Niagara Falls, NY).

DIRECT CONTACT

1. OBSERVED INCIDENT

Date, location, and pertinent details of incident:

Based on information collected during the conduct of the Phase I study, no direct contact incident has occurred at this site.

* * *

2. ACCESSIBILITY

Describe type of barrier(s):

Barriers do not completely surround the site - 3.

* * *

3. CONTAINMENT

Type of containment, if applicable:

Fill dirt and construction material has been landfilled on-site over the area where plant wastes are suspected to be. Therefore, hazardous substances are not accessible to direct contact.

* * *

4. WASTE CHARACTERISTICS

Toxicity

Compounds evaluated:

Plating wastes (tin, cadmium, copper), Degreasing Solvents, and cutting oils are suspected to be on-site. However, these materials are covered with fill and there is no potential for direct contact.

Compound with highest score:

Plating wastes. Suspected based on samples collected by USGS and no detailed information indicating where plant wastes were disposed. For HRS scoring purposes, the score is zero for toxicity because the wastes are not accessible for direct contact.

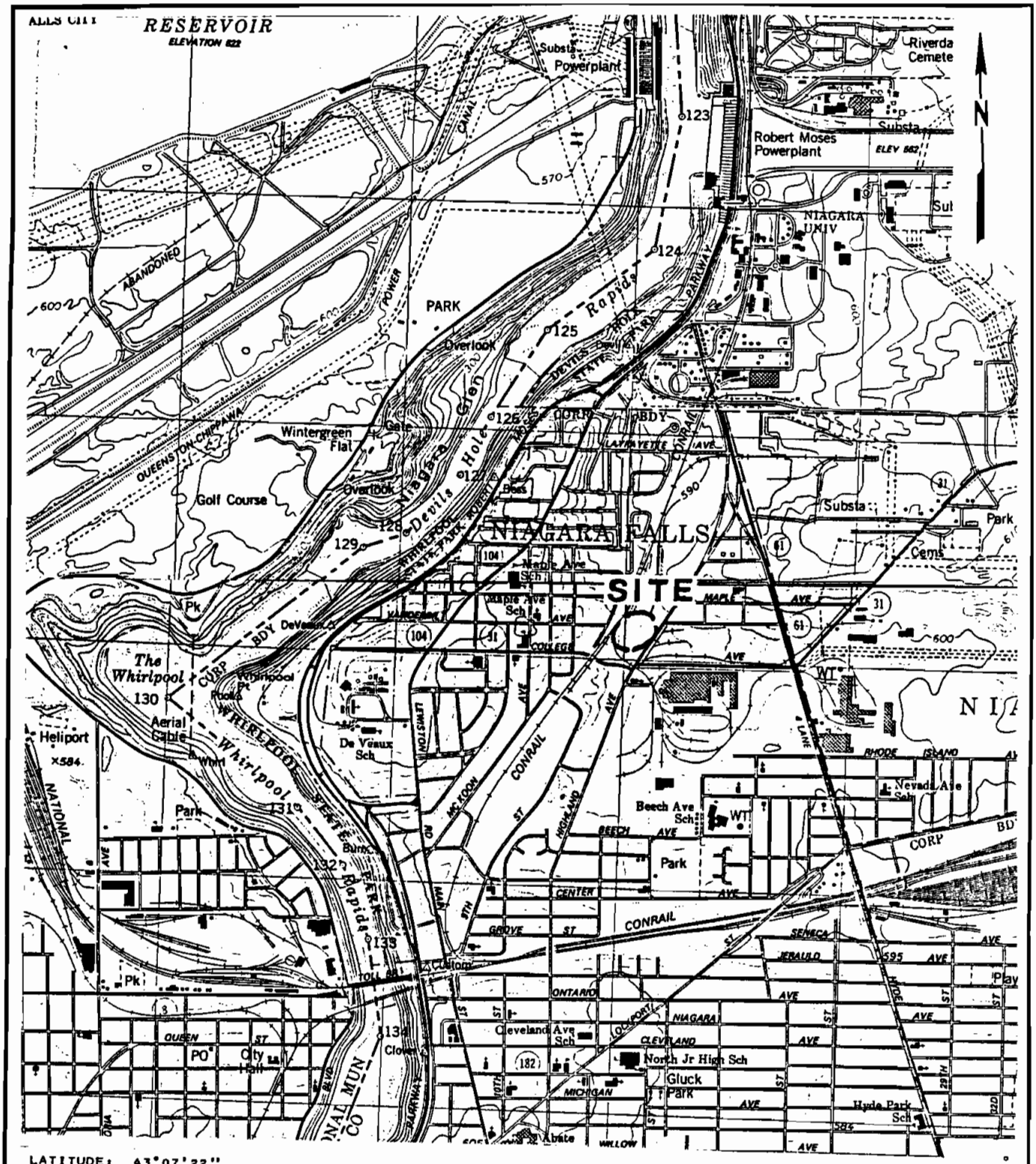
5. TARGETS

Population within one-mile radius

8,972 (US Census Data, 1980).

Distance to critical habitat (of endangered species)

None within one mile (NYSDEC, Region 9).



LATITUDE: 43°07'22"
LONGITUDE: 79°02'41"

SCALE

0 1000 2000 3000 4000 FEET

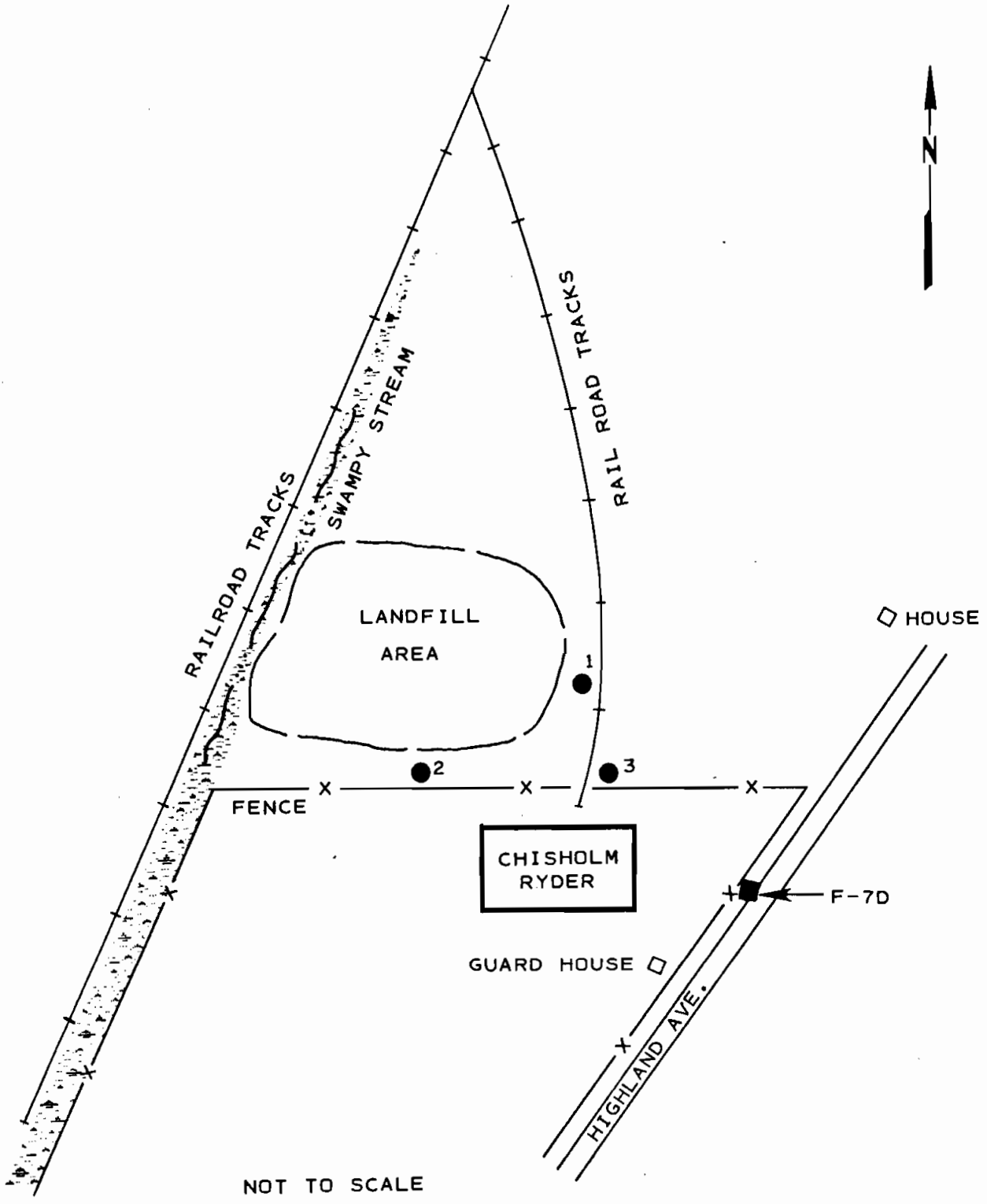
REFERENCE: U.S.G.S. 7.5' Topographic Map
Niagara Falls, NY-ONT. (1980) and
Lewiston, NY-ONT. (1980) Quadrangles

ENGINEERING-SCIENCE, INC.
IN ASSOCIATION WITH
DAMES & MOORE

NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION
PHASE I REPORT

SITE LOCATION MAP
CHISHOLM RYDER

FIGURE iv-1



EXPLANATION:

- ● 1 — U.S.G.S. TEST BORING AND SUBSTRATE SAMPLE (1982)
- ■ F-7D — HYDE PARK LANDFILL STUDY BORING/WELL(EPA)

ENGINEERING-SCIENCE, INC.
IN ASSOCIATION WITH
DAMES & MOORE

NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION
PHASE I REPORT

PLOT PLAN

CHISHOLM RYDER

FIGURE iv-2

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

EPA

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: D 002106656

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
Chisholm Ryder Company, Inc.	3800 Highland Avenue				
03 CITY	**04 STATE**	**05 ZIP CODE**	**06 COUNTY**	**07 COUNTY CODE**	**08 CONG DIST**
Niagara Falls	NY	14305	Niagara		
09 COORDINATES LATITUDE: 43° 07' 22"	LONGITUDE: 79° 02' 41"				

10 DIRECTIONS TO SITE (Starting from nearest public road)

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)			
Chisholm Ryder Company Inc	3800 Highland Avenue			
03 CITY	**04 STATE**	**05 ZIP CODE**	**06 TELEPHONE NUMBER**	
Niagara FALLS	NY	14305	(716) 285-9186	
07 OPERATOR (If known and different from owner)	**08 STREET** (Business, mailing, residential)			
(SAME)				
09 CITY	**10 STATE**	**11 ZIP CODE**	**12 TELEPHONE NUMBER**	
			( )	

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

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)
☐ A. RCRA 3001 DATE RECEIVED: ___/___/___ (MONTH DAY YEAR) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: ___/___/___ (MONTH DAY YEAR) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
☑ YES ☐ NO DATE 8/27/79 (MONTH DAY YEAR)
10/14/80

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

02 SITE STATUS (Check one)
☐ A. ACTIVE ☑ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION
1940's (BEGINNING YEAR) | 1960's (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
From the 1940's until approximately 1959, ash from the burning of plant refuse was disposed in the landfill. Other wastes suspected of being disposed on-site include paint, degreasing and plating wastes.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
Soil samples collected by the USGS during 1982-3 found elevated levels of heavy metals and priority and nonpriority organic pollutants were detected.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)
☐ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☑ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)		03 TELEPHONE NUMBER	
S. Robert STEELE II	Engineering - Science (ES)		(703) 591-7575	
04 PERSON RESPONSIBLE FOR ASSESSMENT	**05 AGENCY**	**06 ORGANIZATION**	**07 TELEPHONE NUMBER**	**08 DATE**
S. Robert STEELE II	ES	ES	(703) 591-7575	3/8/85 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	000210655

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

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

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

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

03 WASTE CHARACTERISTICS (Check all that apply)

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

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			Ash from the burning of Plant
OLW	OILY WASTE	UNKNOWN		Refuse was disposed in landfill.
SOL	SOLVENTS			Wastes suspected of being
PSD	PESTICIDES			disposed in landfill include
OCC	OTHER ORGANIC CHEMICALS			paint wastes, plating wastes,
IOC	INORGANIC CHEMICALS			degreasing solvents, boiler ash
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

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

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
MES	Cadmium	7440-43-9	LF	1-2	ppm
MES	Chromium	7440-47-3	LF	2-10	ppm
MES	Copper	7440-50-8	LF	3-12	ppm
MES	Lead	7439-92-1	LF	10-20	ppm
MES	Zinc	7440-66-6	LF	2-220	ppm
	Cyanide (suspected)	57-12-5	LF		

V. FEEDSTOCKS (See Appendix for CAS Numbers)

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

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

NIAGARA County Health Department, Preliminary Investigation and Profile Report, March 1982

DRAFT, Niagara River Toxics Study, 1985 (USGS DATA)

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	000210665 6

II. HAZARDOUS CONDITIONS AND INCIDENTS

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

Due to unlined landfill

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

Due to leachate seepage from landfill

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

NO.

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

NO

01 ☒ E. DIRECT CONTACT — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: unknown — 04 NARRATIVE DESCRIPTION

Yes

01 ☑ F. CONTAMINATION OF SOIL — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: 4 (Acres) — 04 NARRATIVE DESCRIPTION

U.S Geological Survey collected and analyzed soil samples. Zinc contrations for two samples exceeded background concentration. Several organics constituents (priority and non priority pollutants) were detected in low concentrations.

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

NO

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

NO

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

NO

EPA

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

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: 000210656

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

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

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)
UNKnown

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

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES (Spills/runoff/standing liquids/leaking drums) — 02 ☒ OBSERVED (DATE: 1985) ☐ POTENTIAL ☒ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: unknown — 04 NARRATIVE DESCRIPTION
UNLINED Landfill

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
NO

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
NO

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
NO

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS
NO

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS
The drums containing metal turnings, speedy-dry with oil, copper cyanide were removed off-site following an EPA site inspection conducted in August, 1979.

V. SOURCES OF INFORMATION (Cite specific references, e. g., state files, sample analysis, reports)
U.S Geological Survey, DRAFT Niagara River Toxics Study, 1983
Niagara County Health Department, Preliminary Investigation and Profile Report, March 1982.

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

EPA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D002196656

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Chisholm Ryder Company, Inc	3800 Highland Avenue

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Niagara Falls	NY	14305	Niagara		

09 COORDINATES		10 TYPE OF OWNERSHIP (Check one)
LATITUDE	LONGITUDE	☒ A. PRIVATE ☐ B. FEDERAL _____ ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL ☐ F. OTHER _____ ☐ G. UNKNOWN
43° 07' 22"	78° 52' 41"	

III. INSPECTION INFORMATION

01 DATE OF INSPECTION	02 SITE STATUS	03 YEARS OF OPERATION
3 / 20 / 85 (MONTH DAY YEAR)	☐ ACTIVE ☒ INACTIVE	_____ BEGINNING YEAR _____ ENDING YEAR ___ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)

☐ A. EPA ☐ B. EPA CONTRACTOR Engineering-Science (Name of firm) ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR _____ (Name of firm)
☐ E. STATE ☒ F. STATE CONTRACTOR Dames & Moore (Name of firm) ☐ G. OTHER _____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
S Robert STEELE II	Environmental Scientist	ES	(703) 591-7575
09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
Eileen Milligan	Geologist	Dames & Moore	(315) 638-2572
			( )
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
Mr William Socha	Plant Manager	3800 Highland Avenue Niagara Falls, NY 14305	(716) 285-9185
Mr Herb Wendt	Maint. Mngr	" "	( ) "
Mr Jay Freeier	Env. Engr.	" "	( ) "
			( )
			( )
			( )

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

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
S. Robert STEELE, II	Engineering-Science (ES)	(703) 591-7575

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
S. Robert STEELE, II		ES	(703) 591-7575	3 / 20 / 85 (MONTH DAY YEAR)

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	000210665

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

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

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

TONS:
CUBIC YARDS: UNKNOWN
NO. OF DRUMS:

03 WASTE CHARACTERISTICS (Check all that apply)

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

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			Ash from the burning of Plant
OLW	OILY WASTE	UNKNOWN		Refuse was disposed in landfill.
SOL	SOLVENTS			Wastes suspected of being
PSD	PESTICIDES			disposed in landfill include
OCC	OTHER ORGANIC CHEMICALS			paint wastes, plating wastes,
IOC	INORGANIC CHEMICALS			degreasing solids, boiler ash
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

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

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
MES	Cadmium	7440-43-9	LF	1-2	ppm
MES	Chromium	7440-47-3	LF	2-10	ppm
MES	Copper	7440-50-8	LF	3-12	ppm
MES	Lead	7439-92-1	LF	10-20	ppm
MES	Zinc	7440-66-6	LF	2-220	ppm
	Cyanide (suspected)	57-12-5	LF		

V. FEEDSTOCKS (See Appendix for CAS Numbers)

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

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

NIAGARA County Health Department, Preliminary Investigation and Profile Report, March 1982

DRAFT, Niagara River Toxics Study, 1985 (USGS DATA)

EPA

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

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: 000210665 6

II. HAZARDOUS CONDITIONS AND INCIDENTS

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

Due to unlined landfill

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

Due to leachate seepage from landfill

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

NO.

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

NO

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

NO

01 ☒ F. CONTAMINATION OF SOIL
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: 4 (Acres)
04 NARRATIVE DESCRIPTION

U.S Geological Survey collected and analyzed soil samples. Zinc contrations for two samples exceeded background concentration. Several organics constituents (priority and non priority pollutants) were detected in low concentrations.

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

NO

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

NO

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

NO

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	000210665 6

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

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

UNKNOWN

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

UNKNOWN

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

UNKNOWN

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

UNLINED LANDFILL

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

NO

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

NO

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

NO

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

NO

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

The drums containing metal turnings, sparky-dry with oil, copper cyanide were removed off-site following an EPA Site Inspection conducted in August, 1979.

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

U.S Geological Survey, DRAFT Niagara River Toxics Study, 1983
Niagara County Health Department, Preliminary Investigation and Profile Report, March 1982.

EPA FORM 2070-12 (7-81)

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D 002106655

II. PERMIT INFORMATION

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

III. SITE DESCRIPTION

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

04 TREATMENT (Check all that apply)

- ☐ A. INCENERATION
- ☐ B. UNDERGROUND INJECTION
- ☐ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☐ H. OTHER (Specify)

05 OTHER

- ☑ A. BUILDINGS ON SITE

06 AREA OF SITE

Approx 2 (Acres)

07 COMMENTS

Vacant land adjacent to the Chisholm Ryder plant site was used to dispose of combustible plant wastes(wood, refuse ect). Other wastes suspected of being disposed in the landfill include paint wastes, degreasing solvents and sludges and waste plating sludges.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

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

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

Plant wastes were placed into the unlined landfill. The landfill site was covered with construction desris and fill excavated from the construction of power project tunnels.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☒ YES ☐ NO

02 COMMENTS

The inactive landfill is outside the confines of the plant and no fense is in place to restrict unauthorized access.

