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INVESTIGATION

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915030

ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES

PHASE I INVESTIGATION

Hartwell Street Landfill
City of Buffalo

Site No. 915030
Erie 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
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By:
ENGINEERING-SCIENCE
In Association With
DAMES & MOORE

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

HARTWELL STREET LANDFILL
NYS SITE NUMBER 915030
CITY OF BUFFALO
ERIE COUNTY
NEW YORK STATE, 14207

Prepared For

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NEW YORK STATE
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HARTWELL STREET LANDFILL

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SECTION I

EXECUTIVE SUMMARY HARTWELL STREET LANDFILL

This report, prepared for the New York State Department of Environmental Conservation (NYSDEC), presents the results of the Phase I investigation of the Hartwell Street Landfill site (NYS Site Number 915030, No EPA Site Number given) located in the City of Buffalo, Erie County, New York (Figure I-1).

SITE BACKGROUND

The site is located adjacent to the Atlas Steel Casting Company, which has owned the disposal site since 1952 (see Figure I-2). In 1979, Atlas Steel landfilled the site with approximately 400 cubic yards of construction debris including concrete, earthen material, and foundry sand that was excavated on-site during a plant expansion project. The foundry sand contains a chemical irritant (sodium silicate) which has been analyzed and determined to be non-hazardous. A 1982 NYSDEC hazardous waste investigation found significant concentrations of lead in a water sample taken from a puddle adjacent to the site, and significant concentrations of copper, nickel and zinc in soil samples collected at the site.

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:

- o 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).
- o S_{FE} reflects the potential for harm from substances that can explode or cause fires.
- o 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	=	1.38	S_A	=	0
S_{GW}	=	2.39	S_{FE}	=	0
S_{SW}	=	0	S_{DC}	=	0

These scores reflect low target scores for groundwater and surface water, although higher risk for direct contact by the public.

RECOMMENDATIONS

The following recommendations are made for the completion of Phase II. The Phase II program at this site should be conducted following a two step approach. The first step would include the collection of samples from the on-site waste piles. If analyses for heavy metals and phenols detect high concentrations of the constituents, additional monitoring of groundwater and surface water under step two would be conducted.

Step 1

- o Sampling of waste piles on-site.
- o Sample analyses to include heavy metals (ICPES) and phenols.

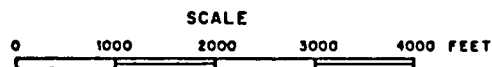
Step 2

- o Groundwater monitoring system consisting of one upgradient and three downgradient wells.
- o Surface water and sediment monitoring system consisting of one upgradient, three downgradient stations, and a station in the low-lying area adjacent to the railroad tracks.
- o Sample analyses to include heavy metals (ICPES) and phenols.

The estimated man-hour requirements to complete both Step 1 and 2 of Phase II are 818, while the estimated cost is \$58,067.



LATITUDE: 42°57'04"
LONGITUDE: 78°52'35"

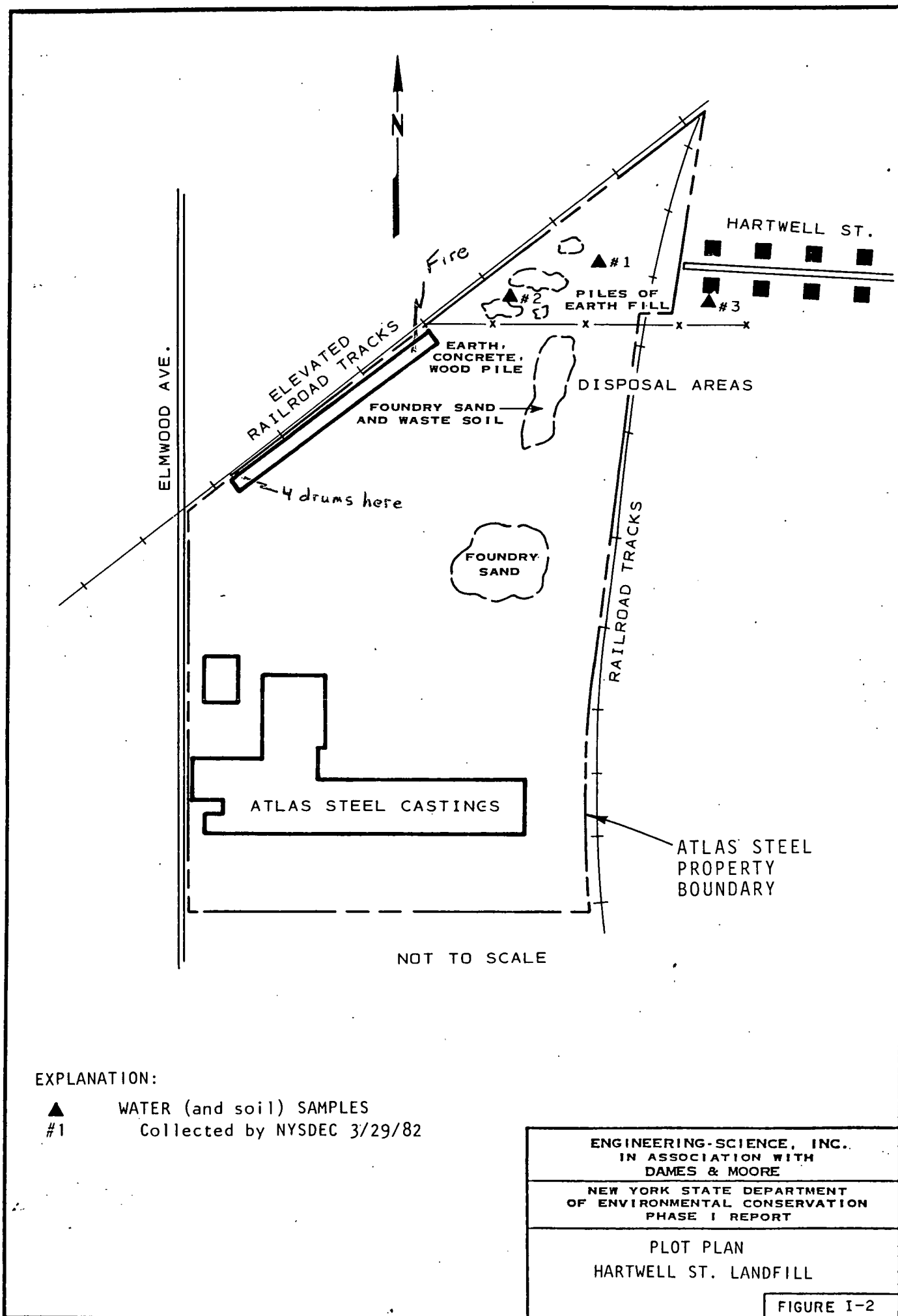


REFERENCE: U.S.G.S. 7.5' Topographic Map
Buffalo NE, NY (1965) and Buffalo NW,
NY-ONT. (1965) Quadrangles

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SITE LOCATION MAP
HARTWELL ST. LANDFILL

FIGURE I-1







SECTION II

PURPOSE

The purpose of the Phase I investigation at the Hartwell Street Landfill 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, available data and records,, combined with information collected from a site inspection, were reviewed and evaluated. The investigation at this site focused on the potential of contaminant migration from the disposal of construction debris and foundry sand on-site. Based on this initial evaluation of the Hartwell Street Landfill 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 Hartwell Street Landfill site has been owned by Atlas Steel Corporation from 1952 to present. The five (5) acre disposal site is located adjacent to the Atlas Steel Manufacturing facility. In September, 1978 complaints were received by Erie County Department of Environment and Planning (ECDEP) regarding landfilling activity at the Hartwell Street Landfill (ECDEP, 1979). Field surveys conducted in November, 1979 and December, 1981 (NYSDEC, 1982) found that construction debris including concrete, earthen material and foundry sand (a precast metal molding material) had been excavated during construction activity at the Atlas Steel facility and was landfilled on the Hartwell Street disposal site. The total volume of fill material is estimated to be 400 cubic yards of which 10% is foundry sand (Atlas Steel, 1985). The foundry sand contains a sodium silicate bonding agent which is a skin and eye irritant. The sodium silicate bonding agent is non-hazardous as determined by laboratory analysis (ARO Corporation, 1984).

SITE TOPOGRAPHY

The Hartwell Street Landfill is located on Atlas Steel Company property in Buffalo, Erie County, New York State. The ground surface is relatively flat. Surface water occurs as puddles and drains west into ditches parallel to the railroad tracks. Several piles (approximately 10' high) of soil and sand have been disposed on the site.

The site is not contained by a fence to prevent unauthorized entry. Furthermore, local residents use the Hartwell Street site as a short-cut.

The disposal site is located outside of the Atlas Steel Corporation's plant fence. East of the site is the end of Hartwell Street, along which are located many urban-type homes. Northwest of the site are railroad tracks. South of the site is the Atlas Steel Plant property.

Local Sensitive Environments

There are no nearby wells, wetlands, or critical habitats.

SITE HYDROLOGY

This summary of site hydrology is based on information from USGS topographic maps, NYS Museum and Science Service Bedrock Geology map and Quaternary Geology map, LaSala (1968).

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 widespread 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. The Erie County region is covered by lake sediments; the most recent being from Lake Warren (a larger predecessor to Lake Ontario and Lake Erie). The sediments consist of blanket sands and beach ridges which are occasionally underlain by lacustrine silts and clays (indicating quiet, deeper water deposition).

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

Site Hydrogeology

The site lies on the contact between the Camillus Shale and Bertie Limestone (Salina Group). The depth to the top of rock is estimated to be 60 to 80 feet. No wells are known to exist in this rock unit. Ground water may occur in the fractures of this rock unit and may be high in calcium and magnesium hardness and hydrogen sulfide (due to the shaley nature of both formations). Soil stratigraphy on this site is estimated as follows (LaSala, 1968):

<u>Soil Type</u>	<u>Depth</u>
Miscellaneous fill and top soil	0' to 5'
Lacustrine silts and clays	5' to 10'
Till	10' to 60/80'
Top of Rock	60' to 80'

These soils are all expected to be low permeability and are not considered to be shallow soil aquifers.

SITE CONTAMINATION

An estimated 400 cubic yards of fill material, including concrete, earthen material, and foundry sand, were excavated from the Atlas Steel facility during a plant expansion project in 1978 (Atlas Steel Corporation, 1985). Approximately 10% of the fill material is foundry sand which contains a sodium silicate bonding agent, which is non-hazardous, but is a skin and eye irritant. These materials were disposed on Atlas Steel property adjacent to the plant site on what is known as the Hartwell Street Landfill.