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

Interview with Chisholm-Ryder employee, Mr Socha, 3/8/85

Interview with Chisholm-Ryder employee, Mr. Hens Wendt during ES and O&M site inspection, 3/20/85

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

EPA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D002106656

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)	SURFACE	WELL	02 STATUS ENDANGERED	AFFECTED	MONITORED	03 DISTANCE TO SITE
COMMUNITY	A. [X]	B. ☐	A. ☐	B. ☐	C. ☐	A. > 3 (mi)
NON-COMMUNITY	C. ☐	D. ☐	D. ☐	E. ☐	F. ☐	B. _____ (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

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

02 POPULATION SERVED BY GROUND WATER 5 X 3.8 = 19

03 DISTANCE TO NEAREST DRINKING WATER WELL N/A (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
10 (ft)	SW	~70 (ft)	UNKNOWN (gpd)	☐ YES [X] NO

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

ONE industrial well (used during the 1960's) is located south of the Chisholm Ryder site. Five private residents are on well water and alternate water source is available. Also, numerous observation wells for DASNY project and Hyde Park Landfill are in the area

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

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

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

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Niagara River	☐	1.0 (mi)
Small unnamed stream	☐	25 feet ~~(mi)~~
	☐	_____ (mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. 8,972 NO. OF PERSONS	B. 28,897 NO. OF PERSONS	C. 51,745 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION: 0.0 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE	04 DISTANCE TO NEAREST OFF-SITE BUILDING
7,605	0.0 (mi)

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

Site is in industrial section of northern Niagara Falls and is adjacent to a older urban Neighborhood

EPA

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

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: D002106656

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. $10^{-6} - 10^{-8}$ cm/sec ☒ B. $10^{-4} - 10^{-6}$ cm/sec ☐ C. $10^{-4} - 10^{-3}$ cm/sec ☐ D. GREATER THAN 10^{-3} cm/sec

02 BEDROCK (Check one) LOCKPORT DOLOMITE

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

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH	
10 (ft)	unknown (ft)	unknown	

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
9 (in)	2.1 (in)	0.0 %	W	~4.0 %

09 FLOOD POTENTIAL
SITE IS IN >500 YEAR FLOODPLAIN

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

11 DISTANCE TO WETLANDS (5 acre minimum)
ESTUARINE: A. >2 (mi) OTHER: B. >1 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)
MIGRATORY BIRDS >1 (mi)
ENDANGERED SPECIES: HALIAEETUS LEUCOCEPH AQUILA CHRYSAETOS FALCO PEREGRENES

13 LAND USE IN VICINITY

DISTANCE TO:	COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AG LAND
	A. 0.1 (mi)	B. 0.0 (mi)	C. (mi)	D. >1.0 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

Disposal site is low mound bordered by level plant property to the south and low-lying RR tracks to the NE - NW.

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

Site visit (1985)
Location (1964)
USGS topo sheets
Hyde Park Landfill Study document 1984

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D002106656

II. SAMPLES TAKEN

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

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
HNU	Readings taken in the vicinity of the landfill site during the ES and OEM site inspection did not detect volitile organics in concentration above 1 ppm

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☒ GROUND ☐ AERIAL

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

03 MAPS ☒ YES ☐ NO

04 LOCATION OF MAPS

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

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

Site inspection conducted by ES and OEM, 3/20/85

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D002106656

II. CURRENT OWNER(S) / PARENT COMPANY (If applicable)

Current Owner(s)			Parent Company (If applicable)		
01 NAME: Chisholm Ryder Company Inc.	02 D+B NUMBER:		08 NAME: Not Applicable	09 D+B NUMBER:	
03 STREET ADDRESS (P.O. Box, RFD #, etc.): 3800 Higland Avenue	04 SIC CODE:		10 STREET ADDRESS (P.O. Box, RFD #, etc.):	11 SIC CODE:	
05 CITY: Niagara Falls	06 STATE: NY	07 ZIP CODE: 14305	12 CITY:	13 STATE:	14 ZIP CODE:
01 NAME:	02 D+B NUMBER:		08 NAME:	09 D+B NUMBER:	
03 STREET ADDRESS (P.O. Box, RFD #, etc.):	04 SIC CODE:		10 STREET ADDRESS (P.O. Box, RFD #, etc.):	11 SIC CODE:	
05 CITY:	06 STATE:	07 ZIP CODE:	12 CITY:	13 STATE:	14 ZIP CODE:
01 NAME:	02 D+B NUMBER:		08 NAME:	09 D+B NUMBER:	
03 STREET ADDRESS (P.O. Box, RFD #, etc.):	04 SIC CODE:		10 STREET ADDRESS (P.O. Box, RFD #, etc.):	11 SIC CODE:	
05 CITY:	06 STATE:	07 ZIP CODE:	12 CITY:	13 STATE:	14 ZIP CODE:
01 NAME:	02 D+B NUMBER:		08 NAME:	09 D+B NUMBER:	
03 STREET ADDRESS (P.O. Box, RFD #, etc.):	04 SIC CODE:		10 STREET ADDRESS (P.O. Box, RFD #, etc.):	11 SIC CODE:	
05 CITY:	06 STATE:	07 ZIP CODE:	12 CITY:	13 STATE:	14 ZIP CODE:

III. PREVIOUS OWNER(S) (List most recent first) / IV. REALTY OWNER(S) (If applicable; list most recent first)

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

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

Interview of Chisholm-Ryder employee, 3/8/85.

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D002106656

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME	02 D+B NUMBER
Chisholm Ryder Company Inc	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
3800 Highland Avenue	

05 CITY	06 STATE	07 ZIP CODE
Niagara Falls	NY	14305

08 YEARS OF OPERATION	09 NAME OF OWNER
1895 - 1985	SAME

OPERATOR'S PARENT COMPANY (If applicable)

10 NAME	11 D+B NUMBER
Not Applicable	

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)

01 NAME	02 D+B NUMBER
UNKNOWN	

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

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

01 NAME	02 D+B NUMBER

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

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

01 NAME	02 D+B NUMBER

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

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

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

Interview with Chisholm Ryder employee, Mr. Socha, 3/18/85

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	000210656

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
Chisholm-Ryder	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
3800 Highland Ave	

05 CITY	06 STATE	07 ZIP CODE
Niagara Falls	NY	14305

Presently, all hazardous waste generated on-site are either recycled or contract hauled off-site for disposal.

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
NONE			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
NONE			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

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

Interview with Chisholm-Ryder employee, Mr Jay Freer, 3/8/85.

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	ID 002106656

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: NO

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: NO

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: NO

01 ☐ D. SPILLED MATERIAL REMOVED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: NO

01 ☐ E. CONTAMINATED SOIL REMOVED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: NO

01 ☐ F. WASTE REPACKAGED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: NO

01 ☐ G. WASTE DISPOSED ELSEWHERE — 02 DATE 8/27/79 — 03 AGENCY EPA inspection
04 DESCRIPTION: Drums of Copper cyanide offsite removed

01 ☐ H. ON SITE BURIAL — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: NO

01 ☐ I. IN SITU CHEMICAL TREATMENT — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: NO

01 ☐ J. IN SITU BIOLOGICAL TREATMENT — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: NO

01 ☐ K. IN SITU PHYSICAL TREATMENT — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: NO

01 ☐ L. ENCAPSULATION — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: NO

01 ☐ M. EMERGENCY WASTE TREATMENT — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: NO

01 ☐ N. CUTOFF WALLS — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: NO

01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: NO

01 ☐ P. CUTOFF TRENCHES/SUMP — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: NO

01 ☐ Q. SUBSURFACE CUTOFF WALL — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: NO

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	000210656

II PAST RESPONSE ACTIVITIES *(Continued)*

01 ☐ R. BARRIER WALLS CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NO

01 ☐ S. CAPPING/COVERING — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NO

01 ☐ T. BULK TANKAGE REPAIRED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NO

01 ☐ U. GROUT CURTAIN CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NO

01 ☐ V. BOTTOM SEALED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NO

01 ☐ W. GAS CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NO

01 ☐ X. FIRE CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NO

01 ☐ Y. LEACHATE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NO

01 ☐ Z. AREA EVACUATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NO

01 ☐ 1. ACCESS TO SITE RESTRICTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NO

01 ☐ 2. POPULATION RELOCATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NO

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

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

Site inspection conducted by ES and O&M, 3/20/85
Review of NYSDEC and USEPA Chisholm-Ryder Site File.

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	0 002106656

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☒ NO

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

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

NYSDEC ENVIRONMENTAL ENFORCEMENT

NYS, Attorney General's OFFICE

SECTION VI

ASSESSMENT OF DATA ADEQUACY AND RECOMMENDATIONS

ASSESSMENT OF DATA ADEQUACY

A summary assessment of the adequacy of existing data for completion of the HRS score is presented in Table VI-1. Based on this assessment, the following Phase II work plan and cost estimate has been prepared.

PHASE II WORK PLAN

Objectives

The objectives of the Phase II activities are:

- To collect additional field data necessary to identify the occurrence and extent of contamination and to determine if any imminent health hazard exists.
- To perform a conceptual evaluation of remedial alternatives and estimate budgetary costs for the most likely alternative.
- To prepare a site investigation report including final HRS score.

The additional field data required to complete this investigation are described as follows:

Geophysical Survey - A geophysical study consisting of electrical resistivity survey is recommended. The electrical resistivity survey will be performed at various locations within and beyond the perimeter of the site to investigate site stratigraphy, delineate significant discontinuities and assess the presence and location of contaminant plumes.

Waste - Waste samples from subsurface soils consisting of two sampling locations at the landfill site. Analyses will include priority pollutants.

Groundwater - A groundwater monitoring system consisting of three wells is recommended. Borings will be drilled to a maximum depth of 15 feet; soil samples will be taken continuously. The wells will be placed in the aquifer of concern and constructed of 2" PVC pipe. The groundwater samples will be analyzed for priority pollutants. In addition, sieve and hydrometer analyses will be performed on representative samples. Finally, an in-situ permeability test will be performed on each well.

Surface Water and Sediment - A surface water and sediment monitoring system consisting of 3 monitoring stations is recommended. One station (S-1) will be upgradient in the swampy stream northwest of the site. The second sample (S-2) will be adjacent to the swampy stream and the third sample (S-3) will be downgradient. The surface water and sediment samples will be analyzed for priority pollutants.

Air - An air monitoring survey with an HNU meter is recommended to test the air quality above during site activities.

TASK DESCRIPTION

The proposed Phase II tasks are described in Table VI-2 as required under the site specific health and safety plan and quality assurance plan which must be submitted prior to initiation of field activities. The proposed monitoring well and sampling location are presented in Figure IV-1.

COST ESTIMATE

The estimated man-hours required for the Phase II project are presented in Table VI-3 and the estimated project costs by tasks are presented in Table VI-4. The estimate total cost for this project is $54,616.

TABLE VI-1

ASSESSMENT OF ADEQUACY OF DATA

HRS Data Requirement	Comments on Data
Observed Release	
Groundwater	Inadequate for HRS score.
Surface Water	Inadequate for HRS score.
Air	Data available; adequate for HRS scoring.
Route Characteristics	
Groundwater	Data adequate for HRS score.
Surface Water	Data adequate for HRS score.
Air	No observed release, not applicable.
Containment	Data adequate for HRS score.
Waste Characteristics	Inadequate for HRS score.
Targets	Data adequate for HRS score.
Observed Incident	No incidents report or observed.
Accessibility	Data adequate for HRS score.

TABLE VI-2

PHASE II WORK PLAN - TASK DESCRIPTION

	Tasks	Description of Task
II-A	Update Work Plan	Review the information in the Phase I report, conduct a site visit, and revise the Phase II work plan.
II-B	Conduct Geophysical Studies	Conduct resistivity surveys.
II-C	Conduct Boring/Install Monitoring Wells	Install 1 upgradient and 2 downgradient wells. The borings will be drilled to a depth of approximately 15 feet. Wells will be constructed of 2" PVC pipe.
II-D	Construct Test Pits/Auger Holes	No further construction of test pits/auger holes necessary.
II-E	Perform Sampling & Analysis	
	Soil samples from borings	Soil samples collected continuously during drilling. Perform one grain size analysis and permeability test per subsurface lithology change.
	Soil samples from surface soils	No further studies necessary.
	Soil samples from auger holes/test pits	No further studies necessary.
	Sediment samples from surface water	Three sediment samples are to be collected and analyzed for priority pollutants.
	Groundwater samples	Three groundwater samples are to be collected and analyzed for priority pollutants.
	Surface water samples	Three surface water samples are to be collected and analyzed for priority pollutants.

TABLE VI-2 (Continued)

PHASE II WORK PLAN - TASK DESCRIPTION

Tasks		Description of Task
	Air samples	Using the HNu determine the presence of organics.
	Waste samples	Two waste samples will be collected and analyzed for priority pollutants.
II-F	Calculate Final HRS	Based on the field data collected in Tasks II-B - II-E, complete the HRS form.
II-G	Conduct Site Assessment	Prepare final report containing significant Phase I information, additional field data, final HRS and HRS documentation records, and site assessments. The site assessment will consist of a conceptual evaluation of alternatives and a preliminary cost estimate of the most probable alternative.
II-H	Project Management	Project coordination, administration and reporting.

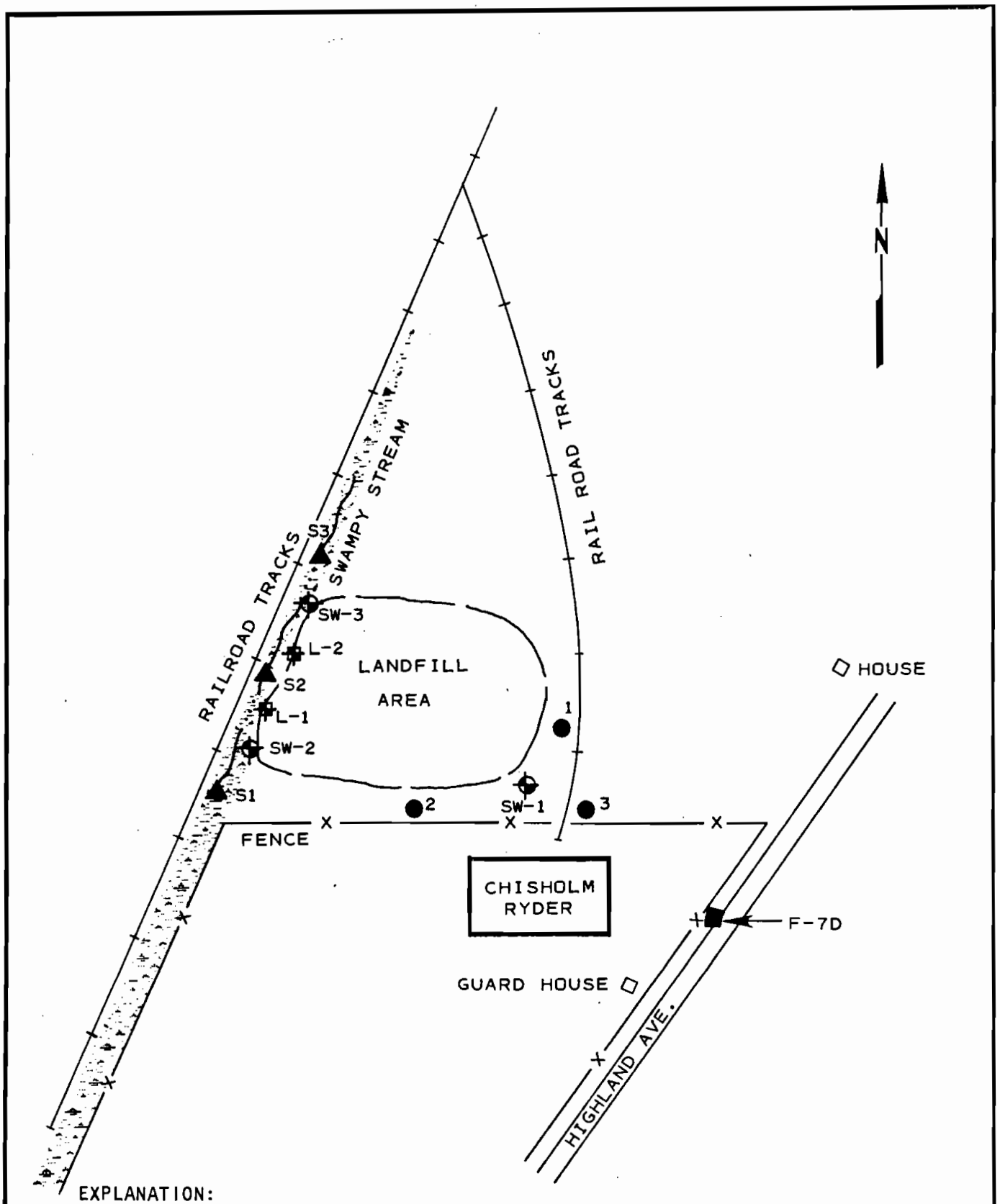
TABLE VI-3
PERSONNEL RESOURCES BY TASK
PHASE II HRS SITE INVESTIGATION (SITE: CHISOLM RYDER)

TASK DESCRIPTION	TEAM MEMBERS, MANHOURS												TOTAL HOURS	TOTAL $
	PIC	TRB	PM	DPM	PCM	QAM	HSM	FTL	FT	RAAL	RAAT	SS		
II-A UPDATE WORK PLAN	1	1	8	4		4	4	16		8		28	74	1144.1
II-B CONDUCT GEOPHYSICAL STUDIES			4	1			4	12	160			40	221	2214.51
II-C CONDUCT BORING/INSTALL MONITORING WELLS			8	16		4	4	16	40			24	112	1641.4
II-D CONSTRUCT TEST PITS/AUGER HOLES													0	0
II-E PERFORM SAMPLING AND ANALYSIS														
SOIL SAMPLES FROM BORINGS			4	4		2	2	4	16			8	40	555.14
SOIL SAMPLES FROM SURFACE SOILS													0	0
SOIL SAMPLES FROM TEST PITS AND AUGER HOLES													0	0
SEDIMENT SAMPLES FROM SURFACE WATER			4	4		1	1	4	8			4	26	425.11
GROUND-WATER SAMPLES			4	2		1	1	4	8			2	22	351.57
SURFACE WATER SAMPLES			4	2		1	1	4	8			2	22	351.57
AIR SAMPLES			2	2			1	2	4				11	199.77
WASTE SAMPLES			4	4		2	2	4	16			8	40	555.14
II-F CALCULATE FINAL HRS			4	4				4	4	2		4	22	394.56
II-G CONDUCT SITE ASSESSMENT	2	2	8	2				24	32	12	40	50	172	2217.02
II-H PROJECT MANAGEMENT	2		6	2	3	4	4					12	33	529.88
TOTALS	5	3	60	47	3	19	24	94	296	22	40	182	795	10579.77

TABLE VI-4
COST ESTIMATE BREAKDOWN BY TASK
PHASE II HRS SITE INVESTIGATION (SITE: CHISOLM RYDER)

TASK DESCRIPTION	DIRECT LABOR HOURS	DIRECT LABOR COST	OTHER DIRECT COSTS (ODC), $ LAB ANALYSIS	TRAVEL AND SUBSISTANCE	SUPPLIES	EQUIP. CHARGES	SUBCON-TRACTORS	MISC.	SUBTOTAL ODC	TOTAL ($)
II-A UPDATE WORK PLAN	74	$1,144.10		$200.00	$50.00	$50.00		$50.00	$350.00	$1,494.10
II-B CONDUCT GEOPHYSICAL STUDIES	221	$2,214.51		$1,750.00	$50.00	$350.00		$25.00	$2,175.00	$4,389.51
II-C CONDUCT BORING/INSTALL MONITORING WELLS	112	$1,641.40		$450.00	$250.00	$600.00	$3,000.00	$250.00	$4,550.00	$6,191.40
II-D CONSTRUCT TEST PITS/AUGER HOLES	0	$0.00							$0.00	$0.00
II-E PERFORM SAMPLING AND ANALYSIS										
SOIL SAMPLES FROM BORINGS	40	$555.14			$100.00	$150.00		$50.00	$300.00	$855.14
SOIL SAMPLES FROM SURFACE SOILS	0	$0.00							$0.00	$0.00
SOIL SAMPLES FROM TEST PITS AND AUGER HOLES	0	$0.00							$0.00	$0.00
SEDIMENT SAMPLES FROM SURFACE WATER	26	$425.11	$4,800.00	$85.00	$20.00	$75.00		$50.00	$5,030.00	$5,455.11
GROUND-WATER SAMPLES	22	$351.57	$3,600.00	$150.00	$60.00	$150.00		$50.00	$4,010.00	$4,361.57
SURFACE WATER SAMPLES	22	$351.57	$3,600.00	$85.00	$20.00	$75.00		$50.00	$3,830.00	$4,181.57
AIR SAMPLES	11	$199.77				$60.00		$10.00	$70.00	$269.77
WASTE SAMPLES	40	$555.14	$2,400.00	$85.00	$20.00	$75.00		$50.00	$2,630.00	$3,185.14
II-F CALCULATE FINAL HRS	22	$394.56			$150.00	$150.00		$20.00	$320.00	$714.56
II-G CONDUCT SITE ASSESSMENT	172	$2,217.02			$750.00	$300.00		$75.00	$1,125.00	$3,342.02
II-H PROJECT MANAGEMENT	33	$529.88	$900.00	$300.00	$150.00	$50.00		$50.00	$1,450.00	$1,979.88
TOTALS	795	$10,579.77	$15,300.00	$3,105.00	$1,620.00	$2,085.00	$3,000.00	$730.00	$25,840.00	$36,419.77