In March 1982, the NYSDEC collected two water samples and two soil samples next to the landfilled material, and a third water sample from the basement of a residential home adjacent to the site (see Figure IV-1). Analysis of the water samples found concentrations of lead, chromium, copper, zinc, and total organic carbon. A summary of the water analyses are presented in Table IV-1 and the analytical results are provided in their entirety in the Appendix. As noted in the table, the concentration of lead was in excess of the water quality standards for GA Class groundwaters in New York State (NYSDEC, 1982). The potential for surface and groundwater contamination does exist, however, it should be noted that the samples were collected from intermittent surface waters in an area where groundwaters are not used as a potable water supply. Furthermore, no groundwater monitoring wells are located on-site so the quality of the groundwater has not been determined to date.

The soil samples analyzed contained significant amounts of copper, nickel, and zinc and detectable amounts of chromium, lead, and silver (Table IV-1; NYSDEC, 1982). However, these pollutants may not be indicative of the fill material as no waste samples were collected and analyzed from the piles of fill material on-site.

Approximately 10% of the on-site landfilled material is foundry sand, a material used in metal casting operations at the Atlas Steel facility. The foundry sand presently used by Atlas Steel contains a

water soluble sodium silicate binding agent which is a slight eye and skin irritant, but is considered non-hazardous (Material Safety Data Sheet). According to Atlas Steel, the foundry sands are not phenolic-based binding agents commonly used in sand casting. Analysis of the foundry sand samples collected by the NYSDEC found no detectable concentrations of phenols (NYSDEC, 1982). However, the foundry sand which was analyzed by the NYSDEC was sodium silicate based foundry sand that is currently used by Atlas Steel. It should be noted that the foundry sand previously used at the facility and during the period of waste disposal was not analyzed. Therefore, the possibility exists that the foundry sand at the Hartwell Street Landfill is not a sodium silicate based foundry sand.

HNu meter readings were taken during the recent site inspection (ES and D&M, 1985) and all measurements were less than 1 ppm.

In September, 1979, the NYSDEC recommended that Atlas Steel cease depositing wastes on the Hartwell site or obtain a valid Part 360 permit (NYSDEC, 1979). Atlas Steel discontinued landfilling at the site in 1979 and there is no present evidence of on-site hazardous waste disposal (ES and D&M site inspection, 1985).

TABLE IV-1

SUMMARY OF WATER AND SOIL ANALYSES FOR HARTWELL STREET SITE

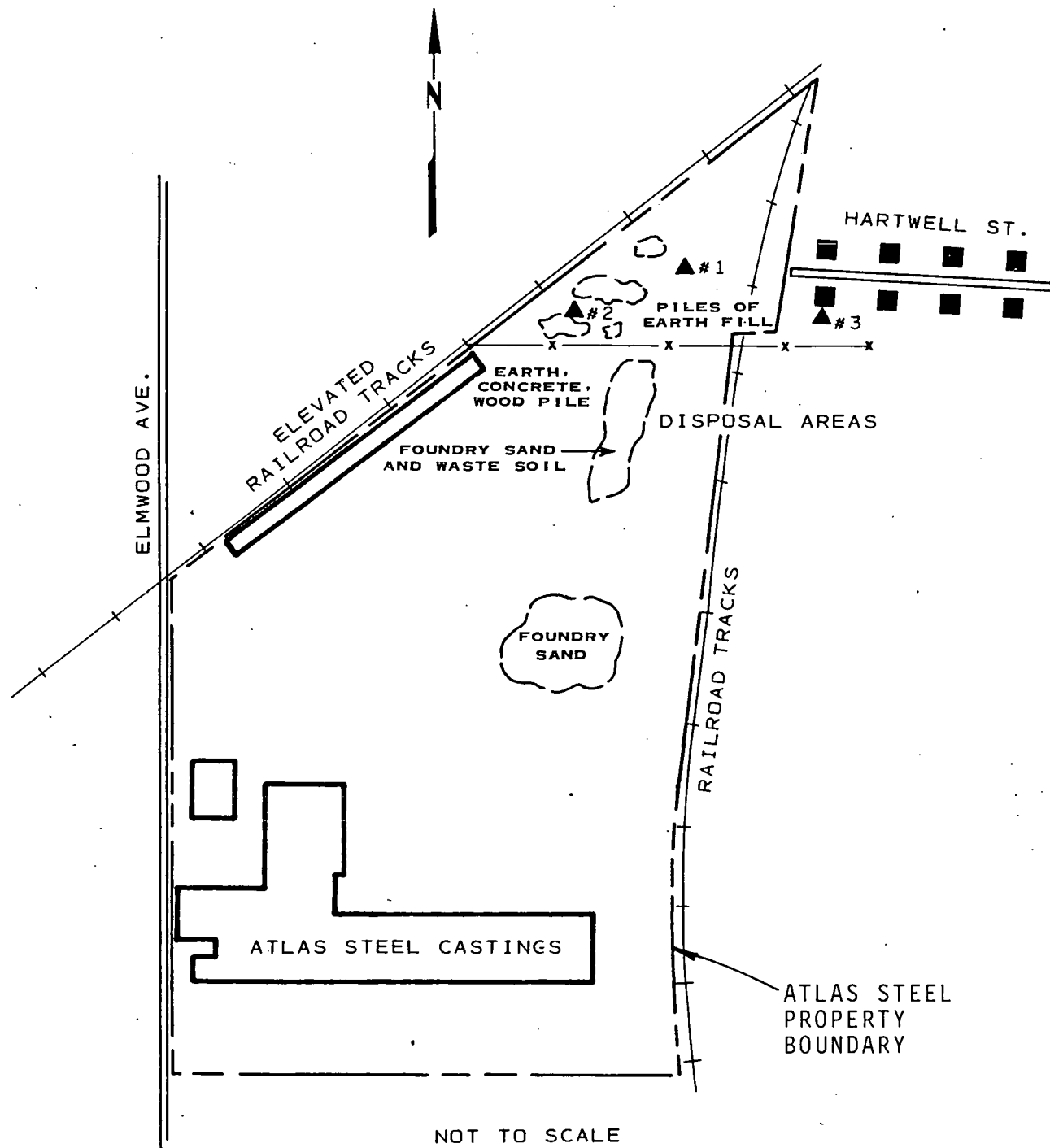
Parameter	1 ^a	Sample Collection Sites 2 ^a	3 ^b	Water Quality Standards ^c
<u>WATER</u> (mg/l)				
Inorganic Constituents				
Lead	< 0.03	0.18	0.37	0.025
Chromium	0.025	< 0.004	< 0.004	0.05
Copper	0.016	0.005	< 0.005	1.0
Organic Compounds				
Non-priority Pollutants				
Total Organic Carbon	6.5	6.5	7.5	---
<u>SOIL</u> (ug/g dry)				
Inorganic Constituents				
Copper	43	260	--	
Nickel	17	180	--	
Zinc	98	100	--	
Chromium	12	94	--	
Lead	68	44	--	
Silver	0.51	3.8	--	

Source: NYSDEC Hazardous Waste Report, Hartwell Site, 1982.

^a Samples collected 3/29/82 from Hartwell site.

^b Sample collected 3/29/82 from basement of house adjacent to landfill.

^c Water Quality Standards for GA Class Groundwater in New York State.



EXPLANATION:

- ▲ WATER (and soil) SAMPLES
#1 Collected by NYSDEC 3/29/82

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PLOT PLAN
HARTWELL ST. LANDFILL

FIGURE IV-1







PRELIMINARY APPLICATION OF HAZARD RANKING SYSTEM

NARRATIVE SUMMARY

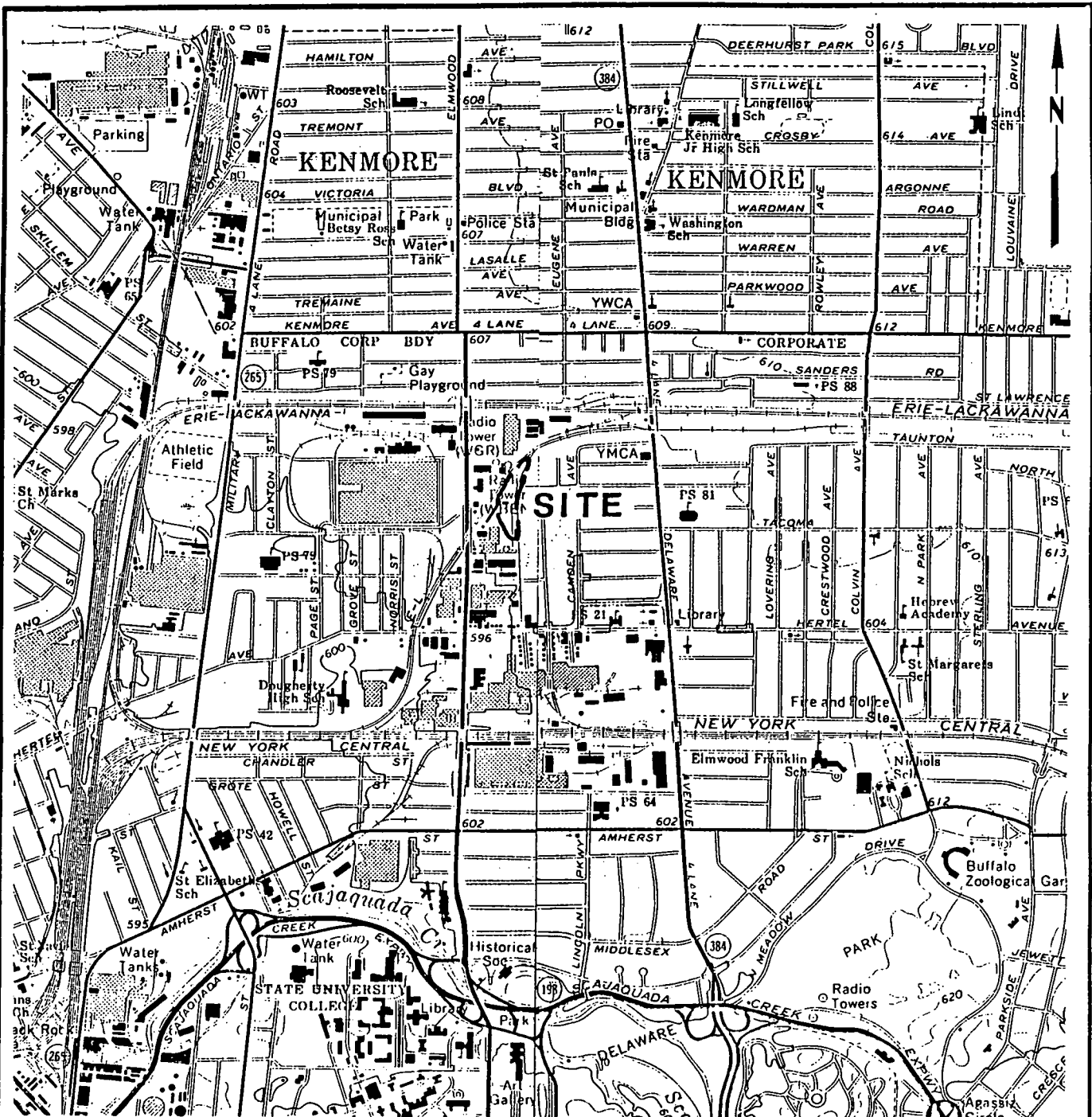
The 5-acre Hartwell Street site is located at the end of Hartwell Street adjacent to Atlas Steel Casting Company within the City of Buffalo, Erie County, New York. Atlas Steel has owned the site from 1952 to present.