OVERHEAD=	$15,107.91
SUBTOTAL=	$51,527.68
FEE=	$3,088.80
TOTAL PROJECT COST=	$54,616.48



EXPLANATION:

- ● 1 — U.S.G.S. TEST BORING AND SUBSTRATE SAMPLE (1982)
- ■ F-7D — HYDE PARK LANDFILL STUDY BORING/WELL (EPA)
- ▲ S1 — PROPOSED SURFACE WATER AND SEDIMENT SAMPLE
- ⊕ SW-1 — PROPOSED WELL INSTALLATION
- ⊕ L-1 — PROPOSED LEACHATE SAMPLE

ENGINEERING-SCIENCE, INC.
IN ASSOCIATION WITH
DAMES & MOORE

NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION
PHASE I REPORT

PROPOSED SAMPLING LOCATIONS

CHISHOLM RYDER

FIGURE VI-1

APPENDIX A

REFERENCES

Sources Contacted

Documentation

SOURCES CONTACTED FOR
CHISHOLM-RYDER INVESTIGATION

CONTACT	DATE CONTACTED	PERSON CONTACTED	TELEPHONE NUMBER	LOCATION	INFORMATION COLLECTED
USEPA Headquarters, Superfund Office	4/2/85	Hamid Saebfed	(202) 382-4839	401 M Street, NW Washington, D.C. 20460	Reviewed list of sites to determine if additional information was available.
USEPA - Region II, OERR	3/22/85	Mel Hauptman	(212) 264-7681	Room 402 26 Federal Plaza NY, NY 10278	General information from site files.
NYSDEC - Division of Solid and Hazardous	12/19/84	Marsden Chen	(518) 457-0639	50 Wolf Road Albany, NY 12233	General information from site files.
NYSDEC - Division of Water	12/19/84	Sal Pagano	(518) 457-6675	50 Wolf Road Albany, NY 12233	Mr. Pagano set up meetings with three bureaus within Division of Water.
NYSDEC - Division of Water SPDES Files	12/20/84	Bob Hannaford	(518) 457-6716	50 Wolf Road Albany, NY 12233	Reviewed SPDES Files for permit numbers and conditions.
NYSDEC - Division of Water DMR Files	12/21/84	George Hansen	(518) 457-2010	50 Wolf Road Albany, NY 12233	Reviewed DMR files for discharge violations.
NYSDEC - Division of Air Toxics	12/21/84	Art Fossa	(518) 457-7454	50 Wolf Road Albany, NY 12233	Reviewed site list to identify sites with potential air emissions.
NYSDEC - Division of Monitoring and Assessment	12/21/84	Bill Berner Frank Estabrook Fred Van Alstine	(518) 457-7363 (518) 457-7363 (518) 457-7363	50 Wolf Road Albany, NY 12233	Reviewed geology and monitoring information for specific sites.

SOURCES CONTACTED FOR
CHISHOLM-RYDER INVESTIGATION

CONTACT	DATE CONTACTED	PERSON CONTACTED	TELEPHONE NUMBER	LOCATION	INFORMATION COLLECTED
NYSDEC - Division of Environmental Enforcement	12/20/84	Kevin Walters	(518) 457-4346	50 Wolf Road Albany, NY 12233	Reviewed list of sites to determine if legal action has occurred in the past, is in progress, and/or is scheduled in the near future.
NYS - Attorney General's Office, Dept. of Law	1/7/85	Val Washington	(518) 473-3105	Empire State Plaza Justice Building Albany, NY 12233	Reviewed list of sites to determine if legal action has occurred in the past, is in progress, and/or is scheduled in the near future.
NYS - Attorney's Office	1/3/85	Albert Bronson	(716) 847-7196	Buffalo State Office Bldg. Buffalo, NY 14202	Reviewed list of sites to determine if legal action has occurred in the past, is in progress, and/or is scheduled in the near future.
NYSDEC - Division of Solid and Hazardous Waste	1/7/85	Ahmad Tayyebi Larry Clare Peter Buechi Jack Tyggert	(716) 847-4615 (716) 847-4615 (716) 847-4590 (716) 847-4585	600 Delaware Ave. Buffalo, NY 14202	Collected information from site files.
NYSDEC - Region 9 Division of Air	1/8/85	Henry Sandonato Robert Armbrust	(716) 847-4565	600 Delaware Ave. Buffalo, NY 14202	Collected information concerning previous air emissions from inactive disposal sites.

SOURCES CONTACTED FOR
CHISHOLM-RYDER INVESTIGATION

CONTACT	DATE CONTACTED	PERSON CONTACTED	TELEPHONE NUMBER	LOCATION	INFORMATION COLLECTED
NYSDEC - Regional Attorney	1/10/85	Peter J. Burke	(716) 847-4551	600 Delaware Ave. Buffalo, NY 14202	Reviewed list of sites to determine if legal action has occurred in the past, is in progress, and/or is scheduled in the near future.
NYS Dept. of Health, Buffalo Region, Public Health Engineering	1/8/85	Lou Violanti	(716) 847-4500	584 Delaware Ave. Buffalo, NY 14202	Collected information from site files.
NYSDEC - Region 9 Division of Fish and Wildlife	1/10/85 & 1/11/85	Mike Wilkenson Jim Sneider	(716) 847-4600 (716) 847-4600	600 Delaware Ave. Buffalo, NY 14202	Collected information from site files
Niagara County Dept. of Health	1/9/85	Mike Hopkins	(716) 284-3124	Tenth & East Falls Street Niagara Falls, NY 14302	Collected information from Niagara County site files. Obtained additional information through interview.
Niagara County Dept. of Planning and Industrial Development	2/22/85	Dave Urso	(716) 439-6033	59 Park Ave. Lockport, NY 14094	Obtained 1980 U.S. Census Data.
Chisholm-Ryder	3/8/85	Mr. Socha	(716) 285-9186	3800 Highland Ave. Buffalo, NY 14305	Interview pertaining to site ownership and past waste management practices.
Chisholm-Ryder	3/8/85	Jay Freer	(716) 285-9186	3800 Highland Ave. Buffalo, NY 14305	Discussed past and present waste disposal practices.

SOURCES CONTACTED FOR
CHISHOLM-RYDER INVESTIGATION

CONTACT	DATE CONTACTED	PERSON CONTACTED	TELEPHONE NUMBER	LOCATION	INFORMATION COLLECTED
Chisholm-Ryder	3/20/85	Herb Wendt	(716) 285-9186	3800 Highland Ave. Buffalo, NY 14305	Conducted site inspection and discussed past waste management disposal practices.
City of Niagara Falls	4/9/85	John Boddecker Larry Omara	(716) 278-8088	Niagara Falls City Hall Buffalo, NY 14305	Inquired about sewer connections to the Chisholm-Ryder plant.

REFERENCES

1. Bergeron, M.P., "Analysis of The Groundwater Flows in the Vicinity of Hyde Park Landfill, Niagara Falls, NY", 1984.

2. Chisholm-Ryder, Socha, William, Plant Manager, Personal Communication, 3/18/85.

3. Chisholm-Ryder, Wednt, Herb, Personal Communication, 3/20/85.

4. Chisholm-Ryder, Freer, Jay, Personal Communication, 3/8/85.

5. Chisholm-Ryder, Warrick, Edward, Letter to Robert Mitrey of NYSDEC, 10/16/80.

6. ES and D&M Site Inspection, March/April, 1985.

7. Freeze, R. A., and Cherry, J. A., Groundwater, 1985.

8. Hopkins, Mike, Niagara County Department of Health, Personal Communication, 10/22/85.

9. Johnson, Richard, H., "Groundwater in the Niagara Falls Area of New York", 1964.

10. Hyde Park Landfill Study, USEPA (Not in Appendix).

11. NYS Atlas of Community Water System Sources, NYS Department of Health, 1982.

12. NYS Museum and Science Service Bedrock Geology Map, Map and Chart Series, No. 15 (Compiled by Richard, L. V., and Fisher, D. W.).

13. NYS Wetlands Maps.

14. NYSDEC, Industrial Waste Survey, 3/21/78.

15. NYSDEC, Region 9, Division of Fish and Wildlife Files.

16. NYSDEC, Memo to Robert Mitrey from Y. Erk regarding Chisholm-Ryder, 10/14/80.

17. NYSDEC, Registry Sheet, 12/83.

18. Preliminary Investigation/Profile Report, NCHD, March, 1982.

19. US Census Data, 1980.

20. US Department of Commerce. "Climatic Atlas of the United States". 1979.

21. US Department of Commerce Technical Paper No. 40. "Rainfall Frequency Atlas of the United States". 1963.

22. USGS Topographic Maps: Lewiston, NY and Niagara Falls NY-ONT Quadrangles (Provided in Report).

23. USGS, Draft and Final Report, Preliminary Evaluation of Chemical Migration to Groundwater and the Niagara River from Selected Waste Disposal Sites, 1985.

(Bergeron, 1984)
REF-1

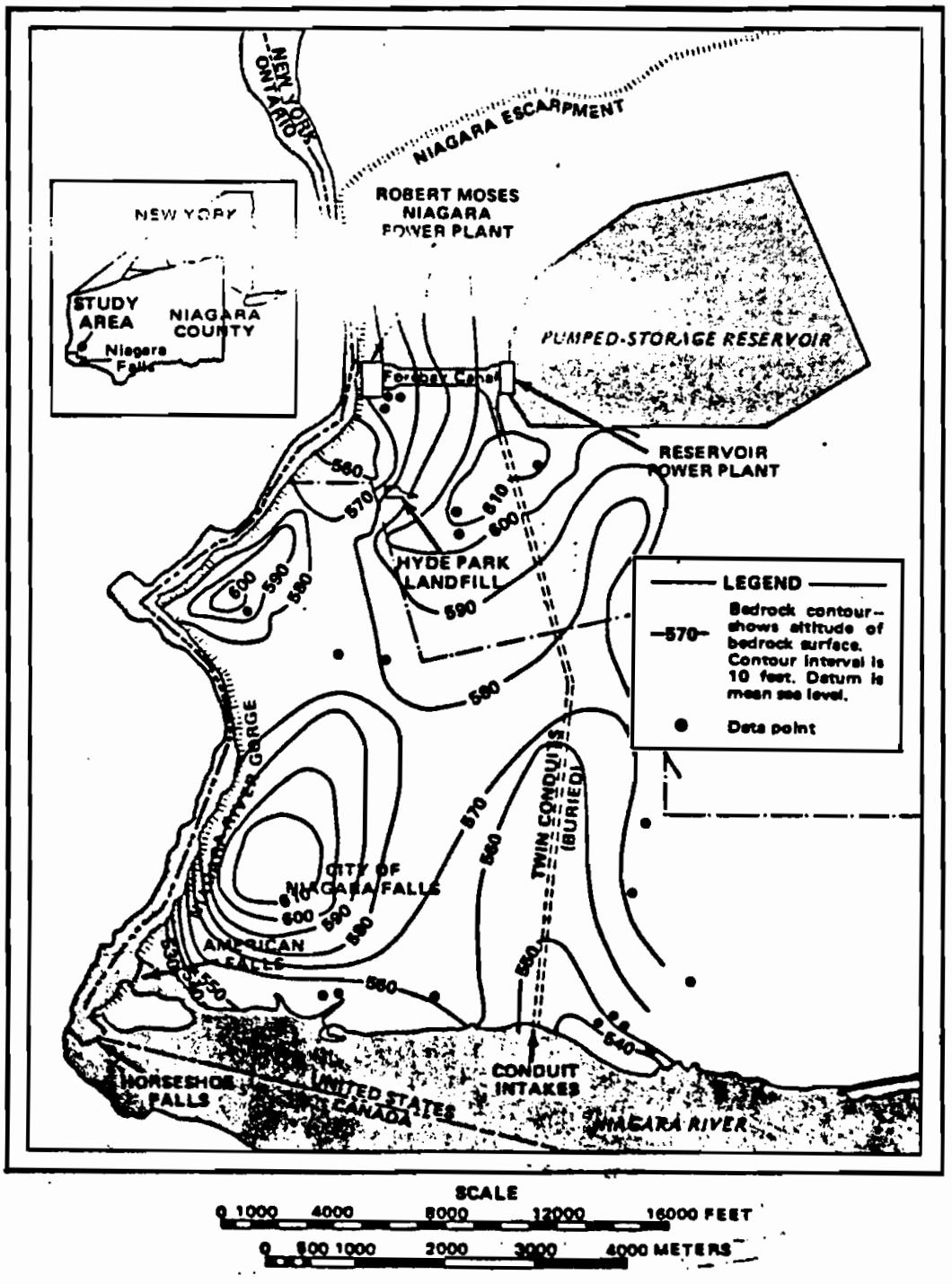


Figure 4 BEDROCK SURFACE ALTITUDE IN NIAGARA FALLS AREA

from Bergeron, M P, 1984 [illegible]

Table 1.--Hydrogeologic characteristics and hydraulic properties of unconsolidated deposits and bedrock in the Hyde Park area.[1]

Water-bearing unit	Thickness (feet)	Lithologic description	Hydrogeologic characteristics	Hydraulic properties
Undifferentiated lake deposits	0–20	Laminated clay and silt and thin beds of fine sand.	Clay and silts have low permeability and yield little water.	Hydraulic conductivity range: 0.0014 to 0.27 ft/d.[2]
Till ("Hardpan")	0–10	Mixture of boulders and pebbles in a matrix of sand, silt, and clay.	Water occurs principally in thin sand lenses in till and a "wave-washed zone" at the top of the bedrock.	
Lockport Dolomite	90–130	Dark-gray to grayish-brown massive to thin bedded dolomite, locally containing algal reefs, small masses of gypsum, limestone, and shaly beds at base.	Ground water occurs principally in water-bearing zones parallel to bedding which are much more permeable than the surrounding rock. The upper 10 to 15 feet is the most permeble interval and contains vertical joints and small cavities formed by solution of gypsum. Wells yield 10 to 100 gal/min mostly.	Transmissivity from pump test is highly variable (90–9,000 ft^2/d). Average transmissivity[3] is 300 ft^2/d probable hydraulic conductivity range: 5–15 ft/d (upper 15 feet); 1–2 ft/d (lower part)
Rochester Shale	60	Dark-gray calcareous shale.	Very low permeability shale. Yields no significant water to wells.	Unknown. Hydraulic conductivity assumed to be 2 to 3 orders of magnitude less than that of Lockport Dolomite.

[1] Table modified from Maslia and Johnston (1982, p. 5).

[2] Based on well-recovery test data from Conestoga-Rovers Associates.

[3] Based on steady-state analysis of 18,000-ft section of dewatered conduit penetrating the Lockport Dolomite; average gradient (0.017 ft/ft) and average pumping rate (1,400,000 gal/d) (Johnston, 1964).

F-7A
April 27, 1983
Crew Members: S. Dyer, W. Dausch
Ground Elevation: 578.3

(Bergeron, 1984)

SAMPLE	DEPTH	BLOWCOUNTS	RECOVERY	DESCRIPTION	MOISTURE
	0-0.4'			Augered through - black asphalt	
	0.4-0.8'			Augered through - grey bedding stone	
	0.8-1.0'			Brown silt - some fine gravel	
1	1.0-1.2'	6-4	8"	Brown silt - some fine gravel	Dry
	1.2-2.0'			Black fine cinders	Moist
2	2.0-4.0'	5-5-4-3	3"	Black fine cinders	Moist
3	4.0-6.0'	7-3-2-2	12"	Black fine cinders - trace flyash - trace silt - trace rock fragments	Moist
4	6.0-8.0'	2-1-1-1	10"	Black fine cinders	Moist
5	8.0-10.0'	14-5-5-3	0"	Auger cuttings show black cinders	
6	10.0-10.2'	18-36-42-26	19"	Black fine cinders - some rock fragments	
	10.2-10.4'			Red sandstone	
	10.4-12.0'			Grey fine sand - some fine gravel	Moist
7	12.0-13.4'	18-26-41-45	19"	Grey fine sand (Fill) - some fine gravel	Moist-wet
	13.4-14.0'			Grey rock fragments (till) (NATIVE) - some fine sand	Moist-wet
8	14.0-15.0'	21-$\frac{75}{.5'}$	4"	Grey rock fragments (till) - some silt - some fine sand	Wet
	15.0-15.5'			Augered through	
	15.5'			Auger refusal	

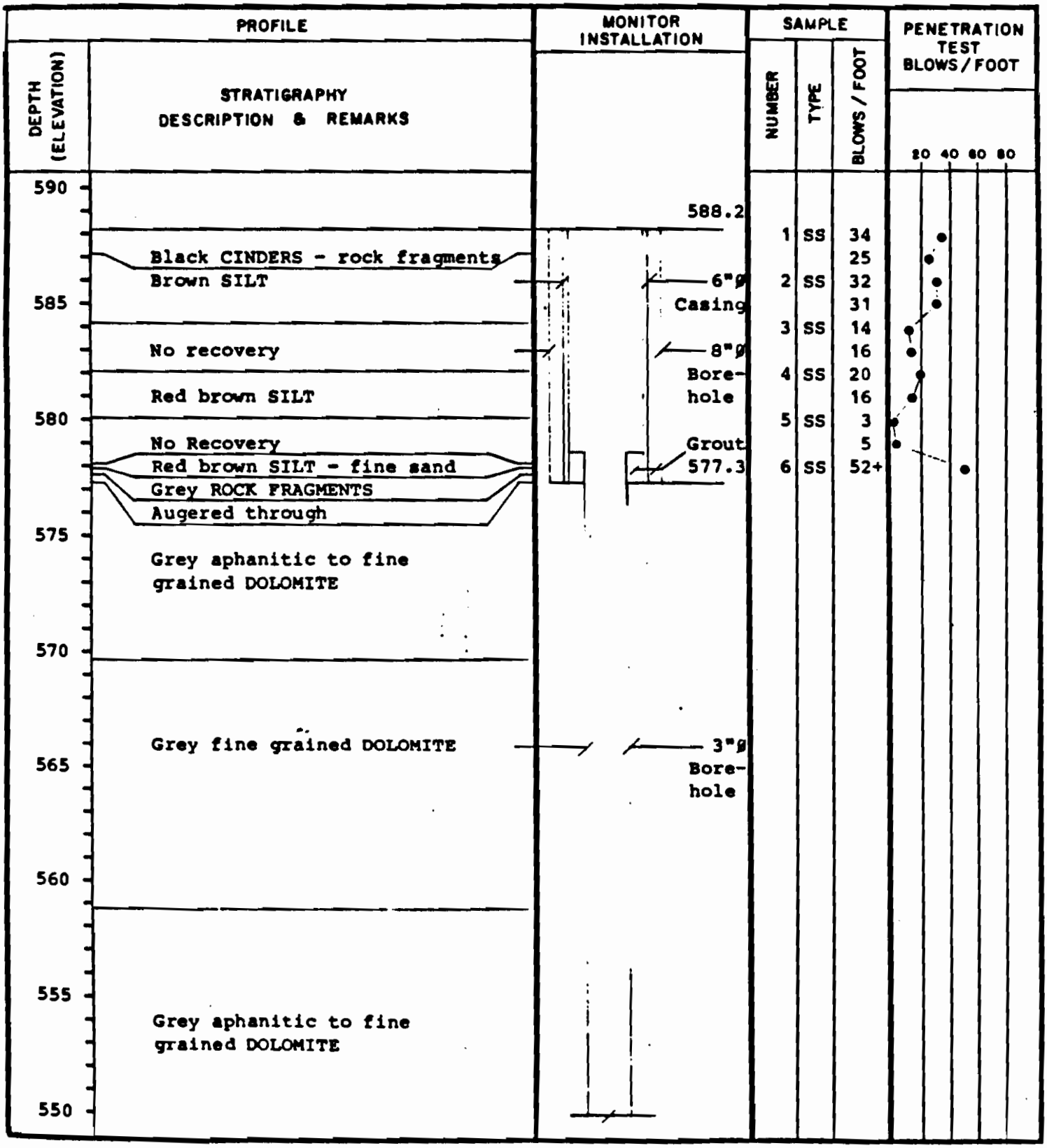
F-6
arch 2, 1983
rew Members: M. Fuhrmann, L. Bradley
Ground Elevation: 588.2