In 1979, Atlas Steel disposed approximately 400 cubic yards of construction debris including concrete, earthen material, and foundry sand on the Hartwell site. The foundry sand composes 10% of the filled material and is non-hazardous (Atlas Steel Corporation, 1985).

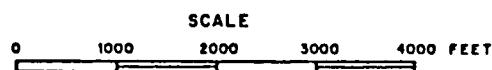
In March, 1982 the NYSDEC collected two surface water samples from intermittent puddles and two soil samples adjacent to the landfill site and a third water sample from the basement of a residential home adjacent to the site. Lead, chromium, copper, zinc and total organic carbon were detected in the water samples (NYSDEC, 1982). The soil samples contained significant concentrations of copper, nickel, and zinc and detectable amounts of chromium, lead and silver (NYSDEC, 1982) indicating soil contamination. However, no analyses were made of the fill material and it is not known whether the metals originated from the fill material. HNu meter readings were taken (ES and D&M Site Inspection, 1985) and all measurements were less than 1 ppm, indicating no air releases.

The site is not enclosed by a fence and local residents frequently use the site as a short-cut to reach a nearby shopping center. The population within a one-mile radius of the site is approximately 22,000 people. No remedial or environmental enforcement actions have been taken as a result of past waste disposal practices at the site.

LOCATION



LATITUDE: 42°57'04"
LONGITUDE: 78°52'35"



REFERENCE: U.S.G.S. 7.5' Topographic Map
Buffalo NE, NY (1965) and Buffalo NW,
NY-ONT. (1965) Quadrangles

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SITE LOCATION MAP
HARTWELL ST. LANDFILL

FIGURE ii-1



HRS COVER SHEET

Facility Name: Hartwell Street Landfill - Atlas Steel Casting Co.

Location: Foot of Hartwell St., adjacent to the Atlas Steel Casting Co.

EPA Region: II

Person(s) in charge of the facility: Atlas Steel Casting Company, 1963
Elmwood Avenue, Buffalo, NY 14207

Name of Reviewer: S. Robert Steele, II Date: 3/22/85

General Description of the facility:

The Hartwell Street Landfill, owned by Atlas Steel Casting Company was used in 1979 to dispose of approximately 400 cubic yards of construction debris including concrete, clean fill and foundry sands (estimated 10% of volume and non-phenolic base). These materials were used as fill since the Hartwell Street Landfill site is a low lying area. Several stockpiles of these materials which were not spread as fill are still on-site. Contaminants including heavy metals (i.e., lead, chromium, copper, zinc, silver) and TOC were detected in soil and water (puddle) samples collected in the vicinity of the site. The site is not enclosed by a fence to prevent unauthorized entry and is used as a common cut-through for local residents.

Scores: $S_M = 1.38$ ($S_{gw} = 2.39$ $S_{sw} = 0$ $S_a = 0$)

$S_{FE} = 0$

$S_{DC} = 0$

Facility Name: Hartwell StreetDate: 5/21/85

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	4	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	1	3		
Total Route Characteristics Score			8	15		
[3] Containment	0 1 2 (3)	1	3	3	3.3	
[4] Waste Characteristics					3.4	
Toxicity/Persistence	0 3 6 9 12 15 (18)	1	18	18		
Hazardous Waste Quantity	0 (1) 2 3 4 5 6 7 8	1	1	8		
Total Waste Characteristics Score			19	26		
[5] Targets					3.5	
Ground Water Use	0 (1) 2 3	3	3	9		
Distance to Nearest Well/Population Served	(0) 4 6 8 10 12 16 18 20 24 30 32 35 40	1	0	40		
Total Targets Score			3	49		
[6] If line [1] is 45, multiply [1] x [4] x [5] If line [1] is 0, multiply [2] x [3] x [4] x [5]			1368	57,330		
[7] Divide line [6] by 57,330 and multiply by 100			$S_{gw} = 2.39$			

GROUND WATER ROUTE WORK SHEET

Facility Name: Hartwell StreetDate: 5/21/85

Surface Water Route Work Sheet						
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)	
1 Observed Release	<u>0</u> 45	1	<u>0</u>	45	4.1	
If observed release is given a value of 45, proceed to line 4 ✓ If observed release is given a value of 0, proceed to line 2 .						
2 Route Characteristics					4.2	
Facility Slope and Intervening Terrain	<u>0</u> 1 2 3	1	<u>0</u>	3		
1-yr. 24-hr. Rainfall	0 1 <u>2</u> 3	1	<u>2</u>	3		
Distance to Nearest Surface Water	0 <u>1</u> 2 3	2	<u>2</u>	6		
Physical State	0 <u>1</u> 2 3	1	<u>1</u>	3		
Total Route Characteristics Score			<u>5</u>	15		
3 Containment	0 1 2 <u>3</u>	1	<u>3</u>	3	4.3	
4 Waste Characteristics					4.4	
Toxicity/Persistence	0 3 6 9 12 15 <u>18</u>	1	<u>18</u>	18		
Hazardous Waste Quantity	0 <u>1</u> 2 3 4 5 6 7 8	1	<u>1</u>	8		
Total Waste Characteristics Score			<u>19</u>	26		
5 Targets					4.5	
Surface Water Use	<u>0</u> 1 2 3	3	<u>0</u>	9		
Distance to a Sensitive Environment	<u>0</u> 1 2 3	2	<u>0</u>	6		
Population Served/Distance to Water Intake Downstream	<u>0</u> 4 6 8 10 12 16 18 20 24 30 32 35 40	1	<u>0</u>	40		
Total Targets Score			<u>0</u>	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			<u>0</u>	64,350		
7 Divide line 6 by 64,350 and multiply by 100			$S_{sw} = $	<u>0</u>		

SURFACE WATER ROUTE WORK SHEET

Facility Name: Hartwell StreetDate: 5/21/85

Air Route Work Sheet						
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)	
[1] Observed Release	(0) 45	1	0	45	5.1	
Date and Location: <u>3/22/85, upwind & downwind of landfill site</u>						
Sampling Protocol: <u>HNU meter</u>						
If line [1] is 0, the $S_a = 0$. Enter on line [5] . If line [1] is 45, then proceed to line [2] .						
[2] Waste Characteristics					5.2	
Reactivity and Incompatibility	(0) 1 2 3	1	0	3		
Toxicity	(0) 1 2 3	3	0	9		
Hazardous Waste	(0) 1 2 3 4 5 6 7 8	1	0	8		
Total Waste Characteristics Score			0	20		
[3] Targets					5.3	
Population Within 4-Mile Radius	0 9 12 15 18 (21) 24 27 30	1	21	30		
Distance to Sensitive Environment	(0) 1 2 3	2		6		
Land Use	- 0 1 2 (3)	1	3	3		
Total Targets Score			24	39		
[4] Multiply [1] x [2] x [3]			0	35,100		
[5] Divide line [4] by 35,100 and multiply by 100			$S_a = 0$			

AIR ROUTE WORK SHEET

Facility Name: Hartwell Street

Date: 5/21/85

Worksheet for Computing S_M

	s	s ²
Groundwater Route Score (S_{gw})	2.39	5.71
Surface Water Route Score (S_{sw})	0	0
Air Route Score (S_a)	0	0
$S_{gw}^2 + S_{sw}^2 + S_a^2$		5.71
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		2.39
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$		1.38

WORK SHEET FOR COMPUTING S_M

Facility Name: Hartwell streetDate: 5/21/85

Fire and Explosion Work Sheet

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

FIRE AND EXPLOSION WORK SHEET

Facility Name: Hartwell StreetDate: 5/21/85

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

DIRECT CONTACT WORK SHEET





DOCUMENTATION RECORDS
FOR
HAZARD RANKING SYSTEM

FACILITY NAME: Hartwell Street Landfill

LOCATION: 1963 Elmwood Avenue, Buffalo, New York

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 in limestone (estimate from NYS Quaternary Map)

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

60' - 80' (depth to top of rock, ECDEP Site Profile Report, 1982).

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

Estimate 5 feet (NYSDEC Registry Sheet, 12/83, and Hartwell Street Landfill, Unnamed Report).

Net Precipitation

U.S. Dept. of Commerce, National Climatic Atlas, Climatic Atlas of the United States, 1979.)

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

Mean annual precipitation is 36".

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

Mean annual lake evaporation is 27".

Net precipitation (subtract the above figures):

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

Permeability of Unsaturated Zone

Soil type in unsaturated zone:

Misellaneous fill underlain by silts and clays (ECDEP Site Profile, 3/17/82). (Estimate from NYS Quaternary Geology Map)

Permeability associated with soil type

10^{-5} to 10^{-7} cm/sec in silts and clays (Freeze, R.A., Cherry, J.A., Groundwater, 1979).

Physical State

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

Solid (Plant debris, spent foundry sand, pollution control equipment dust). (NYSDEC Registry Sheet, 12/83 and ECDEP Site Profile Report, 1982).

3. CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Waste piles of fill material, foundry sands and construction debris are uncovered and placed directly on the ground. (Site inspection by ES and D&M, 3/22/85, and NYSDEC Division of Solid and Hazardous Waste, Inactive Hazardous Waste Disposal Site Report, 1983).

Method with highest score:

Waste piles in unlined landfill.

4. WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

- o Foundry Sands (contains sodium silicate bonding agent) in fill
 - o Copper
 - o Nickel [In soil adjacent to fill material
 - o Zinc
 - o chromium
- (NYSDEC Hazardous Waste Site Report, 1982)

Compound with highest score:

Heavy metals (toxicity = 3, persistence = 3) - 18. (NYSDEC Hazardous Waste Site Report, 1982).

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):

Unknown - insufficient data. For purposes of rating the site, 1 to 10 cubic yards of hazardous waste were assumed to be disposed on-site. Foundry sand (40 cubic yards) can not be used as an estimated waste volume because the material has not been found to be a hazardous waste.

Basis of estimating and/or computing waste quantity:

Wastes are known to be disposed on-site due to the detection of heavy metals in the soils. However, the quantity of contaminated material is unknown. (Atlas Steel Corporation, 1985 and NYSDEC Site Profile Report, 1982).

5. TARGETS

Ground Water Use

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

No known wells in Bertie Limestone within 3 miles of site (LaSala, 1968).

Distance to Nearest Well

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

Not applicable.

Distance to above well or building:

Not applicable.

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

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

None within a 3-mile radius (New York State Atlas of Community Water System Sources, 1982).

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 within a 3-mile radius.

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

None within a 3-mile radius.

SURFACE WATER ROUTE

1. OBSERVED RELEASE

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

Not enough analytical data available (upgradient/downgradient comparison) to score an observed release. Samples not taken from a year round surface water source. Score = 0.

Rationale for attributing the contaminants to the facility:

Samples collected from puddle adjacent to landfill area and sumps in basement of nearby residence (NYSDEC Site Profile, 1982).

2. ROUTE CHARACTERISTICS

(U.S.G.S. Topographic Maps: Buffalo NE, NY; Buffalo NW, NY-ONT Quadrangles, 1965)

Facility Slope and Intervening Terrain

Average slope of facility in percent:

0.5%

Name/description of nearest downslope surface water:

Scajaguada Creek

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

0.5%

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

1.1 mile to Scajaguada Creek

Physical State of Waste

Solid (ES and D&M site inspection, 3/22/85, and NYSDEC Div. of Solid and Hazardous Waste, Inactive Hazardous Waste Disposal Site Report, 1983).

* * *

3. CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Waste Piles of construction debris (i.e., clean fill, concrete, bricks, etc) and a small amount (10% of total volume) of foundry sand were placed in piles on-site. The piles are uncovered and placed directly on the ground. No diversion or containment.

Method with highest score:

Waste piles in unlined, uncovered landfill. (Site inspection conducted by ES and D&M, 3/22/85.)

4. WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated

Lead detected in surface water samples collected from on-site puddles and sump in basement of nearby house.

Compound with highest score:

Lead (toxicity = 3, persistence = 3) - 18 (NYSDEC Hazardous Waste Site Report, 1982).

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):

Unknown - insufficient analytical data. For purposes of rating the site, 1 to 10 cubic yards of hazardous wastes were assumed to be disposed on-site. Foundry sand (40 cubic yards) can not be used as an estimated waste volume because the material has not been found to be a hazardous waste.

Basis of estimating and/or computing waste quantity:

Wastes are known to be disposed on-site due to the detection of heavy metals in the soils. However, the quantity of contaminated material is unknown. (Atlas Steel Corporation, 1985 and NYSDEC Site Profile Report, 1982).

* * *

5. TARGETS

Surface Water Use

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

None. (Site inspection conducted by ES and D&M, 3/22/85.)

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 is not a coastal area).

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

None within 1 mile (ECDEP Site Profile Report, 3/82).

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 and Wildlife files).

Population Served by Surface Water

(NYS Atlas of Community Water System Sources, 1982.)

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 3 miles.

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

None within 3 miles.

Total population served:

None

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 for volatile organics were less than 1 ppm, taken upwind and downwind of the site.

Date and location of detection of contaminants:

ES and D&M Site Inspection, 3/22/85.

Methods used to detect the contaminants:

HNu Meter

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:

Although heavy metals have been detected at the site, the potential for the metals affecting the air pathway is insignificant. Also, phenols are suspected and should be sampled for, but no documentation exists that indicates that phenols exist on-site.

Hazardous Waste Quantity

Total quantity of hazardous waste:

Hazardous wastes can not be attributed to site for the air pathway until air sampling indicates that contaminants are impacting air quality.

Basis of estimating and/or computing waste quantity:

For scoring purposes, the quantity of hazardous waste on-site is zero. Analytical data are not available which indicates that the waste piles are hazardous.

* * *

3. TARGETS

Population Within 4-Mile Radius

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

<u>(0 to 4 mi)</u>	0 to 1 mi	0 to 1/2 mi	0 to 1/4 mi
--------------------	-----------	-------------	-------------

309,537 people (Compiled from 1980 US Bureau of the Census Data).

Distance to a Sensitive Environment

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

None within 2 miles (Western NY is not a coastal area).

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

None within 1 mile (ECDEP Site Profile Report, 3/82).

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

None within 1 mile (NYSDEC Region 9 Dept. of Fish & Wildlife files)

Land Use

(U.S.G.S. Topographic Maps: Buffalo NW, NT-ONT and Buffalo, NE, NY Quadrangles and site visit, 1985)

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

0.0 mi. Site is located in an industrial area.

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

None; however Buffalo Zoological Garden is 1.4 miles away.

Distance to residential area, if 2 miles or less:

Approximately 300' (Site inspection conducted by ES and D&M, 3/22/85.)

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

None within 1 mile.

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

None within 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 if there is a fire or explosion potential at the 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:

No hazardous wastes with the potential to create a fire or explosion are known to exist on-site.

Basis of estimating and/or computing waste quantity:

Not applicable, see above comment.

* * *

3. TARGETS

Distance to Nearest Population

Residential area is approximately 300 feet from site (ES and D&M Site Inspection, 3/22/85).

Distance to Nearest Building

Approximately 300 feet (ES and D&M Site Inspection, 3/22/85).

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 Files).

Land Use

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

0.0 miles, site is located in an industrial area (ES and D&M Site Inspection, 3/22/85).

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

None; however, the Buffalo Zoological Garden is 1.4 miles away (USGS Topographic Maps: Buffalo NW, NY-ONT and Buffalo, NE, NY Quadrangles).

Distance to residential area, if 2 miles or less:

Approximately 300 feet (ES and D&M Site Inspection, 3/22/85).

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

None within 1 mile (USGS Topographic Maps: Buffalo NW, NY-ONT and Buffalo, NE, NY Quadrangles).

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

None within 2 miles (USGS Topographic Maps: Buffalo NW, NY-ONT and Buffalo, NE, NY Quadrangles).

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

91,630 people (US Census Data, 1980).

Buildings Within 2-Mile Radius

24,100 buildings (USGS Topographic Maps: Buffalo NW, NY-ONT and Buffalo, NE, NY Quadrangles).

DIRECT CONTACT

1. OBSERVED INCIDENT

Date, location, and pertinent details of incident:

During the conduct of the Phase I investigation, information was not found which indicated that an incident related to direct contact occurred at this site.

* * *

2. ACCESSIBILITY

Describe type of barrier(s):

Barriers do not completely surround the facility. Local residents use the site as a short-cut to a shopping center = 3 (Site Investigation).

* * *

3. CONTAINMENT

Type of containment, if applicable:

Waste piles of construction debris and a small amount of foundry sand were placed on-site. The piles are uncovered and placed directly on-ground (ES and D&M Site Visit, 3/22/85; Atlas Steel, 1985).

* * *

4. WASTE CHARACTERISTICS

Toxicity

Compounds evaluated:

Lead detected in surface water samples collected from on-site puddles and sump in basement of nearby house. However, lead in soil and groundwater is not a direct contact concern.

Compound with highest score:

Not applicable, lead is not a direct contact concern.

5. TARGETS

Population within one-mile radius

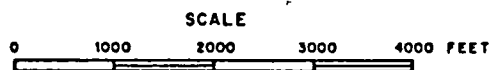
22,810 (US Census Data, 1980).

Distance to critical habitat (of endangered species)

None within one mile (NYSDEC, Region 9).



LATITUDE: 42°57'04"
LONGITUDE: 78°52'35"

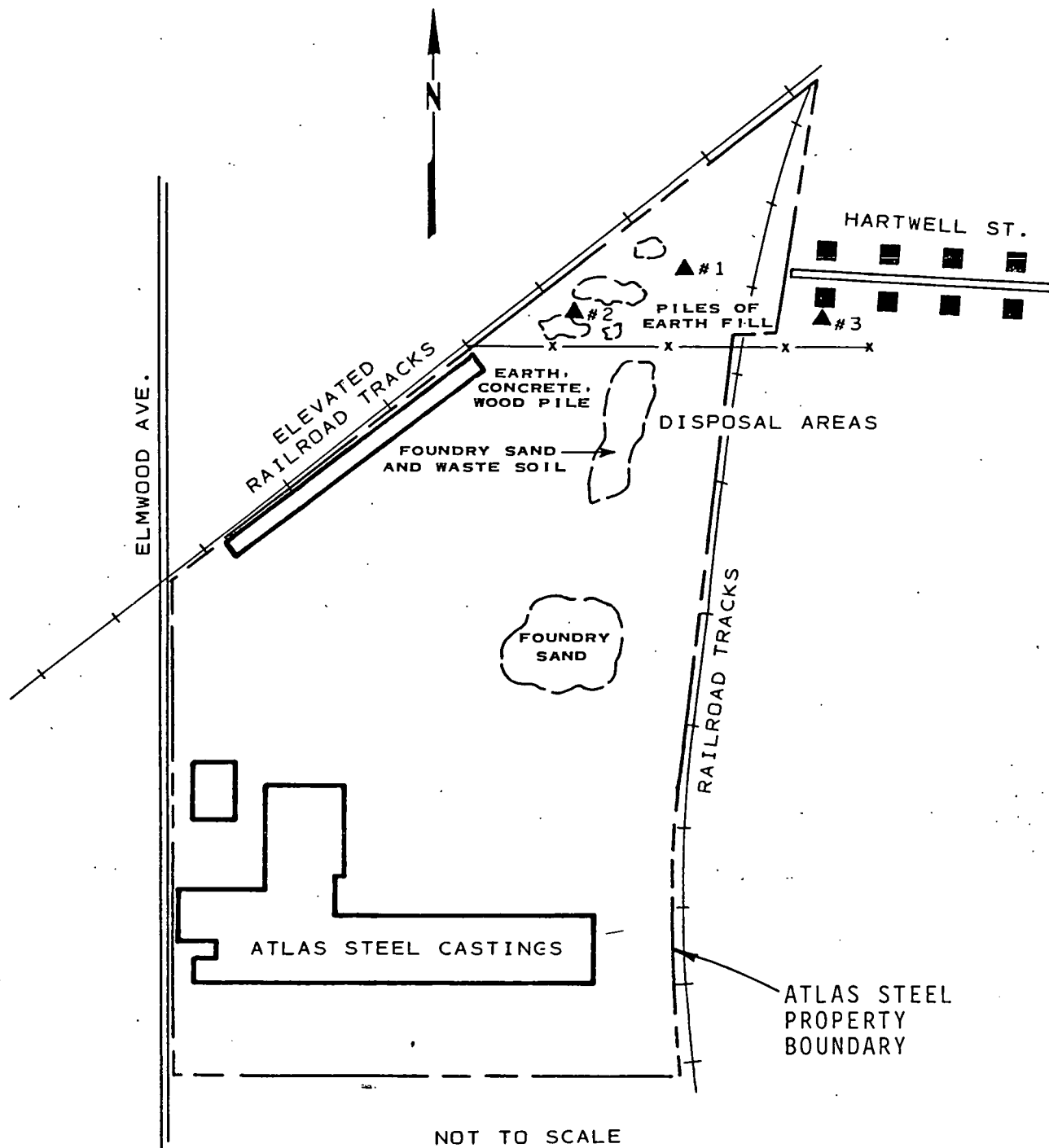


REFERENCE: U.S.G.S. 7.5' Topographic Map
Buffalo NE, NY (1965) and Buffalo NW,
NY-ONT. (1965) Quadrangles