(Bargaon, 1984)

AMPLE	DEPTH	BLOWCOUNTS	RECOVERY	DESCRIPTION	MOISTURE
1	0-1.0'	20-14-11-14	16"	Black cinders - some rock fragments	Dry
	1.0-2.0'			Light brown silt - trace clay	Dry
2	2.0-4.0'	16-16-15-16	15"	Mottled brown & dark brown silt - trace clay - trace small pebbles	Dry
3	4.0-6.0'	8-6-7-9	0"	Auger cuttings show brown to red-brown silt	
4	6.0-8.0'	9-11-7-9	8"	Red-brown silt with alternating beds of grey clay (NATIVE) - trace fine sand	Moist
5	8.0-10.0'	1-2-3-2	0"	Auger cuttings show moist red-brown silt	
6	10.0-10.3'	2-50/0'	4"	Red-brown silt - trace fine sand	Moist-wet
	10.3-10.5			Grey rock fragments	Moist
	10.5-10.9'			Augered through	
	10.9'			Auger refusal	

STRATIGRAPHIC AND INSTRUMENTATION LOG (Bergeron, 1984)

PROJECT NAME : HYDE PARK AQUIFER SURVEY
HOLE Nº: F-6 Page 1 of 4
OB Nº : 9-1069
DATE COMPLETED: MARCH 18, 1983
CLIENT : OCCIDENTAL CHEMICAL CORPORATION
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
HOLE TYPE : 8"ø AUGER/NX CORE
GROUND ELEVATION: 588.2
LOCATION : MAPLE STREET - E. OF HIGHLAND AVENUE
TOP OF PIPE ELEVATION:



○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG (Bergeron, 1984)

PROJECT NAME : HYDE PARK AQUIFER SURVEY
HOLE Nº: F-6 Page 2 of 4
JOB Nº : 9-1069
DATE COMPLETED: MARCH 18, 1983
CLIENT : OCCIDENTAL CHEMICAL CORPORATION
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
HOLE TYPE : 8"ø AUGER/NX CORE
GROUND ELEVATION: 588.2
LOCATION : MAPLE STREET - E. OF HIGHLAND AVENUE
TOP OF PIPE ELEVATION:

PROFILE		MONITOR INSTALLATION	SAMPLE			PENETRATION TEST BLOWS / FOOT
DEPTH (ELEVATION)	STRATIGRAPHY DESCRIPTION & REMARKS		NUMBER	TYPE	BLOWS / FOOT	20 40 60 80
550						
545	Grey aphanitic to fine grained DOLOMITE					
540						
535		3"ø Bore-hole				
530						
525	Grey fine grained DOLOMITE					
520						
515						
510						

○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG (Bergeron, 1984)

PROJECT NAME: HYDE PARK AQUIFER SURVEY
HOLE Nº: F-6 Page 3 of 4
JOB Nº: 9-1069
DATE COMPLETED: MARCH 18, 1983
CLIENT: OCCIDENTAL CHEMICAL CORPORATION
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
HOLE TYPE: 8"ø AUGER/NX CORE
GROUND ELEVATION: 588.2
LOCATION: MAPLE STREET - E. OF HIGHLAND AVENUE
TOP OF PIPE ELEVATION:

PROFILE		MONITOR INSTALLATION	SAMPLE			PENETRATION TEST BLOWS / FOOT
DEPTH (ELEVATION)	STRATIGRAPHY DESCRIPTION & REMARKS		NUMBER	TYPE	BLOWS / FOOT	20 40 60 80
510	Grey fine grained DOLOMITE					
505						
500		3"ø Bore-hole				
495						
490	Dark grey fine to medium grained DOLOMITE					
485	GASPORT MEMBER					
480	Grey aphanitic DOLOMITE					
475	DECEW MEMBER					
470						

○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG (Bergman, 1984)

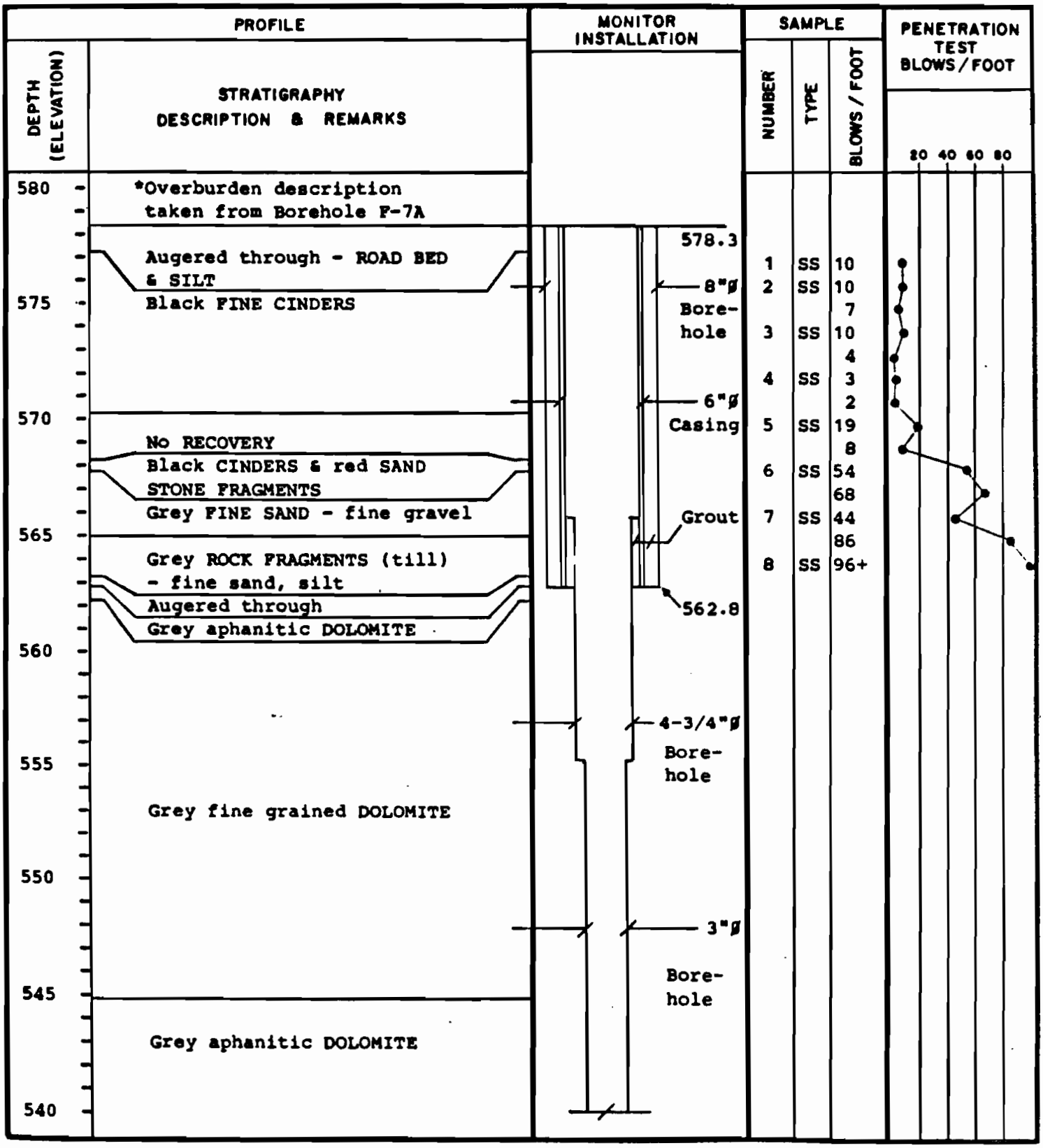
PROJECT NAME : HYDE PARK AQUIFER SURVEY
HOLE Nº: F-6 Page 4 of 4
JOB Nº : 9-1069
DATE COMPLETED: MARCH 18, 1983
CLIENT : OCCIDENTAL CHEMICAL CORPORATION
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
HOLE TYPE : 8"ø AUGER/NX CORE
GROUND ELEVATION: 588.2
LOCATION : MAPLE STREET - E. OF HIGHLAND AVENUE
TOP OF PIPE ELEVATION:

PROFILE		MONITOR INSTALLATION	SAMPLE			PENETRATION TEST BLOWS/FOOT
DEPTH (ELEVATION)	STRATIGRAPHY DESCRIPTION & REMARKS		NUMBER	TYPE	BLOWS/FOOT	20 40 60 80
470	Grey aphanitic DOLOMITE DECEW MEMBER					
465	Dark grey dolomitic SHALE					
		3"ø Bore-hole				
460	ROCHESTER FORMATION					
455		454.8				
450						
445						
440						

○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG (Bergeron, 1984)

PROJECT NAME : HYDE PARK AQUIFER SURVEY
HOLE Nº: F-7D
JOB Nº : 9-1069
DATE COMPLETED: May 11, 1983
CLIENT : OCCIDENTAL CHEMICAL CORPORATION
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
HOLE TYPE : 8"ø AUGER/NX CORE
GROUND ELEVATION: 578.3
LOCATION : HIGHLAND AVENUE @ MASSACHUSETTS AVE.
TOP OF PIPE ELEVATION:



○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG (Bergeron, 1984)

PROJECT NAME : HYDE PARK AQUIFER SURVEY
HOLE Nº: F-7D
JOB Nº : 9-1069
DATE COMPLETED: May 11, 1983
CLIENT : OCCIDENTAL CHEMICAL CORPORATION
GEOLOGIST/ENGINEER: W. CLARKE/J. KAY
HOLE TYPE : 8"Ø AUGER/NX CORE
GROUND ELEVATION: 578.3
LOCATION : HIGHLAND AVENUE @ MASSACHUSETTS AVE.
TOP OF PIPE ELEVATION:

PROFILE		MONITOR INSTALLATION	SAMPLE			PENETRATION TEST BLOWS/FOOT
DEPTH (ELEVATION)	STRATIGRAPHY DESCRIPTION & REMARKS		NUMBER	TYPE	BLOWS/FOOT	20 40 60 80
540	Gray aphanitic DOLOMITE					
535						
530		3"Ø Bore-hole				
525						
520	Gray fine grained DOLOMITE					
515						
510						
505	Gray aphanitic DOLOMITE					
500						

○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

STRATIGRAPHIC AND INSTRUMENTATION LOG (Bargaron, 1984)

PROJECT NAME: HYDE PARK AQUIFER SURVEY — HOLE Nº: F-7D —

JOB Nº: 9-1069 — DATE COMPLETED: May 11, 1983

CLIENT: OCCIDENTAL CHEMICAL CORPORATION — GEOLOGIST/ENGINEER: W. CLARKE/J. KAY

HOLE TYPE: 8"ø AUGER/NX CORE — GROUND ELEVATION: 578.3

LOCATION: HIGHLAND AVENUE @ MASSACHUSETTS AVE. — TOP OF PIPE ELEVATION:

PROFILE		MONITOR INSTALLATION	SAMPLE			PENETRATION TEST BLOWS/FOOT
DEPTH (ELEVATION)	STRATIGRAPHY DESCRIPTION & REMARKS		NUMBER	TYPE	BLOWS/FOOT	20 40 60 80
500	Gray aphanitic DOLOMITE					
495						
	Gray to medium gray fine grained DOLOMITE					
490	Medium gray fine to medium grained DOLOMITE	3"ø Bore-hole				
485	GASPORT MEMBER					
480	Gray aphanitic DOLOMITE					
475	DECEW MEMBER					
470	Dark gray dolomitic SHALE					
	ROCHESTER FORMATION					
465	Unrecovered core	463.3				
460						

○ GRAIN SIZE ANALYSIS ▼ WATER FOUND ▽ STATIC WATER LEVEL

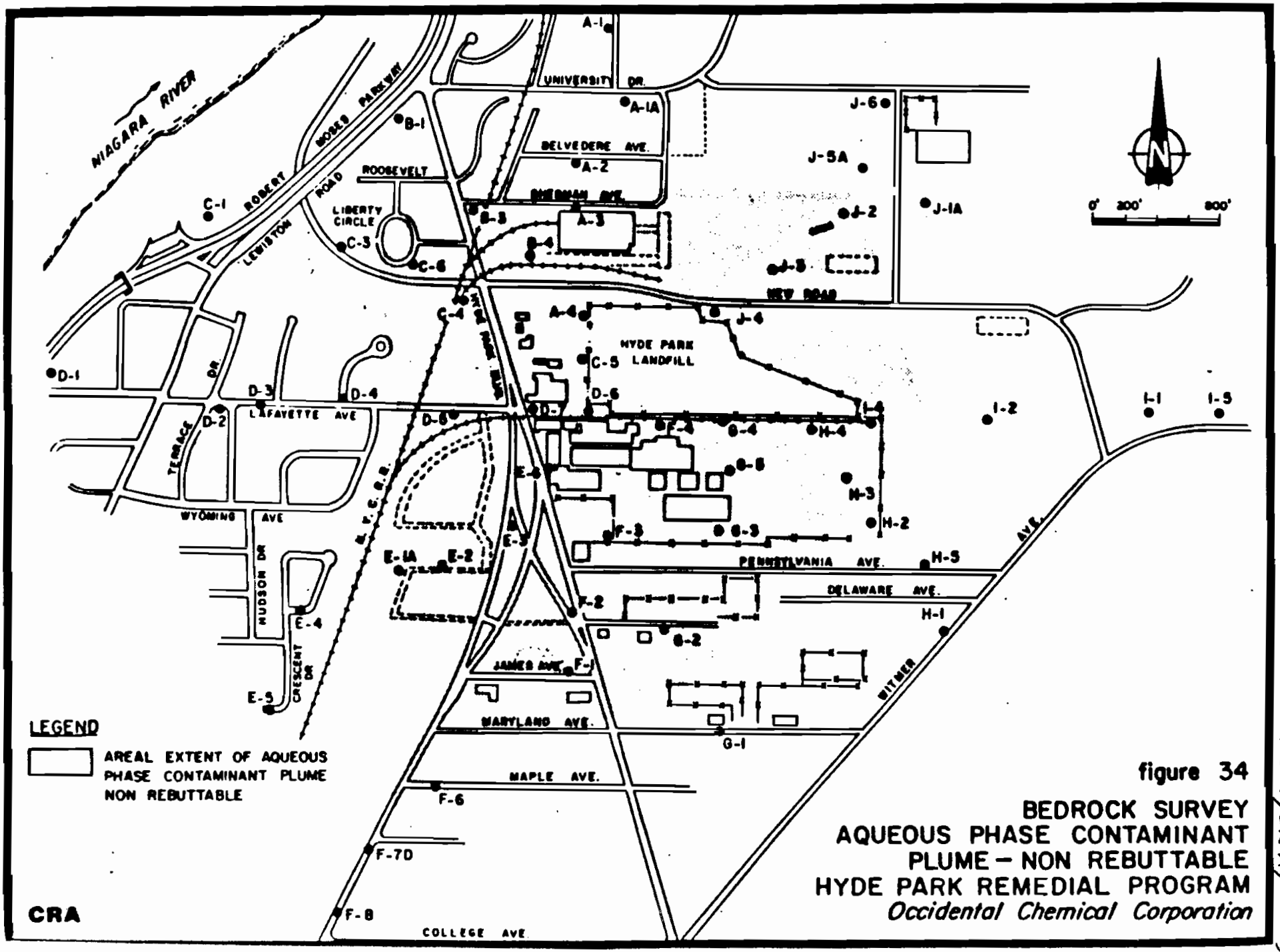


figure 34

BEDROCK SURVEY
AQUEOUS PHASE CONTAMINANT PLUME – NON REBUTTABLE
HYDE PARK REMEDIAL PROGRAM
Occidental Chemical Corporation

(Bargeon, 1984)

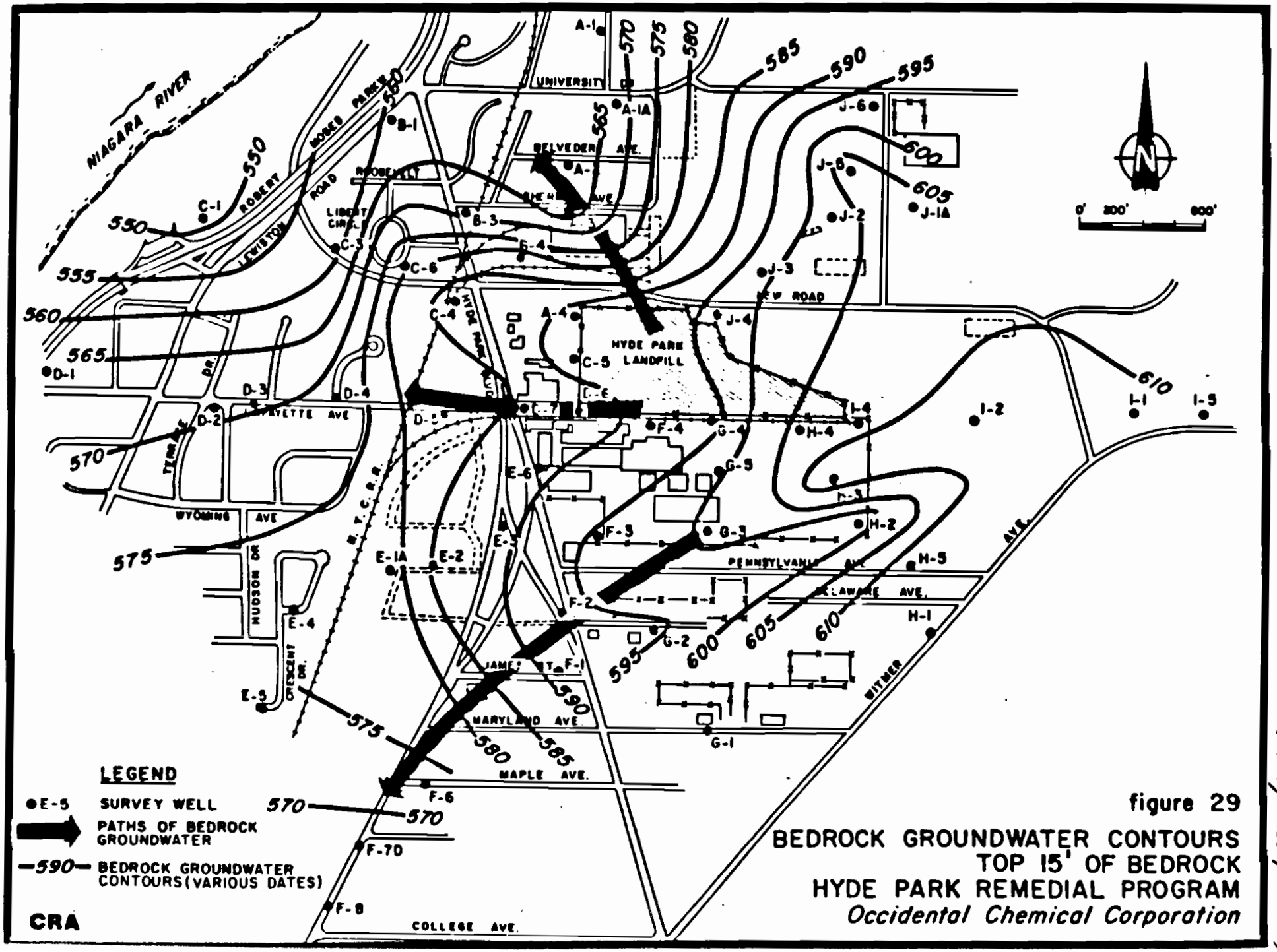


figure 29

BEDROCK GROUNDWATER CONTOURS
TOP 15' OF BEDROCK
HYDE PARK REMEDIAL PROGRAM
Occidental Chemical Corporation