ENGINEERING-SCIENCE, INC.
IN ASSOCIATION WITH
DAMES & MOORE
NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION
PHASE I REPORT

SITE LOCATION MAP
HARTWELL ST. LANDFILL

FIGURE iv-1



EXPLANATION:

- ▲ #1 WATER (and soil) SAMPLES
Collected by NYSDEC 3/29/82

ENGINEERING-SCIENCE, INC. IN ASSOCIATION WITH DAMES & MOORE.
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION PHASE I REPORT
PLOT PLAN HARTWELL ST. LANDFILL
FIGURE iv-2







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

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
NY Unassigned

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site) Hartwell Street Landfill		02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER Foot of Hartwell Street			
03 CITY Buffalo	04 STATE NY	05 ZIP CODE 14207	06 COUNTY ERIE	07 COUNTY CODE 029	08 CONG DIST 37
09 COORDINATES LATITUDE -----		LONGITUDE -----			

10 DIRECTIONS TO SITE (Starting from nearest public road)
HARTWELL Street Landfill is located adjacent to the ATLAS STEEL CASTING CO plant site, on a vacant lot at the foot of Hartwell Street.

III. RESPONSIBLE PARTIES

01 OWNER (if known) ATLAS STEEL CASTING CO.		02 STREET (Business, mailing, residential) 1963 Elmwood Ave			
03 CITY Buffalo	04 STATE NY	05 ZIP CODE 14207	06 TELEPHONE NUMBER (716) 875-2273		
07 OPERATOR (if known and different from owner) (SAME)		08 STREET (Business, mailing, residential)			
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 DATE <u>3/29/82</u> MONTH DAY YEAR ☐ NO		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): <u>NYSOEL - Region 9 Office</u>			
---	--	--	--	--	--

02 SITE STATUS (Check one) ☐ A. ACTIVE ☒ B. INACTIVE ☐ C. UNKNOWN		03 YEARS OF OPERATION <u>1979</u> <u>1979</u> BEGINNING YEAR ENDING YEAR ☐ UNKNOWN	
--	--	--	--

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
Construction debris including concrete, clean fill, bricks and a small amount of Foundry Sand (Est. 10% of total waste volume) were disposed on-site in 1979 as a result of a plant expansion project.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
The construction fill and debris pose no threat to the environment or population. The foundry sand contains a non-hazardous sodium silicate bonding agent. Significant levels of lead were found in a surface water sample and significant concentrations of copper, nickel, and zinc were found in soil samples.

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 S. ROBERT STEELE, II		02 OF (Agency, Organization) Engineering - Science (ES)		03 TELEPHONE NUMBER (703) 591-7575	
04 PERSON RESPONSIBLE FOR ASSESSMENT S. ROBERT STEELE, II		05 AGENCY ES		07 TELEPHONE NUMBER (703) 591-7575	
08 DATE <u>4/2/85</u> MONTH DAY YEAR					



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

NY Unassessed

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

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

02 WASTE QUANTITY AT SITE

(Measure of waste quantities must be independent)

TONS _____

CUBIC YARDS 400

NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

- ☒ A. TOXIC
☐ B. CORROSIVE
☐ C. RADIOACTIVE
☐ D. PERSISTENT
☐ E. SOLUBLE
☐ F. INFECTIOUS
☐ G. FLAMMABLE
☐ H. IGNITABLE
☐ I. HIGHLY 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			construction debris including
OLW	OILY WASTE			concrete, clean fill, bricks and
SOL	SOLVENTS			foundry sand (Est 10% of total volume) were
PSD	PESTICIDES			disposed on-site
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	680	ug/g	1 soil sample adjacent to fill

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	Copper	7440-50-8	unknown	260	ug/g
MES	Nickel	7440-02-0		188	ug/g
MES	Zinc	7440-66-6		100	ug/g
MES	Chromium	7440-47-3		94	ug/g
MES	Lead	7439-92-1		44	ug/g

No known hazardous wastes were disposed on-site.
The foundry sand contains a non-phenolic based binding agent.

* Note - Heavy metals were found adjacent to fill material and were not necessarily characteristic of the fill.

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)

- Site inspection conducted by ES and DEM, 3/22/85
- Hartwell St. Landfill Profile Report, NYDEC - Region 9, 1982



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

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

NY UNDESIGNED

II. HAZARDOUS CONDITIONS AND INCIDENTS

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

NO groundwater data has been collected
low permeability of soils would inhibit contaminant movement

01 ☒ B. SURFACE WATER CONTAMINATION 02 ☐ OBSERVED (DATE: 3/29/82) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

The NYSOEC - Region 9 collected surface water samples. Analysis detected lead in concentrations in excess of effluent limitation. Other contaminants including chromium, copper, zinc and TOC were also found in detectable concentrations.

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

HNU meter readings were less than 1 ppm

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

N/A

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

Access to the site is unrestricted and the area is a common cut-thru for local citizens.

01 ☒ F. CONTAMINATION OF SOIL 02 ☐ OBSERVED (DATE: 1982) ☒ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: 2 (Est) (ACRES) 04 NARRATIVE DESCRIPTION

The NYSOEC - Region 9 collect soil samples at two locations on-site. Copper, nickel and zinc were found in fairly high concentrations and chromium, lead and silver were found in detectable amounts

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

N/A

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

N/A

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

N/A



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

NY Unassigned

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

N/A

01 ☐ K. DAMAGE TO FAUNA
04 NARRATIVE DESCRIPTION (include name(s) of species)

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

N/A

01 ☐ L. CONTAMINATION OF FOOD CHAIN
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

N/A

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES
(Spills/runoff/standing liquids/leaking drums)
03 POPULATION POTENTIALLY AFFECTED: _____

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

04 NARRATIVE DESCRIPTION

N/A

01 ☐ N. DAMAGE TO OFFSITE PROPERTY
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

N/A

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

N/A

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

N/A

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

NONE

III. TOTAL POPULATION POTENTIALLY AFFECTED: 22,810

IV. COMMENTS

The material disposed on-site are inert and pose no threat to the environment or surrounding population. The Sodium Silicate Binding agent used in the Foundary sands does not pose a threat to human health since it is not in a concentrated form.

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

1. SITE inspection conducted by ES and DEM, 3/22/85
2. HARTWELL Street Land fill site profile Report prepared by NYS DEC - Region 9, 1982







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

I. IDENTIFICATION

01 STATE NY 02 SITE NUMBER Unassigned

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site) HARTWELL Street Landfill 02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER Foot of HARTWELL Street
03 CITY Buffalo 04 STATE NY 05 ZIP CODE 14207 06 COUNTY ERIE 07 COUNTY CODE 029 08 CONG DIST 37
09 COORDINATES
LATITUDE _____ LONGITUDE _____
10 TYPE OF OWNERSHIP (Check one)
☒ A. PRIVATE ☐ B. FEDERAL ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER _____ ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION 3/22/85 02 SITE STATUS ☐ ACTIVE ☒ INACTIVE 03 YEARS OF OPERATION: 1979 | 1979 | _____ UNKNOWN
MONTH DAY YEAR BEGINNING YEAR ENDING YEAR

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

05 CHIEF INSPECTOR S. Robert STEELE II 06 TITLE Environmental Scientist 07 ORGANIZATION ES 08 TELEPHONE NO. (703) 591-7575

09 OTHER INSPECTORS Eileen Gilligan 10 TITLE Geologist 11 ORGANIZATION D&M 12 TELEPHONE NO. (315) 638-2572

			()
			()
			()
			()

13 SITE REPRESENTATIVES INTERVIEWED Mr. Uma S. GHOSE 14 TITLE WORKS manager 15 ADDRESS 1963 Elmwood Ave Buffalo NY 14207 16 TELEPHONE NO. (716) 875-2273

Mr. Fred OUSZYNSKI 1963 Elmwood Ave Buffalo, NY 14207 (716) 875-2273

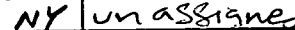
			()
			()
			()
			()

17 ACCESS GAINED BY (Check one) ☒ PERMISSION ☐ WARRANT 18 TIME OF INSPECTION 8³⁰ AM 19 WEATHER CONDITIONS WARM (40°F), SUNNY

IV. INFORMATION AVAILABLE FROM

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

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM S. Robert STEELE II 05 AGENCY _____ 06 ORGANIZATION ES 07 TELEPHONE NO. (Same) 08 DATE 3/22/85
MONTH DAY YEAR



☐ I. HIGHLY VOLATILE
☐ J. EXPLOSIVE
☐ K. REACTIVE
☐ L. INCOMPATIBLE
☐ M. NOT APPLICABLE

EPA FORM 2070-13 (7-81)



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

I. IDENTIFICATION

01 STATE NY 02 SITE NUMBER unassigned

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	04 TREATMENT (Check all that apply)	05 OTHER
☐ A. SURFACE IMPOUNDMENT			☐ A. INCENERATION	☐ A. BUILDINGS ON SITE
☐ B. PILES			☐ B. UNDERGROUND INJECTION	
☐ C. DRUMS, ABOVE GROUND			☐ C. CHEMICAL/PHYSICAL	
☐ D. TANK, ABOVE GROUND			☐ D. BIOLOGICAL	
☐ E. TANK, BELOW GROUND			☐ E. WASTE OIL PROCESSING	
☐ F. LANDFILL			☐ F. SOLVENT RECOVERY	06 AREA OF SITE
☐ G. LANDFARM			☐ G. OTHER RECYCLING/RECOVERY	<u>5</u> (Acres)
☒ H. OPEN DUMP	<u>400</u>	<u>cu yds</u>	☐ H. OTHER (Specify)	
☐ I. OTHER (Specify)				

07 COMMENTS

Construction debris including concrete, clean fill and small amounts of foundry sand (non-phenolic base) were stockpiled and used as fill on the site adjacent to the ATLAS STEEL plant site.