(Bergeson, 1984)

(Boyson, 1984)

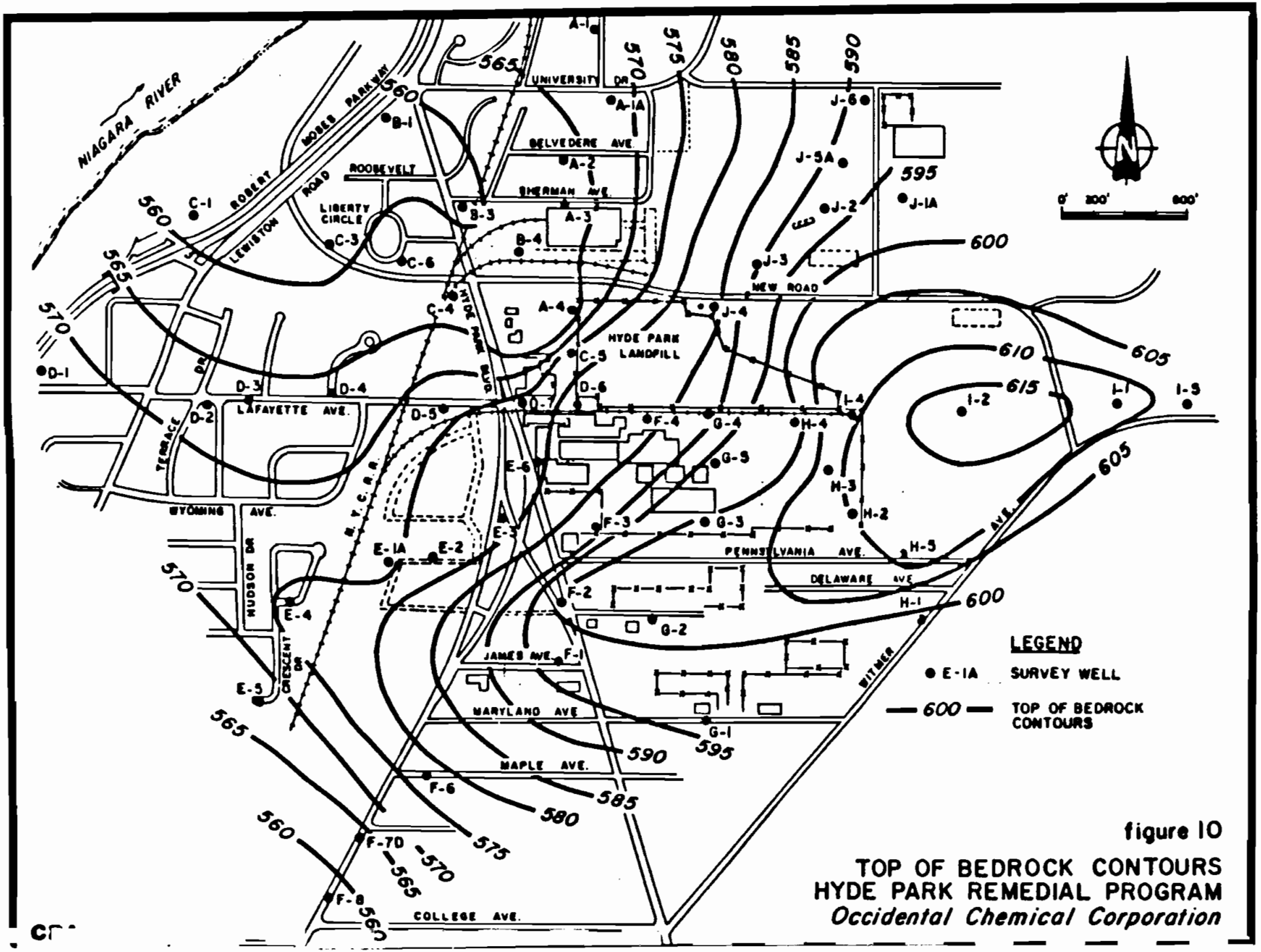
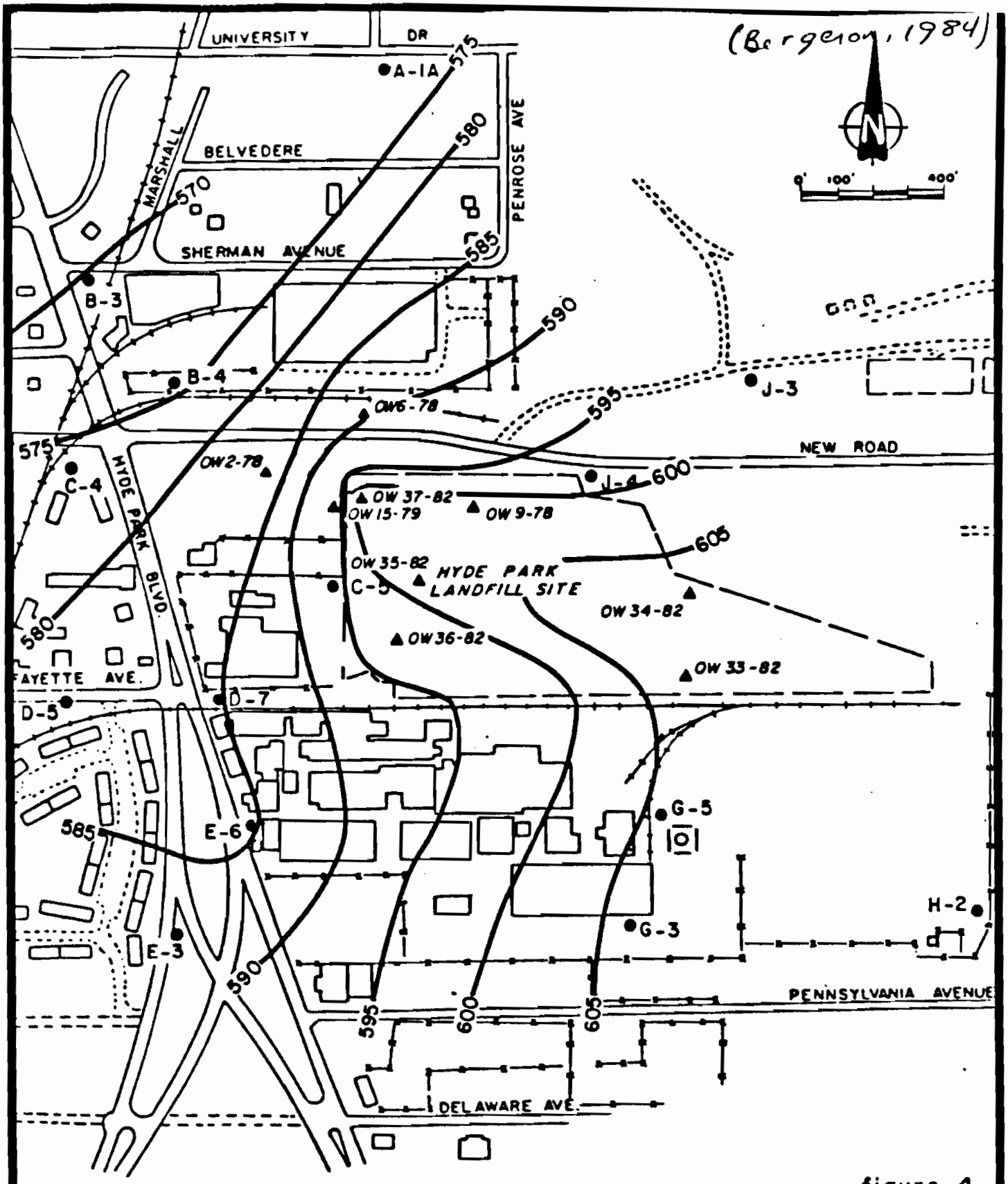


figure 10

TOP OF BEDROCK CONTOURS
HYDE PARK REMEDIAL PROGRAM
Occidental Chemical Corporation



LEGEND

- ▲ SURVEY WELLS INSTALLED PRIOR TO 1983
- ● SURVEY WELLS INSTALLED IN 1983
- —— GROUNDWATER CONTOURS (USGS DATUM)

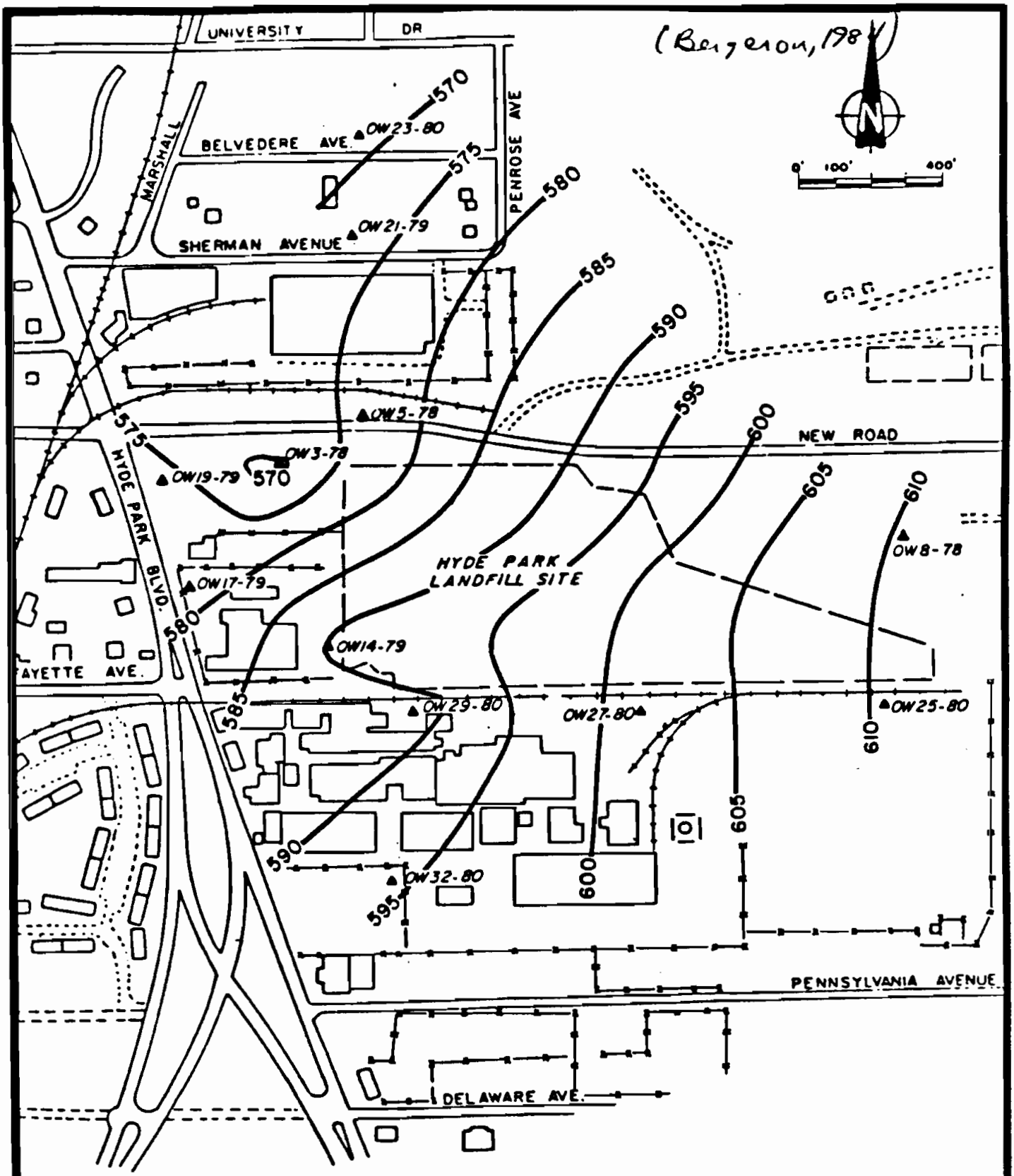
CRA

figure 4

OVERBURDEN GROUNDWATER CONTOURS AS MEASURED DECEMBER 21, 1983 HYDE PARK REMEDIAL PROGRAM

Occidental Chemical Corporation

1069-21/03/84



LEGEND

▲ SURVEY WELLS

GROUNDWATER CONTOURS (USGS DATUM)

CRA

figure 5

OVERBURDEN / BEDROCK INTERFACE GROUNDWATER CONTOURS AS MEASURED DECEMBER 21, 1983 HYDE PARK REMEDIAL PROGRAM

Occidental Chemical Corporation

1069-21/03/84

REF-2

INTERVIEW FORM

INTERVIEWEE/CODE Mr William Socha 1

TITLE - POSITION Chisholm Ryder Co., Plant Manager

ADDRESS 2900 Highland Avenue

CITY Niagara Falls STATE NY ZIP 14305

PHONE (716) 285-9186 RESIDENCE PERIOD 1940 TO 1985

LOCATION Telephone Inte-view INTERVIEWER S. Robert STEELE II

DATE/TIME 8 March 1985 1 9^{00} Am

SUBJECT: Chisholm Ryder Inactive disposal area.

REMARKS: The Chisholm Ryder Co. has been engaged in the manufacturing of agricultural equipment at the above listed address since approximately 1885. Chisholm Ryder owns the vacant land (approx. 20 acres) located north of the plant site. This land was used during the 1940's (WWII) for a government housing project. Excavation debris including ash, cinders rubble, brick, ect from the construction of power project tunnels, were disposed in a low lying area of the site. Of the approx 20 acre site, 4 acres were used for the disposal of these materials. In August, 1982 a 50 pound drum of copper cyanide and a drum containing metal shavings were found on the vacant lot. Chisholm Ryder Removed these materials and presently the site is not used and all wastes materials at the plant are transported off-site for recycling or disposal. NO other chemical waste were disposed on-site.

I AGREE WITH THE ABOVE SUMMARY OF THE INTERVIEW:

SIGNATURE:

COMMENTS:

REF -3

INTERVIEW FORM

INTERVIEWEE/CODE mr Henk Wendt /

TITLE - POSITION Chisholm -- Ryder Employee

ADDRESS 3800 Highland Ave

CITY Niagara Falls STATE NY ZIP 14305

PHONE (716) 285-9186 RESIDENCE PERIOD ____ TO ____

LOCATION Site Interview INTERVIEWER S. Robert STEELE, II

DATE/TIME 3/20/95 2:00 PM /

SUBJECT: PHASE I SITE INSPECTION

REMARKS: The time period that the disposal area (APPROX 2 acres) adjacent to the plant was used by Chisholm-Ryder was from the mid-1940's to approximately 1958. During this time period, the plants general refuse was burned on-site and the ash was placed in the landfill. Other plant wastes including solids from the plating and degreasing operations, floor sweepings and paint filters were likely to have been placed in the landfill during this time period. The accumulated solids in degreasing and plating tanks (cadmium, Tin and copper) were cleaned out once per year. Typically the amount of accumulated solids in each tank was about six (6) inches. Small quantities of waste paint residues and solvents from the degreasing operations may have also been disposed on-site. The plant's metal turnings were sold to a scrap dealer for recycling.

I AGREE WITH THE ABOVE SUMMARY OF THE INTERVIEW:

SIGNATURE:

COMMENTS:

REF - 4

INTERVIEW FORM

FREER

INTERVIEWEE/CODE Mr JAY ~~Freer~~

TITLE - POSITION Chisholm Ryder, ~~Environmental Engineer~~ Market Research

ADDRESS 3800 Highland Avenue

CITY Niagara Falls STATE NY ZIP 14305

PHONE (716) 285-9186 RESIDENCE PERIOD ____ TO ____

LOCATION Telephone Interview INTERVIEWER S. Robert STEELE II

DATE/TIME 8 March 1985 / 9^20 AM

SUBJECT: Chisholm Ryder WASTE MANAGEMENT PRACTICES

REMARKS: Chemical Wastes generated by Chisholm Ryder are either recycled or disposed off-site. The chemical wastes, quantities generated and waste disposal from used are listed below.

~~1,1,1 Trichloroethane~~ VG

~~Trichloroethylene~~ - (1) 55 gal drum / month - Voltek Analysis

Sodium Hydroxide (liquid) (2) 55 gal. drum / 6 months - SCA

Sodium Hydroxide (solid) (3) 55 gal drum / 6 months - SCA

PAINT ~~thinner~~ Thinner (1) 55 gal. drum / month - ENVIROTECH Inc

Please Review this information, Sign and return in the self addressed envelop. If you have any questions contact me at (703) 591-7575. I will be calling to set up a site visit. Thankyou

BOB STEELE

I AGREE WITH THE ABOVE SUMMARY OF THE INTERVIEW: After the above corrections in green.

SIGNATURE: Jay Freer

COMMENTS:

REF— 5

TELEX 91-931
CABLE ADDRESS
CRCO

Chisholm-Ryder
Company, Inc.
NIAGARA FALLS, N.Y. 14305

MACHINERY for HARVESTING and PROCESSING FOODS

TELEPHONE 205-0100
AREA CODE 716

October 16, 1980

Dept of Environmental Conservation Agency
584 Delaware Avenue
Buffalo, New York

Attention: Mr. Robert Mitrey

Dear Mr. Mitrey

On August 27, 1979 two people from EPA discovered a partially used container of copper cyanide and several drums of metal turnings out side the rear fence.

On the morning of August 28, 1979 a gentleman representing the EPA visited the plant and directed us to have said drums and copper cyanide removed and disposed of.

(1) The drums of turnings were brought inside the compound and sold to a scrap dealer.

(2) The copper cyanide was brought inside the plating department; liquified and used in our copper plating process.

Compliance of the directive to move the material was completed on 8-28-79, the same day as request was made.

Yours truly,

Edward Warrick
Plating Supervisor

EW/j

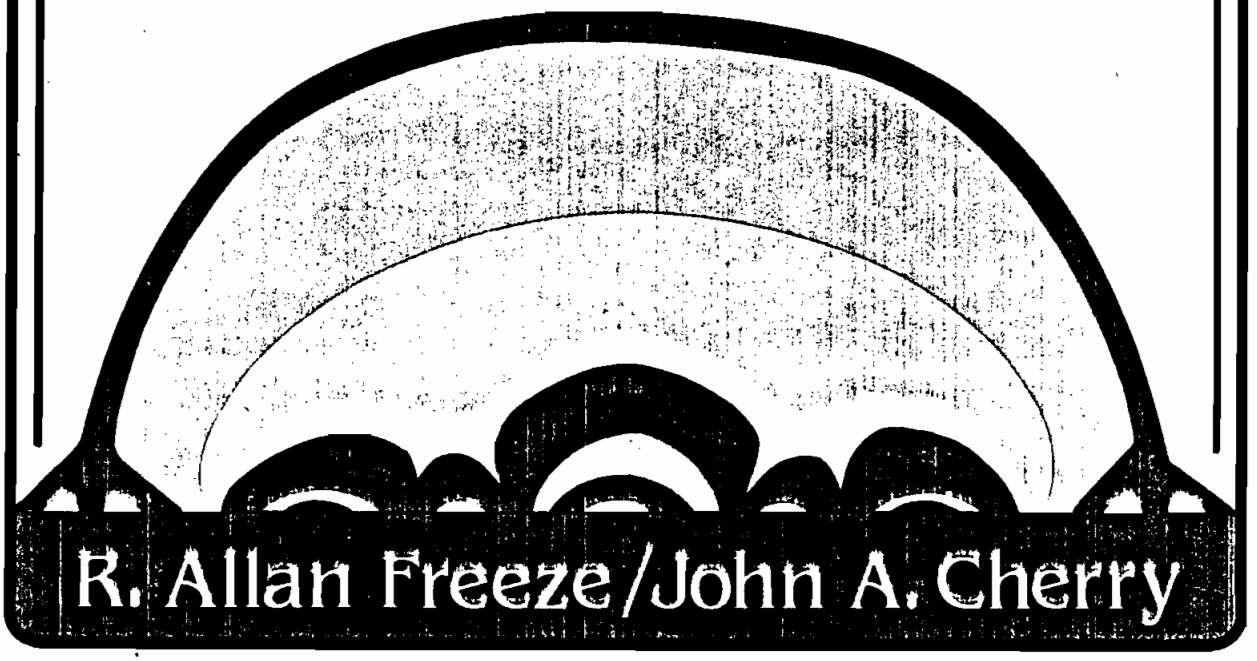
REF-6

ES AND D&M SITE INSPECTION

Observations made during the ES and D&M Site Inspections are provided on US EPA Forms 2070-12 and 2070-13. Field notes were used to complete these EPA Forms, and are not included herein.

REF-7

GROUNDWATER



R. Allan Freeze/John A. Cherry

Table 2.2 Range of Values of Hydraulic Conductivity and Permeability

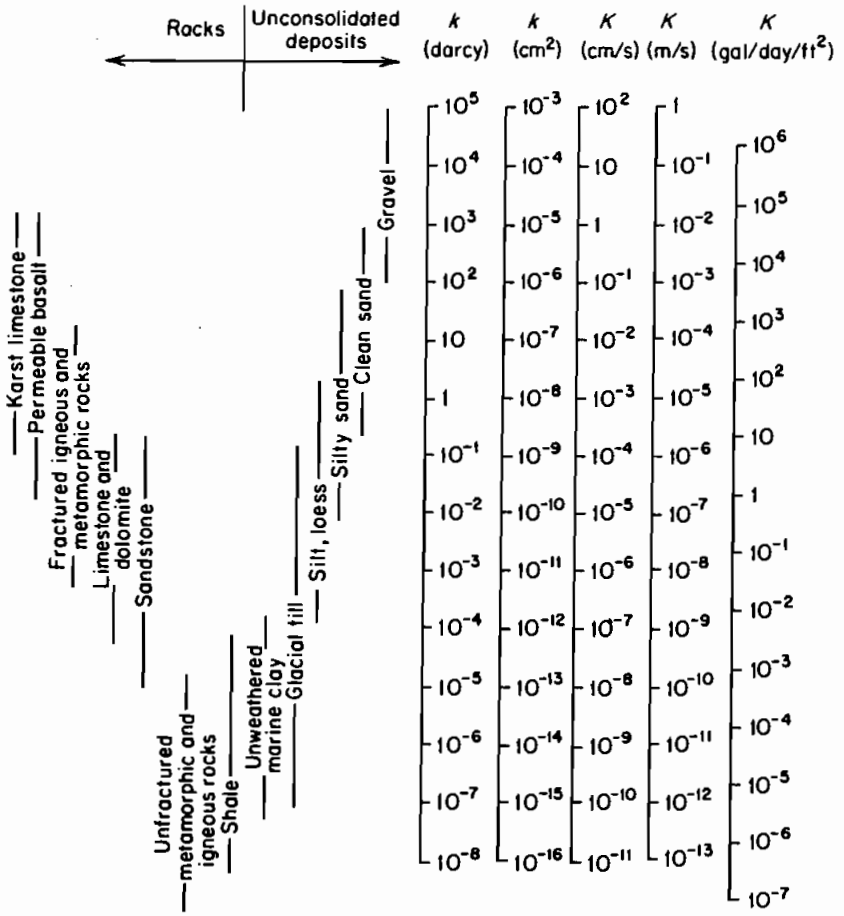


Table 2.3 Conversion Factors for Permeability and Hydraulic Conductivity Units

	Permeability, k*			Hydraulic conductivity, K		
	cm^2	ft^2	darcy	m/s	ft/s	$gal/day/ft^2$
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^{5}	1	3.28	2.12×10^{6}
ft/s	3.11×10^{-4}	3.35×10^{-7}	3.15×10^{4}	3.05×10^{-1}	1	5.74×10^{5}
$gal/day/ft^2$	5.42×10^{-10}	5.83×10^{-13}	5.49×10^{-2}	4.72×10^{-7}	1.74×10^{-6}	1

*To obtain k in ft^2, multiply k in cm^2 by 1.08×10^{-3}.

REF - 8

INTERVIEW FORM

INTERVIEWEE/CODE Mike Hopkins /

TITLE - POSITION Niagara County Department of Health

ADDRESS 10th St

CITY Niagara Falls STATE N.Y. ZIP

PHONE (716) 284-3124 RESIDENCE PERIOD TO

LOCATION phone conversation INTERVIEWER Lisa A. Ryan

DATE/TIME 10/28/85 @ 11:20 AM

SUBJECT: Use of groundwater in Niagara County

REMARKS: Mr. Hopkins provided the following information:
- There is only one industrial well within the limits of Niagara Falls that has a private water well. The company is Olin Chemical Corporation on Buffalo Ave, and the water is used for cooling purposes. (Olin Chemical employs ~200 people).
- There are 5 residences with private wells in Niagara Falls and all are within ½ mile of the Witmer Rd Site. At least one of the wells was dug rather than drilled. Municipal water is available to these residences if they choose to hookup to it.

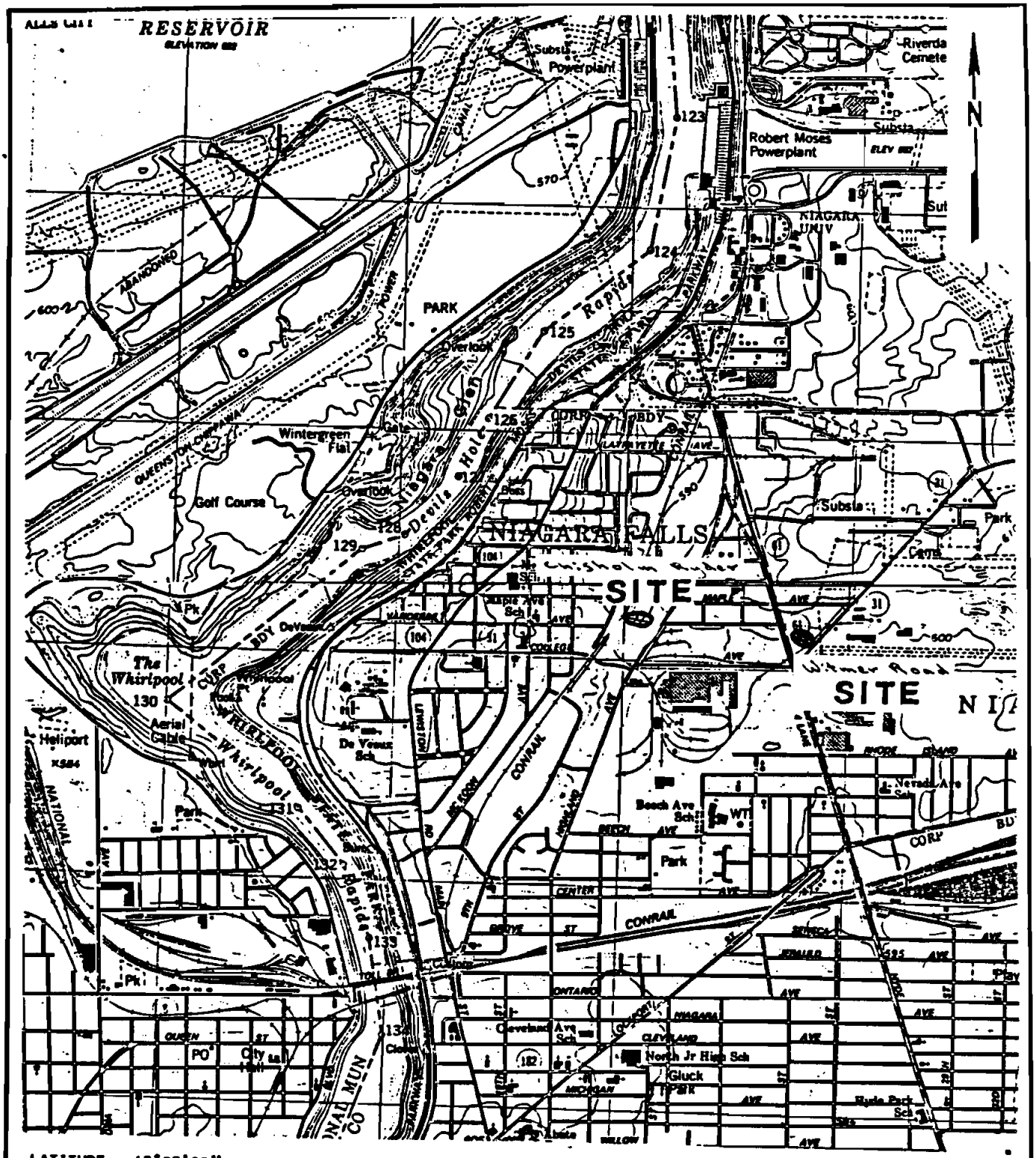
Note: Site location map for the Chisholm Ryder Site is Attached to this interview form

I AGREE WITH THE ABOVE SUMMARY OF THE INTERVIEW:

SIGNATURE

COMMENTS:

REF. -6



REFERENCE: U.S.G.S. 7.5' Topographic Map
Niagara Falls, NY-ONT. (1980) and
Lewiston, NY-ONT. (1980) Quadrangles

ENGINEERING-SCIENCE, INC.
IN ASSOCIATION WITH
DAMES & MOORE

NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION
PHASE I REPORT

SITE LOCATION MAP
CHISHOLM RYDER

FIGURE I-1

REF-9

- 1

GROUND WATER IN THE NIAGARA FALLS AREA, NEW YORK

With Emphasis on the Water-Bearing Characteristics of the Bedrock

BY
RICHARD H. JOHNSTON
GEOLOGIST
U.S. GEOLOGICAL SURVEY

STATE OF NEW YORK
CONSERVATION DEPARTMENT
WATER RESOURCES COMMISSION

BULLETIN GW-53
1964

46,732

REF-10

RECEIVED
OCT 1 , 1983
OCT 18 RECD

Occidental Chemical Corporation
HOOKER Industrial & Specialty Chemicals

HYDE PARK - BLOODY RUN AQUIFER SURVEY and TESTING PROGRAM

Volume I - Text

Occidental Chemical Corporation
HOOKER Industrial & Specialty Chemicals

REC ...
OCT 1 . 1988
OCT 18 RECD

HYDE PARK - BLOODY RUN AQUIFER SURVEY and TESTING PROGRAM

Volume II - Appendices

Appendix A - Chronology of Events
Appendix B - Trial Boreholes
Leachate Storage Facility
Appendix C - Stratigrephic Logs
On-Site Wells
Appendix D - Stratigraphic Logs
Overburden Survey Wells
Appendix E - As Constructed Locations
Bedrock Survey Wells
Appendix F - Stratigraphic Logs
Bedrock Survey Wells

New York State Atlas of Community Water System Sources 1982

NEW YORK STATE
DEPARTMENT OF HEALTH

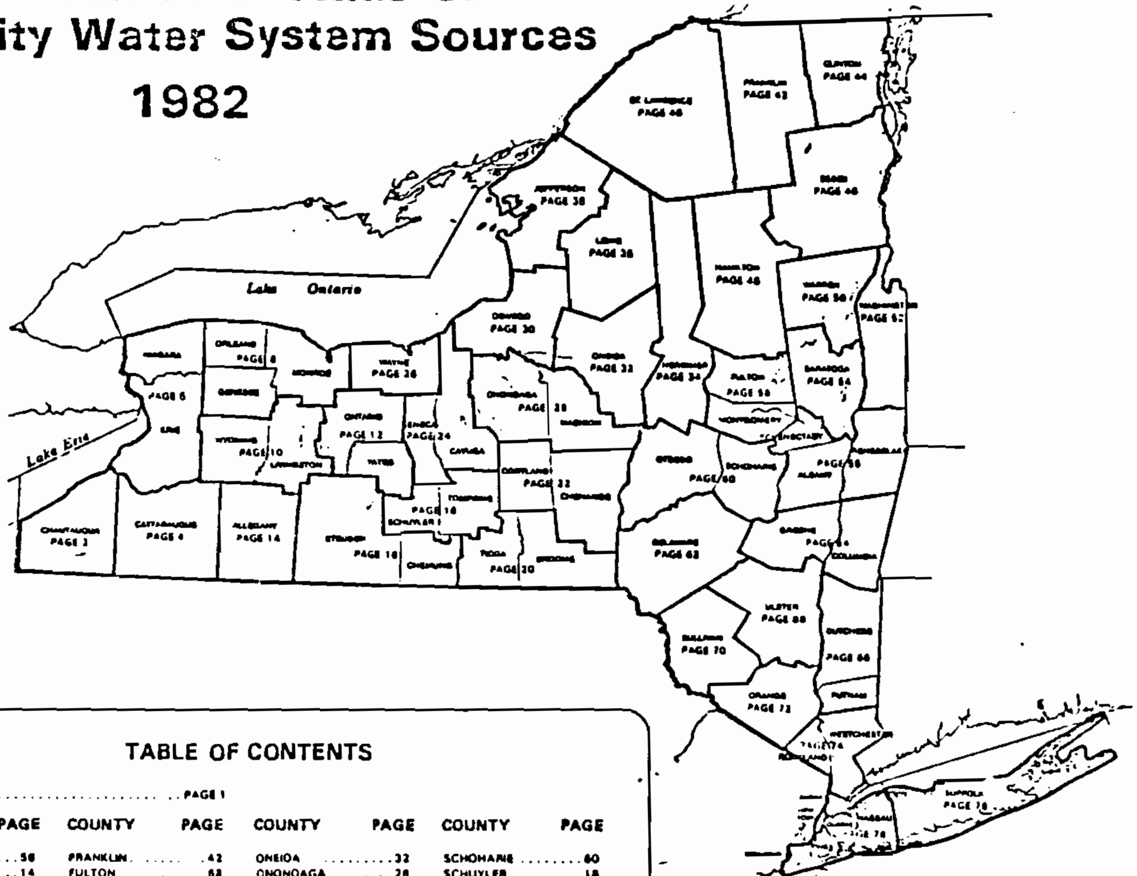


TABLE OF CONTENTS

LEGEND

BOUNDARIES AND PLACES

International
State
County
Town
Indian Reservation
City — Village
Unincorporated Place — Federal Reservation
Built-up Area (Over 25 000 population including any contiguous city or village)

CLASSIFICATION OF POPULATED PLACES

100 000 or more .... YONKERS
50 000 to 100 000 .... Levittown
12 500 to 50 000 .... Poughkeepsie
2 500 to 12 500 .... Hampton Bays
250 to 2 500 .... Bedford
250 or less

TRANSPORTATION

Highways
Divided Highways
Full Control of Access
Partial or No Control of Access
Undivided Highway
Interchange
Touring Route (State, U.S., Interstate) or State Parkway
Touring Route Markers
State U.S. Interstate

Railroads
Operating Line — Service Discontinued
Operator
Owner (if Other than Operator)
Company Having Trackage Rights

Airports (Open to the Public, Military)
Runway under 4000' — Runway over 4000'

Rest Areas
Food, Gas, Rest Rooms — Rest Rooms
Gas, Rest Rooms — Parking Only

RECREATION FACILITIES

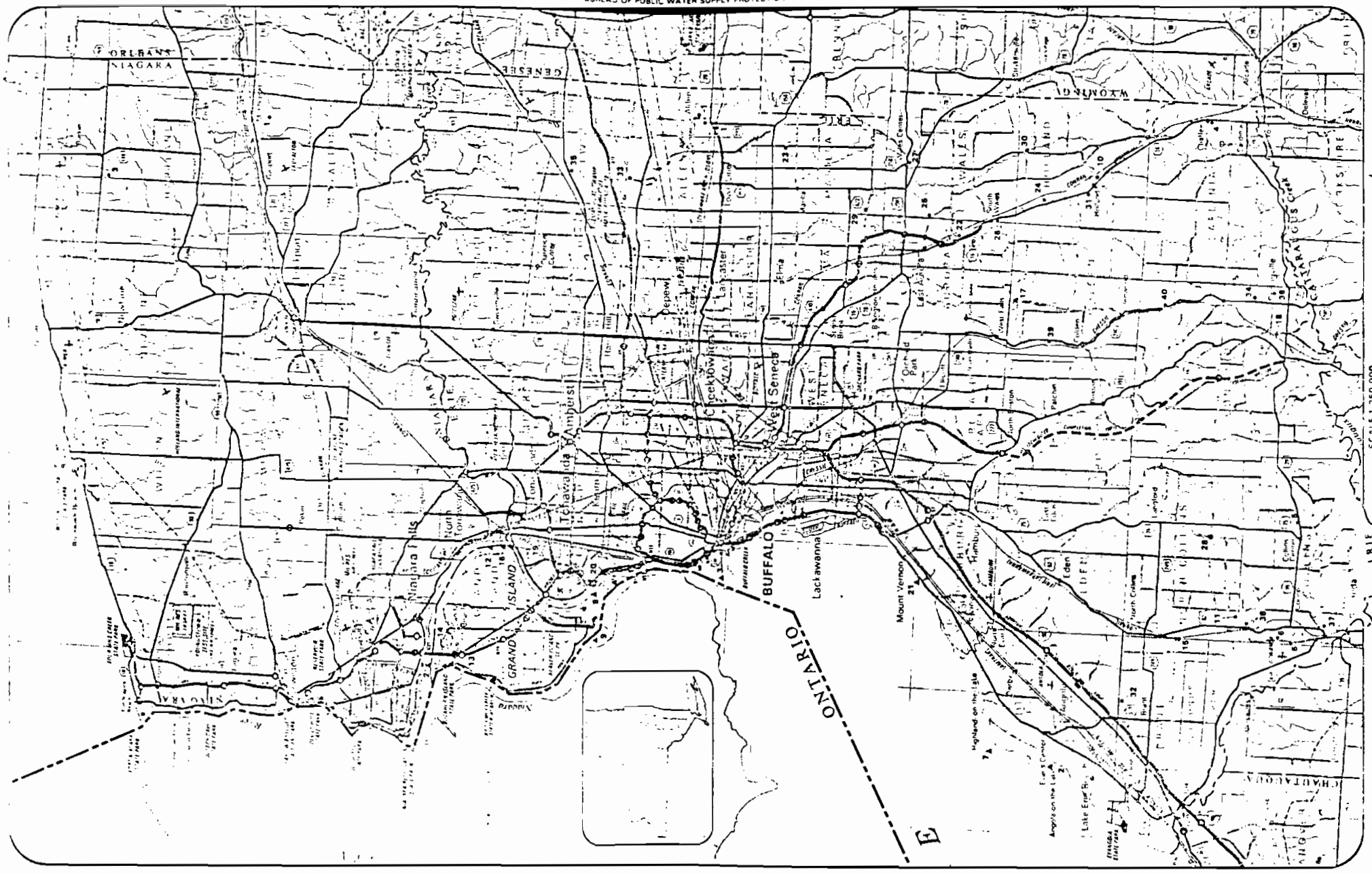
State or National Recreation Area
State Campground
State Boat Launching Site
State Canal Park
State Fish Hatchery
Other State Recreation Site

REF - 11

LOCATION OF COMMUNITY WATER SYSTEM SOURCES-1982

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

ERIE and NIAGARA COUNTIES



GEOLOGIC MAP OF NEW YORK

1970

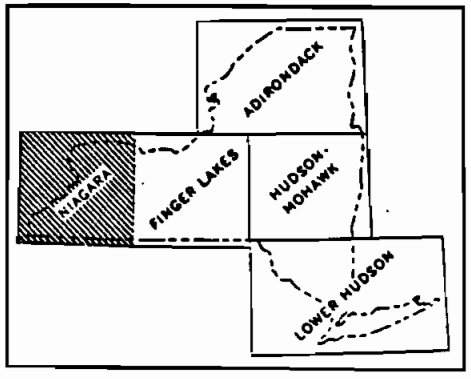
Niagara Sheet

Scale 1:250,000

5 0 5 10 15 Statute Miles 20

5 0 5 10 15 20 25 Kilometers 30

CONTOUR INTERVAL 100 FEET



Topographic Base from AMS Quadrangles 1:250,000 scale.