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.

The landfill site is located in a lowlying area. The disposed construction materials were used as fill in this area.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☐ YES ☒ NO

02 COMMENTS

The site is not enclosed by a fence to prevent unauthorized entry. Furthermore, the site is a common cut-thru for local residents.

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

Site inspection conducted by ES and DBM, 3/22/85



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

I. IDENTIFICATION

01 STATE NY 02 SITE NUMBER UN assigned

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY
(Check as applicable)

SURFACE WELL
COMMUNITY ☒ B. ☐
NON-COMMUNITY C. ☐ D. ☐

02 STATUS

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

03 DISTANCE TO SITE

A. > 3 (mi)
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)
☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION
(Limited other sources available)
☒ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER 0

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

04 DEPTH TO GROUNDWATER

unknown (ft)

05 DIRECTION OF GROUNDWATER FLOW

unknown

06 DEPTH TO AQUIFER
OF CONCERN

unknown (ft)

07 POTENTIAL YIELD
OF AQUIFER

unknown (gpd)

08 SOLE SOURCE AQUIFER

☐ YES ☐ NO

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

No wells are known to exist in this area.

10 RECHARGE AREA

☐ YES
☐ NO COMMENTS

11 DISCHARGE AREA

☐ YES
☐ NO COMMENTS

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

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

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:

AFFECTED

DISTANCE TO SITE

unsaved marsh ☐ 1.06 (mi)
Two-mile Creek ☐ 2.2 (mi)
_____ ☐ _____ (mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE
A. 22,810
NO. OF PERSONS

TWO (2) MILES OF SITE
B. 91,630
NO. OF PERSONS

THREE (3) MILES OF SITE
C. 197,410
NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION

0.06 (mi)

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

04 DISTANCE TO NEAREST OFF-SITE BUILDING

0.06 (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)

East of the landfill area is a small, older, urban residential area.



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

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

NY Unassigned

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

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

02 PERMEABILITY OF BEDROCK (Check one)

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

03 DEPTH TO BEDROCK

60-80' (ft)

04 DEPTH OF CONTAMINATED SOIL ZONE

< 1 (ft)

05 SOIL pH

unknown

06 NET PRECIPITATION

9" (in)

07 ONE YEAR 24 HOUR RAINFALL

2.1" (in)

08 SLOPE
SITE SLOPE

0.5 %

DIRECTION OF SITE SLOPE

S

TERRAIN AVERAGE SLOPE

0.5 %

09 FLOOD POTENTIAL

SITE IS IN > 100 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: *Aquila chrysaetos*
Haliaeetus leucocephalus

Falco Peregrines

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL

A. 0.0 (mi)

RESIDENTIAL AREAS NATIONAL/STATE PARKS,
FORESTS, OR WILDLIFE RESERVES

B. 0.06 (mi)

AGRICULTURAL LANDS
PRIME AG LAND AG LAND

C. > 2 (mi) D. > 1 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

Site occur on level ground and is surrounded by areas of similar elevation

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

U.S.G.S. Topographic Maps
ECDEP Site Profile
USDOC Technical Paper No. 40
NYS wetlands Maps

Freeze and Cherry, Groundwater

NYS Atlas of Community Water System Sources, 1982

ES and DEM 3/22/85
Site visit



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

I. IDENTIFICATION

01 STATE NY 02 SITE NUMBER unassigned

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	HNU meter readings were taken during the site inspection and all readings were less than 1 ppm.

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☒ GROUND ☐ AERIAL	02 IN CUSTODY OF <u>Engineers - Science</u> (Name of organization or individual)
03 MAPS ☒ YES ☐ NO	04 LOCATION OF MAPS <u>Site map was updated during site inspection</u>

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 O&M, 3/22/85



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

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
NY Unassigned

II. CURRENT OWNER(S)				PARENT COMPANY (if applicable)			
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
ATLAS Steel Casting Co							
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)		11 SIC CODE	
1963 Elmwood Ave							
05 CITY		06 STATE 07 ZIP CODE		12 CITY		13 STATE 14 ZIP CODE	
Buffalo		NY 14207					
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)			
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	
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)							
Site inspection conducted by ES and DBM, 3/22/85							



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

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

NY Unassigned

II. CURRENT OPERATOR (Provide if different from owner)				OPERATOR'S PARENT COMPANY (If applicable)			
01 NAME		02 D+8 NUMBER		10 NAME		11 D+8 NUMBER	
ATLAS Steel Casting CO							
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
1963 Elmwood Ave							
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
Buffalo		NY	14207				
08 YEARS OF OPERATION		09 NAME OF OWNER					
1910 - present		(Same)					
III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)				PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)			
01 NAME		02 D+8 NUMBER		10 NAME		11 D+8 NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
01 NAME		02 D+8 NUMBER		10 NAME		11 D+8 NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
01 NAME		02 D+8 NUMBER		10 NAME		11 D+8 NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					

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

Site inspection conducted by ES and O&M, 3/22/85



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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	unassigned

II. ON-SITE GENERATOR

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

III. OFF-SITE GENERATOR(S)

01 NAME NONE	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

IV. TRANSPORTER(S)

01 NAME NONE	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)

Site inspection conducted by ES and Oem, 3/24/85



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

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

NY unassigned

II PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED
04 DESCRIPTION

NO

02 DATE _____

03 AGENCY _____

01 ☐ S. CAPPING/COVERING
04 DESCRIPTION

NO

02 DATE _____

03 AGENCY _____

01 ☐ T. BULK TANKAGE REPAIRED
04 DESCRIPTION

NO

02 DATE _____

03 AGENCY _____

01 ☐ U. GROUT CURTAIN CONSTRUCTED
04 DESCRIPTION

NO

02 DATE _____

03 AGENCY _____

01 ☐ V. BOTTOM SEALED
04 DESCRIPTION

NO

02 DATE _____

03 AGENCY _____

01 ☐ W. GAS CONTROL
04 DESCRIPTION

NO

02 DATE _____

03 AGENCY _____

01 ☐ X. FIRE CONTROL
04 DESCRIPTION

NO

02 DATE _____

03 AGENCY _____

01 ☐ Y. LEACHATE TREATMENT
04 DESCRIPTION

NO

02 DATE _____

03 AGENCY _____

01 ☐ Z. AREA EVACUATED
04 DESCRIPTION

NO

02 DATE _____

03 AGENCY _____

01 ☐ 1. ACCESS TO SITE RESTRICTED
04 DESCRIPTION

NO

02 DATE _____

03 AGENCY _____

01 ☐ 2. POPULATION RELOCATED
04 DESCRIPTION

NO

02 DATE _____

03 AGENCY _____

01 ☐ 3. OTHER REMEDIAL ACTIVITIES
04 DESCRIPTION

NONE

02 DATE _____

03 AGENCY _____

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

Site inspection conducted by ES and O&M, 3/22/85



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

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

NY Unassigned

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED 04 DESCRIPTION NO	02 DATE _____	03 AGENCY _____
01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED 04 DESCRIPTION NO	02 DATE _____	03 AGENCY _____
01 ☐ C. PERMANENT WATER SUPPLY PROVIDED 04 DESCRIPTION NO	02 DATE _____	03 AGENCY _____
01 ☐ D. SPILLED MATERIAL REMOVED 04 DESCRIPTION NO	02 DATE _____	03 AGENCY _____
01 ☐ E. CONTAMINATED SOIL REMOVED 04 DESCRIPTION NO	02 DATE _____	03 AGENCY _____
01 ☐ F. WASTE REPACKAGED 04 DESCRIPTION NO	02 DATE _____	03 AGENCY _____
01 ☐ G. WASTE DISPOSED ELSEWHERE 04 DESCRIPTION NO	02 DATE _____	03 AGENCY _____
01 ☐ H. ON SITE BURIAL 04 DESCRIPTION NO	02 DATE _____	03 AGENCY _____
01 ☐ I. IN SITU CHEMICAL TREATMENT 04 DESCRIPTION NO	02 DATE _____	03 AGENCY _____
01 ☐ J. IN SITU BIOLOGICAL TREATMENT 04 DESCRIPTION NO	02 DATE _____	03 AGENCY _____
01 ☐ K. IN SITU PHYSICAL TREATMENT 04 DESCRIPTION NO	02 DATE _____	03 AGENCY _____
01 ☐ L. ENCAPSULATION 04 DESCRIPTION NO	02 DATE _____	03 AGENCY _____
01 ☐ M. EMERGENCY WASTE TREATMENT 04 DESCRIPTION NO	02 DATE _____	03 AGENCY _____
01 ☐ N. CUTOFF WALLS 04 DESCRIPTION NO	02 DATE _____	03 AGENCY _____
01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION 04 DESCRIPTION NO	02 DATE _____	03 AGENCY _____
01 ☐ P. CUTOFF TRENCHES/SUMP 04 DESCRIPTION NO	02 DATE _____	03 AGENCY _____
01 ☐ Q. SUBSURFACE CUTOFF WALL 04 DESCRIPTION NO	02 DATE _____	03 AGENCY _____

IL ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☒ NO

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

NONE

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

NYSDEC, Environmental Enforcement Division

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:

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

The Phase II program at this site should be conducted following a two step approach. The first step would include the collection of samples from the on-site waste piles. If analyses for heavy metals and phenols detect contaminants in high concentrations, additional monitoring of groundwater and surface water would be conducted (Step 2).

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

Step 1

Waste - A waste monitoring system consisting of 4 monitoring stations is recommended. Monitoring stations include on-site waste piles. Analyses to include heavy metals (ICPES) and phenols. Waste samples collected via a hand auger to a depth of 2 feet.