NEW YORK STATE MUSEUM AND SCIENCE SERVICE

MAP AND CHART SERIES NO. 15

COMPILED AND EDITED BY

Lawrence V. Rickard

Donald W. Fisher

March, 1970

REF-12

NYS WETLANDS MAPS

NYS Wetlands Maps were reviewed during the Phase I investigation. Individual maps for each site were not obtained and are, therefore, not included in the Phase I reports. Site specific information collected concerning the location of a wetland within 1 mile of a given site is recorded in the documentation section of each report.

REF-14

Appointment Made / / by
Site or (Phone) Visit 12/7/76 by DMQ
Follow-up / / by
Form Completed / / by
Comments: Food Processing Equip (24) Mach. Harvesting Machines

Company Name [illegible]
Address [illegible]
County [illegible] Phone 716 - [illegible]
SIC Codes 1. [illegible] 3.
2. 3523 4.

STORM COMP. 3-21-78

New York State Industrial Waste Survey
Department of Environmental Conservation
Division of Solid Waste Management
50 Wolf Road, Albany, N.Y. 12233 Telephone: (518) 457-6605

I. General Information

1. Company Name Chisholm - Ryder Co. Inc.

Mailing Address College & Highland Ave Niagara Falls NY. 14305
Street City State Zip

Plant Location / / Same as above

Street City State Zip

2. If Subsidiary, Name of Parent Company

3. Individual Responsible for Plant Operations Mr. William Sirba
Name

Plant Mgr 716 - 285 - 9186
Title Phone

4. Individual Providing Information Same
Name

Title Phone

5. Department of Environmental Conservation Interviewer Dan Quackenbush

6. Standard Industrial Classification (SIC) Codes for Principal Products

Group Name	SIC Code (4 Digit)	Approximate % of /7/ Production / / Value Added
a. Farm Machinery & Equip.	3523	3 100
b. Food Products Mach.	3551	
c.		
d.		

7. Processes Used at Plant
a. Plating
b. Degreasing
c. Assembly
d. Fabrication
e. Machining

8. Products
a. Food processing equipment
b. Tractor mount Harvesting Machin
c.
d.
e.

Chemicals used in manufacturing or produced as products:

a. Chlorothane VG (Dow Chem.) f. ______
b. H_2O Soluble Cutting Oil (Wynn) g. ______
c. Epoxy - Paints h. ______
d. Cu, Sn Plating Solutions i. ______
e. CN's of caustic; and acid j. ______

a. On Site Waste Water Treatment [ ] Yes [✓] No

b. On Site Waste Water Treatment by July 1977 [ ] Yes [✓] No

c. On Site Waste Water Treatment by July 1983 [ ] Yes [✓] No

d. Industrial Sewer Discharge [✓] Yes [ ] No Name of Sewage Treatment Plant Niagara Falls

e. SPDES No. ______ NPDES No. ______

a. Air Pollution Control Devices [✓] Yes [ ] No Types Paint Spray Filters

b. To Be Built [ ] Yes [ ] No by __/__/__

c. Air 100 Emission Point Registration Numbers ______

a. Number of manufacturing employees 60 b. Manufacturing Floor Space ? sq.ft.

. Attach a plat or sketch of the facility showing the location of on-site process waste storage (if available).

. Attach flow diagrams of chemical processes including waste flow outputs (if available).

. In-house waste treatment capabilities: ______

. Is there a currently used or abandoned landfill, dump or lagoon on plant property? [✓] Yes [ ] No

. Industrial wastes produced or expected to be produced by plant.

1) Rinse H_2O's from plating operation — sewer discharge
(1) 2) Waste Oils - H_2O Soluble Coolant
3) Metal turnings - accumulated then sold to scrap dealer
(>) 4) Vapor degreasing solvent reclaimer sludge
(2) 5) paint filters
6)
7)
8)

Comments: Waste H_2O - Soluble, degreaser sludge, & metal turnings are deposited on site. After accumulation metal turnings go to scrap dealer. Information pertinent to Part III of questionnaire ~~was~~ is not well developed

REF-15

INTERVIEW FORM

INTERVIEWEE/CODE Jim Snieder Mike Wilkenson /

TITLE - POSITION NYSDEC, Div of Fish & Wildlife

ADDRESS Delaware Ave.

CITY Buffalo STATE NY ZIP

PHONE ( ) . RESIDENCE PERIOD TO

LOCATION in DEC office INTERVIEWER Eileen Gilligan

DATE/TIME 1/10/85 & 1/11/85 /

SUBJECT: Phase I site information

REMARKS: The above-named interviewees provided us with the following information regarding our Phase I site. (see attached list).

1) Wetlands in Niagara Co. & proximity to sites
2) Types of fish & wildlife in Erie/Niagara area
3) Use by fish & wildlife of Niagara River & tributaries
4) Sensitive environments & proposed wetlands in the Erie/Niagara area

Chisholm Ryder Site

There are no critical habitats for endangered species within 1 mile of the site

I AGREE WITH THE ABOVE SUMMARY OF THE INTERVIEW:

SIGNATURE: James R. Snieder - Sr. Wildlife Biologist
Michael A. Wilkinson - Conservation Biologist (Aquatic)

COMMENTS: No discussion of wetlands / wildlife regarding Niagara Landfill site - referred to Glenn Cliffin

REF - 16

15 (12/75)

New York State Department of Environmental Conservation

MEMORANDUM

TO: R. Mitrey
FROM: Y. Erk Y. Erk
SUBJECT: Chisholm Ryder Inspection

DATE: October 14, 1980

The writer inspected the plant on October 6, 1980. During the inspection, Mr. Socha, the plant manager, was present. The disposal site located north of the plant was used in the past for dumping iron fillings from the plant operation. The plant has been producing canning equipment and it has an electroplating vatt for copper plating. This operation is minor in scale and the management is considering to close it down soon. Electroplating solution is made of copper cyanide and no electroplating sludge is produced after the operation.

Mr. Socha informed the writer that the 50 pounds of copper cyanide drum, which was found during the last year's inspection, was reused and he promised to send a letter in this effect to the Department explaining the situation.

→ 10/31/80

Aluminum and steel scrap from the plant operation are sold to a third party for metal recovery. At the present, the plant is not generating any other wastes. Based on the inspection and the information gathered, no further action is necessary for the disposal site.

YE:mkf

1. YE to OK
2. File -

(47-15-11 (10/83)

REF-17

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DIVISION OF SOLID AND HAZARDOUS WASTE

INACTIVE HAZARDOUS WASTE DISPOSAL SITE REPORT

PRIORITY CODE: 2a SITE CODE: 932009

NAME OF SITE: Chisholm Ryder REGION: 9

STREET ADDRESS: College Avenue at Highland Avenue

TOWN/CITY: Niagara Falls COUNTY: Niagara

NAME OF CURRENT OWNER OF SITE: Chisholm Ryder Company, Inc.

ADDRESS OF CURRENT OWNER OF SITE: 3800 Highland Avenue, Niagara Falls, NY 14305

TYPE OF SITE: OPEN DUMP [X] STRUCTURE [ ] LAGOON [ ]
LANDFILL [ ] TREATMENT POND [ ]

ESTIMATED SIZE: 2 ACRES

SITE DESCRIPTION:

This site has been used for the disposal of oil and absorbent floor sweepings. The sweepings were generally deposited in drums and fibrepacks. Ash and cinders from a former coal fired boiler and other rubble were deposited on this site. The cover is poor and overgrown with weeds and brush.
The USGS sampled this site in 1982 & 83, taking 3 test borings. The heavy metal analysis shows zinc above background levels. The organic analysis data is pending.

HAZARDOUS WASTE DISPOSED: CONFIRMED [X] SUSPECTED [ ]

TYPE AND QUANTITY OF HAZARDOUS WASTES DISPOSED:

TYPE	QUANTITY (POUNDS, DRUMS, TONS, GALLONS)
Ash and Cinders	Unknown
Rubble	
Grease & Oil	
Metal Turnings	
Water Saluble Coolant	

TIME PERIOD SITE WAS USED FOR HAZARDOUS WASTE DISPOSAL:

unknown, 19 ___ TO unknown, 19 ___

OWNER(S) DURING PERIOD OF USE: Chisholm Ryder Company, Inc.

SITE OPERATOR DURING PERIOD OF USE: Same

ADDRESS OF SITE OPERATOR: Same as Above

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

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

SOIL TYPE: Topsoil/Sandy Gravel

DEPTH TO GROUNDWATER TABLE: Unknown

LEGAL ACTION: TYPE: None STATE ☐ FEDERAL ☐
STATUS: IN PROGRESS ☐ COMPLETED ☐
REMEDIAL ACTION: PROPOSED ☐ UNDER DESIGN ☐
IN PROGRESS ☐ COMPLETED ☐

NATURE OF ACTION: None

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

No significant environmental problems identified. However, results of analysis for organic parameter is unavailable at this time.

ASSESSMENT OF HEALTH PROBLEMS:

INSUFFICIENT INFORMATION

PERSON(S) COMPLETING THIS FORM:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

NAME Robert Senior
TITLE Sen. Sanitary Eng.
NAME Peter Buechi
TITLE Associate Sanitary Eng.
DATE: November 21, 1983

NEW YORK STATE DEPARTMENT OF HEALTH

NAME R. Tramontano
TITLE Bur. Tox. Subst. Assess.
NAME
TITLE
DATE: 12/83

REF - 18

RECEIVED
MAR 17 1982
N.Y.S. DEPT. OF
ENVIRONMENTAL CONSERVATION
REGION 9 HEADQUARTERS

PRELIMINARY INVESTIGATION AND PROFILE REPORTS FOR TWENTY-SIX SUSPECTED INDUSTRIAL DISPOSAL SITES IN NIAGARA COUNTY, NEW YORK.

PREPARED BY

NIAGARA COUNTY HEALTH DEPARTMENT
10TH & E. FALLS STREETS
NIAGARA FALLS, NEW YORK 14302

MARCH, 1982

NAME

CHISHOLM - RYDER (DEC #932009)

LOCATION

The Chisholm - Ryder Plant is located on the northwest corner of College Avenue and Highland Avenue in Niagara Falls, NY. The suspected disposal site is a three acre area located north of the plant fence along the west side of the railroad siding.

OWNERSHIP

The property is owned by the Chisholm - Ryder Co., Inc., College Avenue at Highland Avenue, Niagara Falls,NY 14305. Correspondence should be sent to the attention of Mr. William Socha, Plant Manager.

HISTORY

The Chisholm - Ryder Plant manufactures agricultural harvesting equipment. Company officials report that Chisholm - Ryder does not or has not operated a disposal site either on or off-site.

An area north of the plant area was filled at an unknown time, possibly prior to 1960. The area was reportedly filled with building materials, stone and clay. A. Cerrone, Inc. of 4625 Witmer Road was the contractor. According to a Chisholm - Ryder employee, this project was undertaken to protect the railroad siding from flooding.

Since this time, the area has apparently been used for informal dumping of waste materials.. Several 55 gallon drums filled with ash and similiar materials are visible in this area. A 50 pound fibre pack labeled "copper cyanide" was found here in 1979. The pack was then removed by the company for reuse.

An inspection of this site was made on March 1, 1982 by Health Department personnel. At this time the only signs of waste disposal were the exposed drums and scattered refuse mentioned above. The fill deposited by A. Cerrone, Inc. showed no visible sign of contamination and was covered with grass and sparce brush. According to Mr. Edward Warric of Chisholm - Ryder the exposed material has been there for atleast nine years and that no material has been dumped there to his knowledge during this period.

EXAMINATION OF AERIAL PHOTOGRAPHS

A review of USDA aerial photography taken in 1958, 1966 and 1978 shows no evidence of any disposal activities or major changes in the land form in this area.

RESULTS OF PREVIOUS SAMPLING

There is no record of any previous sampling being done at this location.

SOILS/GEOLOGY

A detailed soil survey for the area is unavailable. The filled area is suspected to contain a large percentage of rubble, stone and other coarse material. There is no available boring data from this area.

Reportedly the filled area was originally a low swampy area. Local flooding may have occurred prior to filling.

The bedrock is expected to be Lockport Dolomite. The depth to the Dolomite is unknown.

GROUNDWATER

The depth to groundwater and the direction of flow have not been determined. The general flow pattern for this region suggests that groundwater may flow southwest to west into the lower river gorge.

The nearest known drink water wells are about one mile northeast of the site. Public water is available throughout a three mile radius. It is not known if any industrial wells are located in this area.

SURFACE WATER

The nearest surface water is the Niagara River, 3,000 feet northwest of the site. There are no drinking water intakes within three miles downstream of this location.

The landfill area is not believed to be susceptible to flooding. There are no wetlands within one mile.

AIR

The nearest residence is estimated to be 200 feet from the filled area. Approximately 3,000 people are estimated as living within a one mile radius. The area to the east and southeast is industrial. The areas north and northeast of the site are residential.

The potential for air emissions is assumed to be small provided the wastes present are the types described by the Inter Agency Task Force.

FIRE AND EXPLOSION

The potential for fire or explosion is unknown. The nearest building is the Chisholm - Ryder Plant, 100 feet away. Over 10,000 people and several thousand buildings are located within a two mile radius.

DIRECT CONTACT

Access to this site is not restricted by fences or other means. Some waste materials are exposed.

CONCLUSIONS

Sampling and observation holes are needed to verify that the mounded area contains only clean fill. Access for drilling equipment may be difficult.

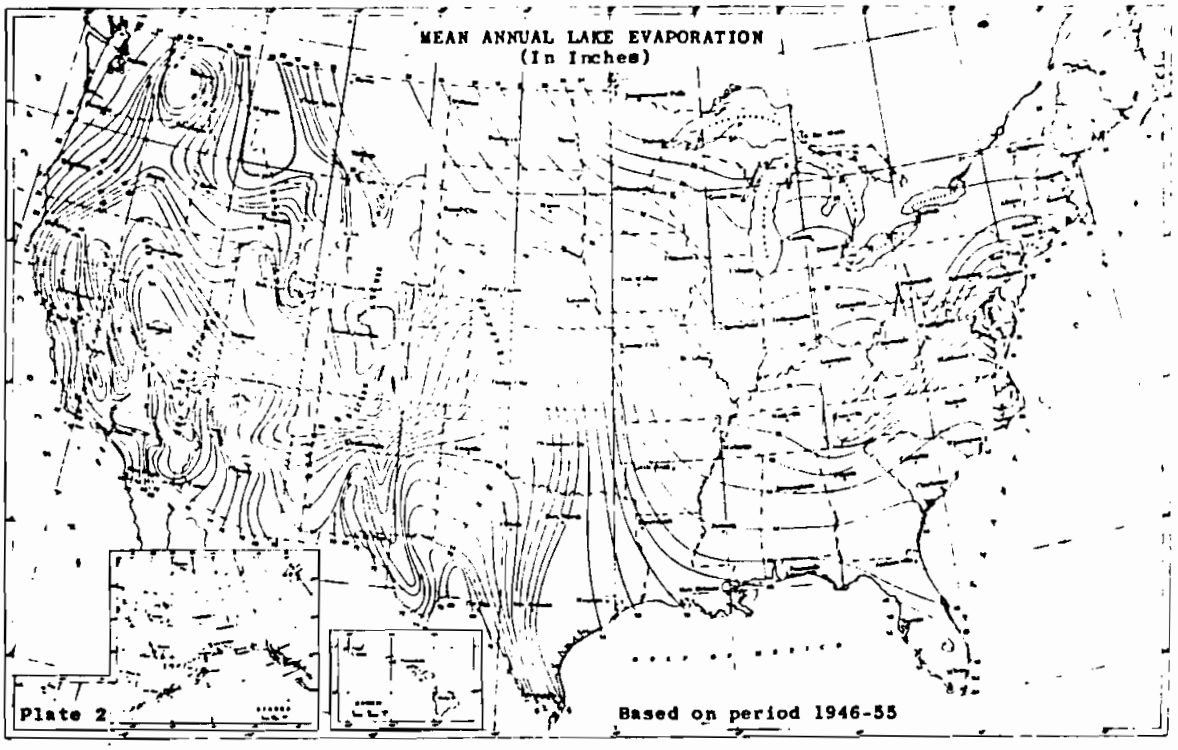
The exposed drums and refuse should be removed.

REF- 19

US CENSUS DATA, 1980

US Census Data used in the HRS scoring was obtained from various County Planning Offices. This data was nct obtained from a report. The raw census data combined with County Planning Maps was used to estimate the population within 1, 2, 3, and 4 miles of the Phase I site being investigated. Because of the voluminous amount of data used, the data is not provided in this Appendix.

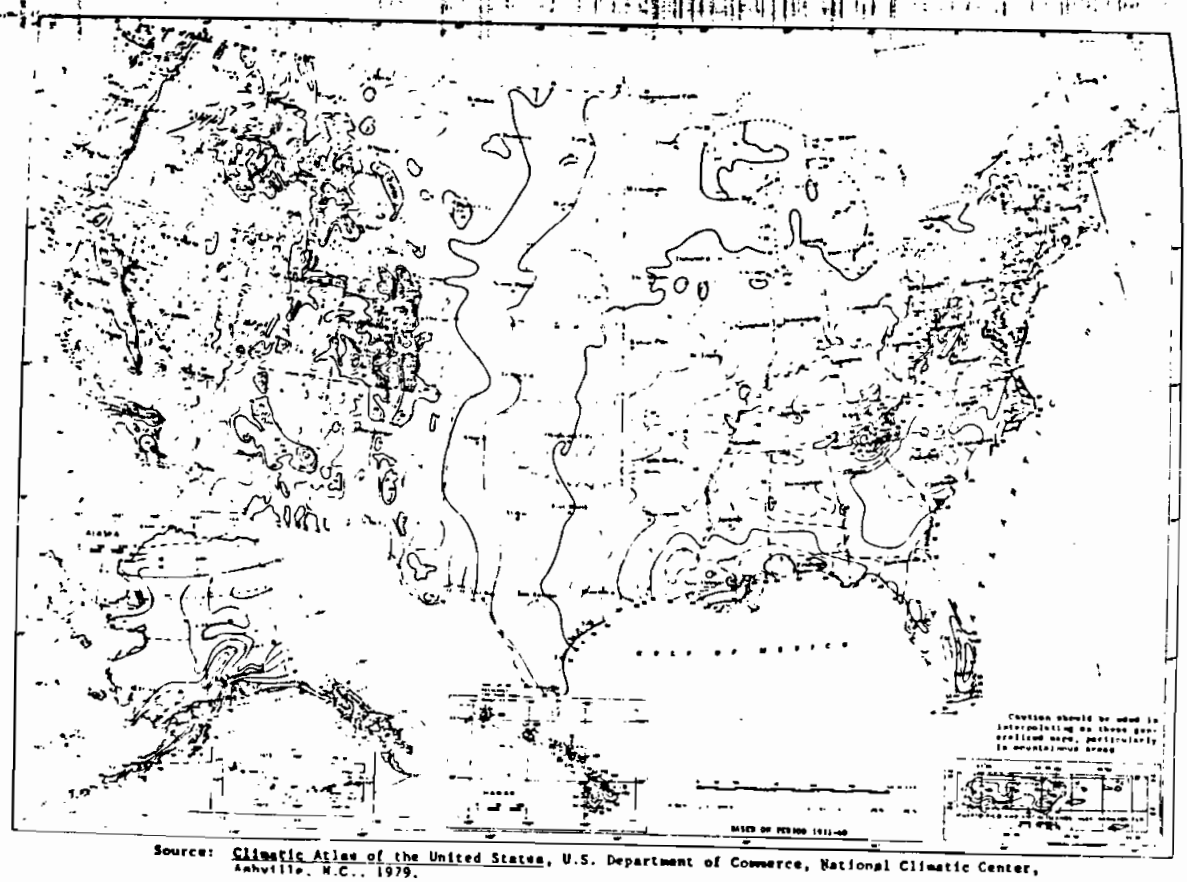
REF - 20



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

Figure 4

Mean Annual Lake Evaporation (In Inches)