Step 2

Groundwater - A groundwater monitoring system consisting of 3 wells is recommended. Borings will be drilled to a maximum depth of 80 feet; soil samples will be taken every 5 feet or more frequently if a change in soil lithology is encountered. The wells will be placed in the aquifer of concern and constructed of 2" PVC pipe. The groundwater samples will be analyzed for heavy metals (ICPES) and phenols. In addition, sieve and hydrometer analyses will be performed on representative samples of the subsurface soils. 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 4 monitoring stations is recommended in the area adjacent to the railroad tracks, west of the landfill. One station (S-1) will be upgradient of the site, 2 stations will be adjacent to the site, and 1 station will be downgradient. The surface water and sediment samples will be analyzed for heavy metals (ICPES) and phenols.

Air - An air monitoring survey with an HNU meter is recommended to test the air quality 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 VI-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 \$58,067.

TABLE VI-1
ASSESSMENT OF DATA ADEQUACY

HRS Data Requirement	Comments on Data
Observed Release	
Groundwater	Insufficient to score observed release
Surface Water	Insufficient to score observed release
Air	Data adequate for HRS score, no observed release
Route Characteristics	
Groundwater	Insufficient for HRS score. Estimate for soil types, depth to aquifer of concern.
Surface Water	Data adequate for HRS score
Air	Not applicable, no observed release
Containment	Data adequate for HRS score
Waste Characteristics	Incomplete data for HRS score
Targets	Data adequate for HRS score
Observed Incident	Data adequate for HRS score
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	No further studies necessary.
II-C Conduct Boring/Install Monitoring Wells	Install 1 upgradient and 3 down-gradient wells. The borings will be drilled to a depth of approximately 80 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 at 5 ft. intervals during drilling and at changes in subsurface lithologies. 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	4 sediment samples are to be collected and analyzed for heavy metals (ICPES) and phenols.
Groundwater samples	4 groundwater samples are to be collected and analyzed for heavy metals (ICPES) and phenols.
Surface water samples	4 surface water samples are to be collected and analyzed for heavy metals (ICPES) and phenols.

TABLE VI-2 (Continued)
PHASE II WORK PLAN - TASK DESCRIPTION

Tasks	Description of Task
Air samples	Using the HNu determine the presence of organics during site activities.
Waste samples	Waste samples collected from on-site waste piles. Analyses to include heavy metals (ICPES) and phenols. Samples to be collected using a hand auger to a depth of 2 feet.
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.

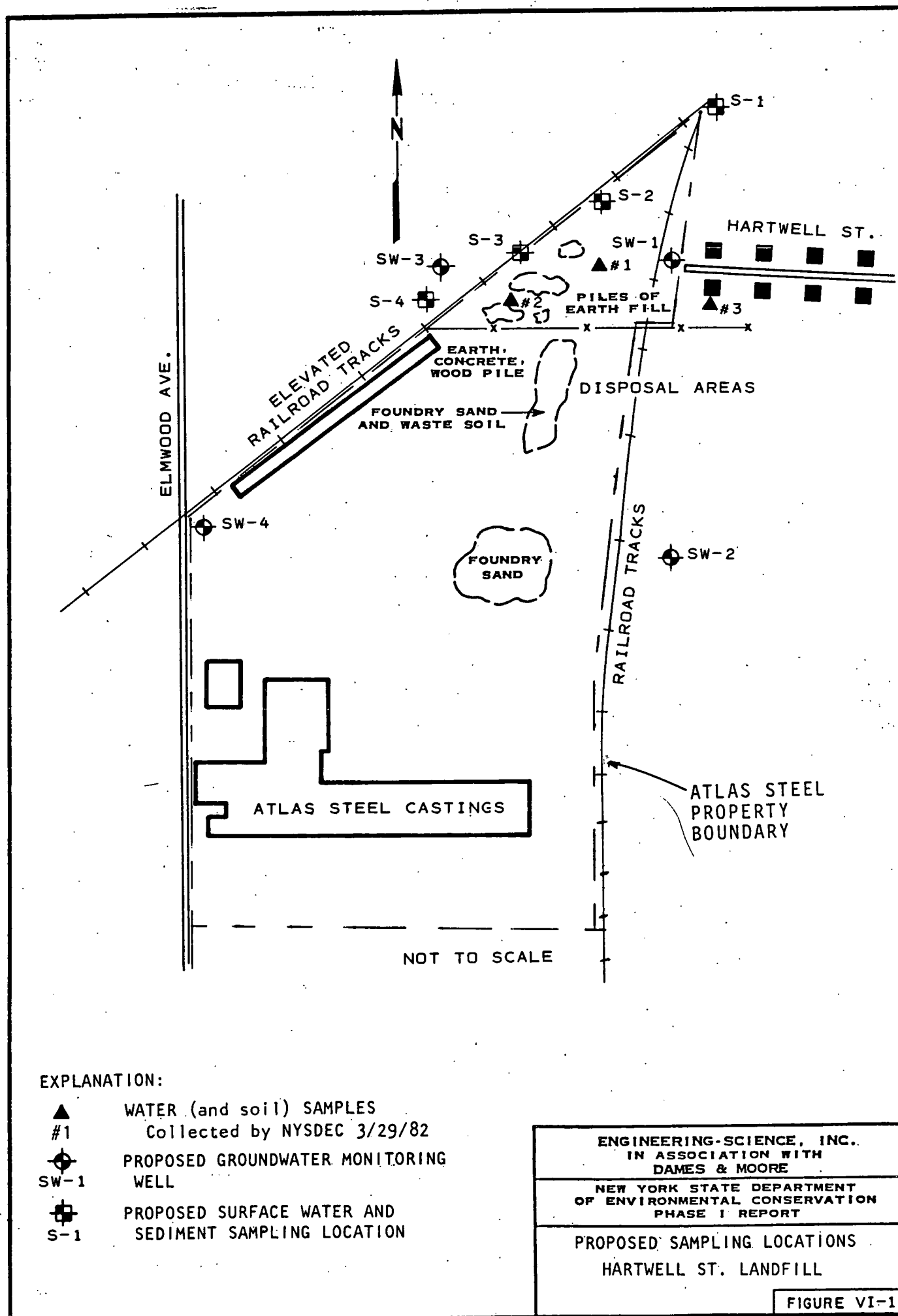
TABLE VI-3
PERSONNEL RESOURCES BY TASK
PHASE II HRS SITE INVESTIGATION (SITE: HARTWELL STREET LANDFILL)

TASK DESCRIPTION	TEAM MEMBERS, MANHOURS												SS	TOTAL HOURS	TOTAL \$
	PIC	TRB	PM	DPH	PCN	QAM	HSN	FTL	FT	RAAL	RAAT				
II-A UPDATE WORK PLAN	1	1	8	4		4	4	16		8			28	74	1144.1
II-B CONDUCT GEOPHYSICAL STUDIES														0	0
II-C CONDUCT BORING/INSTALL MONITORING WELLS			24	48		12	12	30	120				72	318	4558.44
II-D CONSTRUCT TEST PIT/AUGER HOLES														0	0
II-E PERFORM SAMPLING AND ANALYSIS															
SOIL SAMPLES FROM BORINGS			4	4		2	2	4	20				8	44	592.34
SOIL SAMPLES FROM SURFACE SOILS														0	0
SOIL SAMPLES FROM TEST PITB AND AUGER HOLES														0	0
SEDIMENT SAMPLES FROM SURFACE WATER			1	1		1	1	1	4				4	13	166.6
GROUND-WATER SAMPLES	1		4	4		1	1	30	60				16	117	1364.29
SURFACE WATER SAMPLES			1	1		1	1	1	4				4	13	166.6
AIR SAMPLES			1	1			1	1	4				4	12	153.68
WASTE SAMPLES														0	0
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	2217.82
II-H PROJECT MANAGEMENT	2		6	2	3	4	4						12	33	529.88
TOTALS	6	3	61	71	3	25	26	111	248	22	40	282	818	11489.51	

TABLE VI-4
COST ESTIMATE BREAKDOWN BY TASK
PHASE II HRS SITE INVESTIGATION (SITE: HARTWELL STREET LANDFILL)

TASK DESCRIPTION	OTHER DIRECT COSTS (ODC), \$								
	DIRECT LABOR HOURS	DIRECT LABOR COST	LAB ANALYSIS	TRAVEL AND SUBSISTANCE	SUPPLIES	EQUIP. CHARGES	SUBCON- TRACTORS	MISC.	SUBTOTAL ODC
II-A UPDATE WORK PLAN	74	\$1,144.10		\$200.00	\$50.00	\$50.00		\$50.00	\$350.00
II-B CONDUCT GEOPHYSICAL STUDIES	0	\$0.00							\$0.00
II-C CONDUCT BORING/INSTALL MONITORING WELLS	310	\$4,550.44		\$1,200.00	\$250.00	\$900.00	\$14,720.00		\$17,070.00
II-D CONSTRUCT TEST PITS/AUGER HOLES	0	\$0.00							\$0.00
II-E PERFORM SAMPLING AND ANALYSIS									
SOIL SAMPLES FROM BORINGS	44	\$592.34			\$150.00	\$150.00			\$300.00
SOIL SAMPLES FROM SURFACE SOILS	0	\$0.00							\$0.00
SOIL SAMPLES FROM TEST PITS AND AUGER HOLES	0	\$0.00							\$0.00
SEDIMENT SAMPLES FROM SURFACE WATER	13	\$166.60	\$2,000.00	\$50.00	\$20.00	\$75.00		\$20.00	\$2,165.00
GROUND-WATER SAMPLES	117	\$1,564.29	\$1,000.00	\$420.00	\$50.00	\$150.00		\$50.00	\$2,470.00
SURFACE WATER SAMPLES	13	\$166.60	\$1,000.00	\$50.00	\$20.00	\$75.00		\$20.00	\$1,965.00
AIR SAMPLES	12	\$153.60				\$200.00			\$200.00
WASTE SAMPLES	0	\$0.00							\$0.00
II-F CALCULATE FINAL HRS	22	\$394.56				\$150.00			\$150.00
II-G CONDUCT SITE ASSESSMENT	172	\$2,217.02			\$750.00	\$300.00		\$75.00	\$1,125.00
II-H PROJECT MANAGEMENT	33	\$529.80	\$420.00	\$300.00	\$150.00	\$50.00		\$50.00	\$970.00
TOTALS	810	\$11,489.51	\$6,020.00	\$2,220.00	\$1,440.00	\$2,100.00	\$14,720.00	\$265.00	\$26,765.00

OVERHEAD= \$16,407.02
SUBTOTAL= \$54,661.53
FEE= \$3,406.38
TOTAL PROJECT COST= \$58,067.91



APPENDIX A

REFERENCES

Sources Contacted

Documentation

SOURCES CONTACTED FOR
HARTWELL STREET 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 meet- ings 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 Alstyne	(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
HARTWELL STREET 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 Tygert	(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
HARTWELL STREET INVESTIGATION

CONTACT	DATE CONTACTED	PERSON CONTACTED	TELEPHONE NUMBER	LOCATION	INFORMATION COLLECTED
NYSDEC - Regional Attorney	1/10/85	Peter J. Burke	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 Wilkinson Jim Sneider	(716) 847-4600	600 Delaware Ave. Buffalo, NY 14202	Collected information from site files
Erie County, Division of Environmental Control, Dept. of Environment & Planning	1/10/85	Don Campbell Ron Koczaja	(716) 846-6271 (716) 846-6370	95 Franklin Street Buffalo, NY 14202	Collected information from Erie County site files. Obtained additional infor- mation through interview.
Erie County, Division of Economic Development and Planning	4/2/85	Mike Alspaugh	(716) 846-6013	95 Franklin Street Buffalo, NY 14202	Obtained 1980 U.S. Census Data.
Atlas Steel Casting Co.	3/22/85	Uma Ghose	(716) 875-2273	1963 Elmwood Ave. Buffalo, NY 14207	Conducted site inspection and reviewed history of landfilling activity on- site.
Atlas Steel Casting Co.	3/22/85	Fred Duszynski	(716) 875-2273	1963 Elmwood Ave. Buffalo, NY 14207	Interviewed about on-site landfilling.