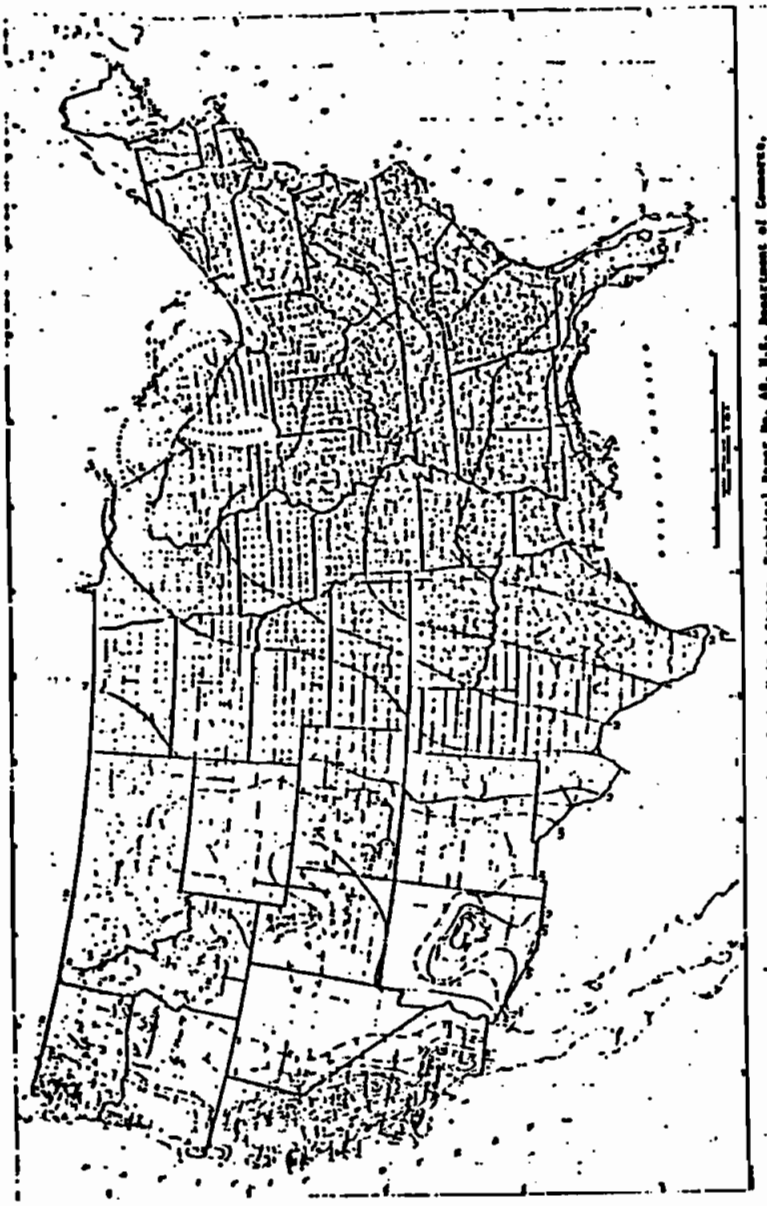


Source: Climatic Atlas of the United States, U.S. Department of Commerce, National Climatic Center, Ashville, N.C., 1979.

Figure 5

Normal Annual Total Precipitation (inches)

REF-21

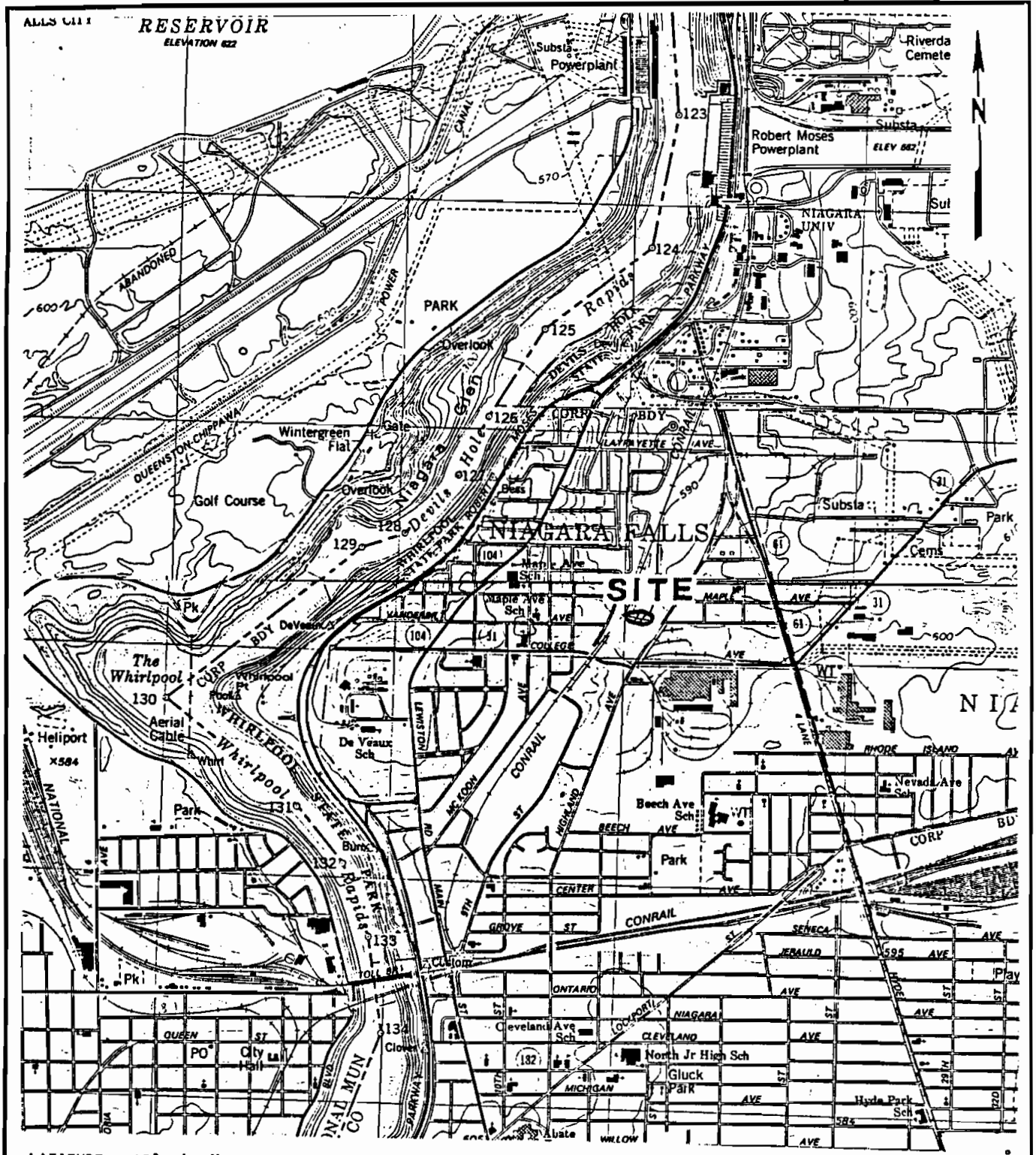


Source: Rainfall Frequency Atlas of the United States, Technical Paper No. 40, U.S. Department of Commerce, U.S. Government Printing Office, Washington, D.C., 1961.

Figure 8

1-Year 24-Hour Rainfall (Inches)

REF-22



LATITUDE: 43°07'22"
LONGITUDE: 79°02'41"

SCALE

0 1000 2000 3000 4000 FEET

REFERENCE: U.S.G.S. 7.5' Topographic Map
Niagara Falls, NY-ONT. (1980) and
Lewiston, NY-ONT. (1980) Quadrangles

ENGINEERING-SCIENCE, INC.
IN ASSOCIATION WITH
DAMES & MOORE

NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION
PHASE I REPORT

SITE LOCATION MAP
CHISHOLM RYDER

FIGURE I-1

REF-23

11. CHISHOLM RYDER (USGS field reconnaissance) NYSDEC 932009

General information and chemical-migration potential.--The Chisholm Ryder site, in the city of Niagara Falls, was used to dispose of unknown quantities of ash, cinders, rubble, grease, oil, metal turnings, and water-soluble coolant.

The potential for vertical contaminant migration may be high because the overburden is shallow. The elevated concentrations of some heavy metals such as zinc and the presence of organic priority pollutants indicate that sampling may have been within the burial area. The potential for contaminant migration is indeterminable because the hydrogeologic data are limited.

Geologic information.--The site consists of fill overlying a veneer of ground-moraine material that overlies bedrock of Lockport Dolomite. The U.S. Geological Survey drilled three test holes on the site in 1982; the locations are shown in figure C-6. The geologic logs are as follows:

Boring no.	Depth (ft)	Description
1	0 - 1.5	Black organic soil.
	1.5 - 2.0	Same, impenetrable materials, possibly bedrock at 2 ft.
		SAMPLE: 2 ft.
2	0 - 3.5	Reddish brown topsoil.
	3.5 - 5.0	Silt (?), tan, friable, some gravel, dry, sandy.
	5.0 - 6.5	Silt or clay, reddish, dry, some gravel.
	6.5 - 8.5	Same, impenetrable material, possibly bedrock at 8.5 ft.
		SAMPLE: 8.5 ft.
3	0 - 1.0	Black organic topsoil.
	1.0 - 5.0	Clay, sandy, reddish, gravelly.
		SAMPLE: 5 ft.

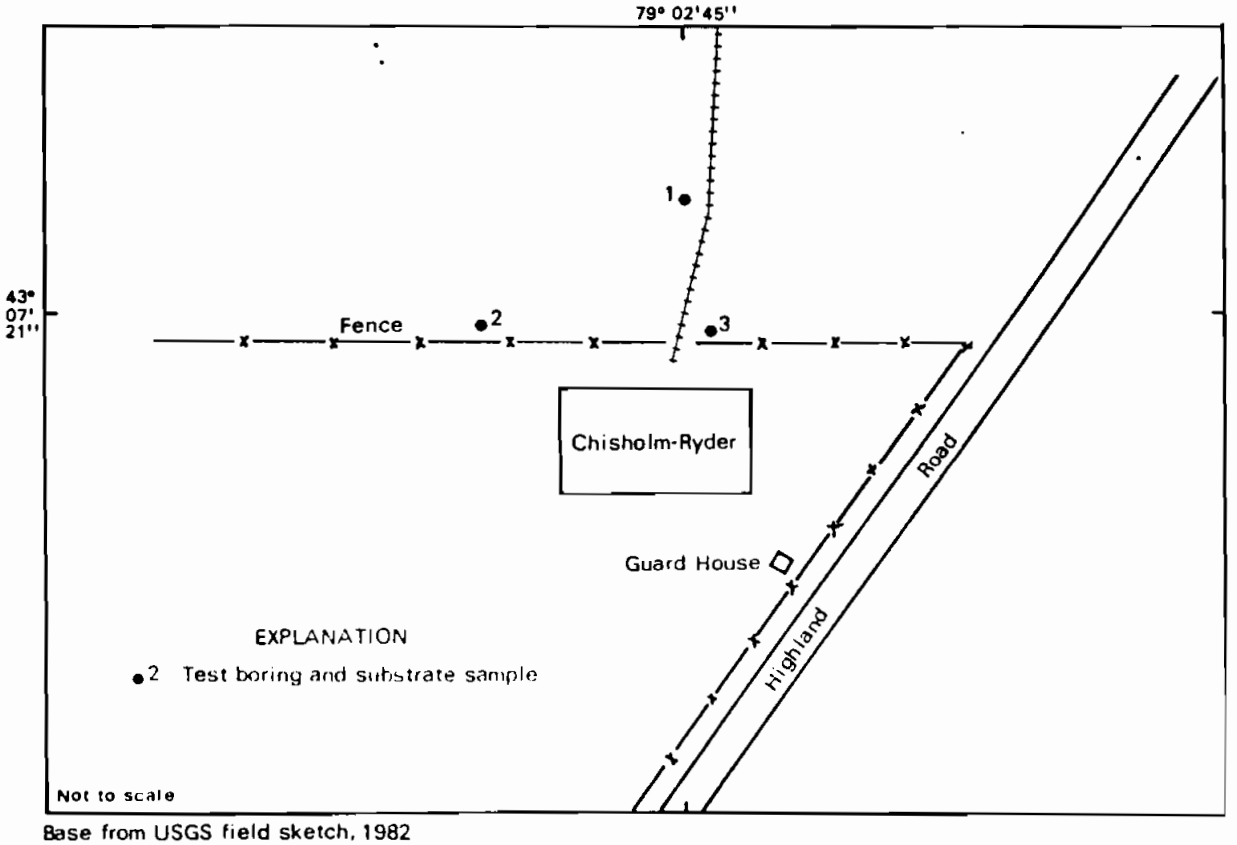


Figure C-6. Location of sampling holes at Chisholm Ryder, site 11, Niagara Falls.

Hydrologic information.--Ground water was not encountered and is probably confined to fractures in the underlying bedrock.

Chemical information.--The U.S. Geological Survey collected three soil samples for cadmium, chromium, copper, iron, lead, mercury, zinc, and organic-compound analyses; results are shown in table C-5. The concentrations of zinc in samples 2 and 3 are substantially higher than in samples collected in undisturbed soils not affected by hazardous-waste-disposal practices. The samples contained 14 organic priority pollutants, 15 organic nonpriority pollutants, and some unknown hydrocarbons.

Table C-5.--Analyses of substrate samples from Chisholm Ryder, site 11, Niagara Falls, N.Y.
[Locations shown in fig. C-6. Concentrations are in µg/kg; dashes indicate that constituent or compound was not found, LT indicates it was found but below the quantifiable detection limit.]

	Sample number and depth below land surface (ft)		
	1	2	3
First sampling (06-30-82)	(2.0)	(8.5)	(5.0)
Inorganic constituents			
Cadmium	1,000	2,000	2,000
Chromium	10,000	2,000	3,000
Copper	5,000	3,000	12,000
Iron	13,000	26,000	1,500,000
Lead	10,000	20,000	50
Mercury	--	--	--
Zinc	2,000	200,000†	220,000†
	Sample number and depth below land surface (ft)		
	1A	2A	3A
Second sampling (05-25-83)	(2.0)	(8.5)	(5.0)
Organic compounds			
Priority pollutants			
Toluene	--	--	3.3**
Trichloroethene	--	--	4.8**
Phenol	--	--	*
Fluoranthene	*	*	*

[1] Tentative identification based on comparison with the National Bureau of Standards (NBS) library. No external standard was available. Concentration reported is semiquantitative and is based only on an internal standard. GC/MS spectra were examined and interpreted by GC/MS analysts.

† Exceeds concentrations in samples taken from undisturbed soils in the Niagara Falls area. Undisturbed soils not analyzed for iron.

* Compounds detected but not quantified; holding time exceeded before GC/MS acid- and base-neutral extractable compounds were extracted.

** Surrogate recoveries were outside the acceptance limits.

Table C-5.--Analyses of substrate samples from Chisholm Ryder, site 11, Niagara Falls, N.Y. (continued)

[Locations shown in fig. C-6. Concentrations are in µg/kg; dashes indicate that constituent or compound was not found, LT indicates it was found but below the quantifiable detection limit.]

	Sample number and depth below land surface (ft)		
	1A	2A	3A
Second sampling (05-25-83)	(2.0)	(8.5)	(5.0)
Organic compounds (continued)			
Priority pollutants (continued)			
Naphthalene	*	--	*
Di-n-butyl phthalate	*	--	*
Bis(2-ethylhexyl) phthalate	*	--	--
Benzo(a)pyrene	--	--	*
Benzo(a)anthracene	--	*	--
Benzo(b)fluoranthene and benzo(k)fluoranthene	*	*	*
Acenaphthylene	--	--	*
Benzo(ghi)perylene	--	--	*
Indeno(1,2,3-cd)pyrene	--	--	*
Pyrene	--	*	*
Nonpriority pollutants			
Carbon disulfide	--	--	43.7**
O-xylene	--	--	9.6**
Benzoic acid	--	--	*
Dibenzofuran	--	--	*
2-methylnaphthalene	*	--	*
Trans-2-chloro-cyclohexanol[1]	*	--	
Dibutyl-dodecanedioate[1]	*	--	
Di-isooctyl phthalate[1]	*	--	
Trichlorofluoromethane[1]	--	--	*
Tetrahydrofuran[1]	--	--	*
Cyclohexane[1]	--	--	*
Methylcyclohexane[1]	--	--	*
1,1,3-Trimethylcyclopentane[1]	--	--	*
Cis-1,2-Dimethylcyclohexane[1]	--	--	*
1,1,3-Trimethylcyclohexane[1]	--	--	*
(1-Methylethyl)-cyclohexane[1]	--	--	*
1,3- and 1,4-Dimethylbenzene[1]	--	--	*
Unknown hydrocarbons[1]	*	--	*

APPENDIX B

PROPOSED UPDATED NYS REGISTRY SHEET

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

CLASSIFICATION CODE: 2a REGION: 9 SITE CODE: 932009

NAME OF SITE : Chisholm Ryder
STREET ADDRESS: College Avenue at Highland Avenue
TOWN/CITY: COUNTY: ZIP:
Niagara Falls Niagara

SITE TYPE: Open Dump-X Structure- Lagoon- Landfill- Treatment Pond-
ESTIMATED SIZE: 2 Acres

SITE OWNER/OPERATOR INFORMATION:
CURRENT OWNER NAME....: Chisholm Ryder Company, Inc.
CURRENT OWNER ADDRESS.: 3800 Highland Avenue, Niagara Falls, NY 14305
OWNER(S) DURING USE...: Chisholm Ryder Company, Inc.
OPERATOR DURING USE...: Same
OPERATOR ADDRESS.....: Same as Above
PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From Mid 1940's To 1959

SITE DESCRIPTION:
This site has been used for the disposal of oil and absorbent floor sweepings. The sweepings were generally deposited in drums and fibrepacks. Ash and cinders from a former coal fired boiler and other rubble were deposited on this site. The cover is poor and overgrown with weeds and brush. The USGS sampled this site in 1982 & 83, taking 3 test borings. The heavy metal analysis shows zinc above background levels. Fourteen of the organic priority pollutants were detected, all at relatively low concentrations. Also, some unknown hydrocarbons were detected.

HAZARDOUS WASTE DISPOSED: Confirmed-X Suspected -

TYPE	QUANTITY (units)
Ash and Cinders	Unknown
Rubble	
Grease & Oil	
Metal Turnings	
Water Saluble Coolant	
Ash from the incineration of plant refuse	
Metallic sludge from plating operations (suspected)	
Vapor degreasing solvents and sludges (suspected)	

SITE CODE: 932009

ANALYTICAL DATA AVAILABLE:

Air- Surface Water- Groundwater- Soil-X Sediment- None-

CONTRAVENTION OF STANDARDS:

Groundwater- Drinking Water- Surface Water- Air-

LEGAL ACTION:

TYPE..: None X State- Federal-
STATUS: In Progress- Completed-

REMEDIAL ACTION:

Proposed- Under Design- In Progress- Completed-
NATURE OF ACTION: None X

GEOTECHNICAL INFORMATION:
SOIL TYPE: Lacustrine silt and clay
GROUNDWATER DEPTH: Unknown

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

No immediate environmental problems identified. However, there is a potential for gradual migration of contaminants from the site. Further investigation is recommended.

ASSESSMENT OF HEALTH PROBLEMS:

Insufficient information.

PERSON(S) COMPLETING THIS FORM:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

NAME.: Ahmad Tayyebi
TITLE: Asst. Sanitary Engr.

NAME.: Peter Buechi
TITLE: Associate Sanitary Eng.

DATE.: 01/24/85

NEW YORK STATE DEPARTMENT OF HEALTH

NAME.: R. Tramontano
TITLE: Bur. Tox. Subst. Assess.

NAME.:
TITLE:

DATE.: 01/24/85