REFERENCES

1. Atlas Steel Corporation, Ghose, U., Personal Communication, March 22, 1985.
2. ARO Corporation, Environmental Laboratory Results, June 16, 1984.
3. ECDEP, Site Profile Report, March 17, 1982.
4. ES and D&M Site Inspection, March/April, 1985.
5. Freeze, R. A., and Cherry, J. A., Groundwater, 1985.
6. LaSala, Groundwater Resources of the Erie-Niagara Basin, New York, 1968.
7. NYS Atlas of Community Water System Sources, NYS Department of Health, 1982.
8. NYS Museum and Science Service Bedrock Geology Map, Map and Chart Series No. 15 (Compiled by Richard, L.V., and Fisher, D. W.)
9. NYS Wetlands Maps (Not Provided in Appendix).
10. NYSDEC, Registry Sheet, 12/83.
11. NYSDEC, Site Profile Report, 1982.
12. NYSDEC, Region 9, Division of Fish and Wildlife Files.
13. US Census Data, 1980.
14. US Department of Commerce. "Climatic Atlas of the United States". 1979.

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

16. USGS Topographic Maps: Buffalo NE, NY; Buffalo NW, NY-ONT
Quadrangles, 1965 (Provided in Report).

INTERVIEW FORM

INTERVIEWEE/CODE Mr UMA S. GHOSH 1
 TITLE - POSITION WORKS manager / ATLAS Steel Corporation
 ADDRESS 1963 Elmwood Ave
 CITY Buffalo STATE NY ZIP 14207
 PHONE (716) 875-2273 RESIDENCE PERIOD _____ TO _____
 LOCATION ATLAS STEEL CASTING CO. INTERVIEWER S. Robert STEELE, II
 DATE/TIME 3/22/85 1 8³⁰ AM
 SUBJECT: HARTWELL STREET Landfill

REMARKS: The materials presently disposed on the site adjacent to the ATLAS STEEL plant (HARTWELL Street Landfill) consists of excavated clean fill and construction debris from a plant expansion project during 1979. An estimated 10% of the material disposed at the Hartwell Street Landfill is non-phenolic based foundry sands. The excavated material was used as fill since the Hartwell Street site was a low lying area. The estimated volume of fill excavated and placed on-site is 400 cubic yards.

NOTE: Only half of the excavated fill was placed at the Hartwell AREA OF Excavation Street Landfill site.

$$80 \times 100 \times 2 = 16000$$

$$15 \times 30 \times 12 = 5400$$

$$21,400 / 27 = 800 / 2 = 400 \text{ cubic yards}$$

I AGREE WITH THE ABOVE SUMMARY OF THE INTERVIEW:

SIGNATURE: _____

COMMENTS: _____

ARO

Bernard J. Grucza, Director
Environmental Laboratory

HARTWELL STREET LANDFILL
(ATLAS STEEL CASTING INC.)

1963 Elmwood Avenue

Buffalo, New York

Site #915030

Prepared by
Erie County Department of
Environment and Planning

March 17, 1982

HARTWELL STREET LANDFILL

(ATLAS STEEL CASTINGS, INC.)

1963 Elmwood Avenue

Buffalo, New York

Site # 915030

BACKGROUND

The Interagency Task Force (IATF), in volume III of Hazardous Waste Disposal Sites in New York State, reported that filling of a low area on Atlas Steel Casting Plant grounds with earth fill and building debris from the plant occurred at this site. It was also reported that spent sand and pollution control equipment dust were stored at the site prior to off-site disposal. The site is coded "F" indicating that no further action is required.

GENERAL INFORMATION

The Hartwell Street Landfill is located at the west end of Hartwell Street on the northern portion of the Atlas Steel Casting's Inc. property (Exhibit I).

The only solid waste generated from the casting operation at the firm are casting sands with a water soluble sodium silicate binder. In the past, this waste was hauled away by "Custom Topsoil." Recently, due to a shift in ~~economic conditions~~ operations had temporarily slowed. According to a March 8, 1982, telephone conversation with NYSDEC, plant officials have contacted them and reported that plant operations have restarted. NYSDEC has advised the company of disposal and hauling requirements.

FIELD INSPECTIONS

The disposal site was originally field inspected by DEP in February 1979. The field inspection was performed due to a complaint from a citizen living on Hartwell Street. The citizen's complaint was in regard to disposal of material outside of Atlas Steel Casting's fence and general "poor house-keeping" practices in the area.

The Atlas Steel Castings site included areas inside and outside of the company's fence (Exhibit 1). The debris inside the fence included earth fill (from plant modifications), wood pallets, scrap trucks and metal products. The area outside of the fence, (on Atlas Steel Property) consisted of construction and demolition debris which was used to fill in a low area.

The Atlas site was again field checked in November of 1979 due to information indicating that foundry sand was being stored on site. During that inspection, no foundry sand was observed. Atlas Steel Casting representatives indicated, at that time, that foundry sand had once been temporarily stored on site because they were in the process of changing haulers. Conditions at the site had essentially remained the same as the February inspections, however, accumulations of concrete and brick were also observed on site.

During the most recent inspection (December 14, 1981) conditions at the site had not changed.

At no time during the site investigations was leachate observed on or leaving the site nor were any odors associated with the disposal area.

No evidence that any disposal of hazardous or toxic material were noted.

Exhibit 2 shows general conditions in this study area.

AERIAL PHOTOGRAPHY

Evaluation of aerial photography for the years 1951, 1958, 1960, and 1966 revealed no landfilling activities.

ENVIRONMENTAL DATA

The General Soil, Map and Interpretation for Erie County by the U.S.D.A. Soil Conservation Service (1979) reports that the soils in this area are classified as Urban Soils. This indicates that the area has received extensive disturbance to the original soil by both filling or removal. Permeability, soil texture and structure would be classified as miscellaneous due to the high degree of variation within the area.

Depth to bedrock is reported to be between 60 to 80 feet.

The U.R.S. report describes depth to groundwater to be miscellaneous. Groundwater in this area is not used as a domestic drinking water supply source. All persons who reside in the area receive their drinking water from the City of Buffalo Municipal System.

There are no surface waters or fresh water wetlands within a one mile radius of the site.

The area is not within a 100 year flood plain.

GEOGRAPHIC DATA

The land use in the area is residential, commercial, and industrial. Census figures (1980) report that the population is greater than 10,000.

DIRECT CONTACT

Direct contact would only be by Atlas employees.

FIRE OR EXPLOSION POTENTIAL

None.

CONCLUSION

There is no evidence that hazardous or toxic waste have ever been disposed of at this site. Consequently, this area is not expected to pose an environmental or other hazard.

RECOMMENDATIONS

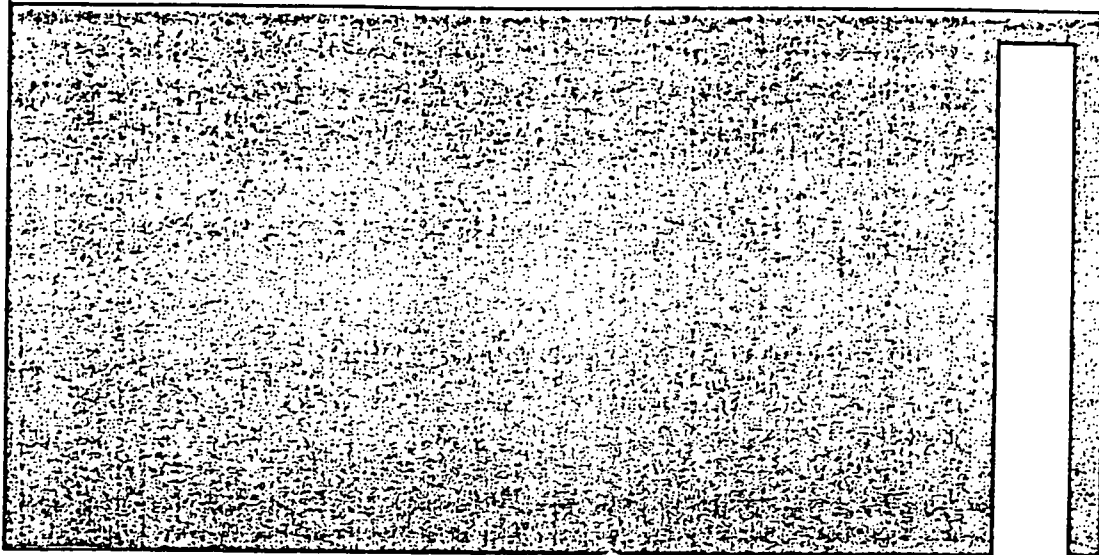
This department recommends that NYSDEC continue to work with company officials in regard to permit requirements.

No sampling or remedial measures appear to be necessary at the site.

REF-4

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.



R. Allan Freeze

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

John A. Cherry

Department of Earth Sciences
University of Waterloo
Waterloo, Ontario

GROUNDWATER

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

Table 2.2 Range of Values of Hydraulic Conductivity and Permeability

	Rocks	Unconsolidated deposits	k (darcy)	k (cm ²)	K (cm/s)	K (m/s)	K (gal/day/ft ²)
			10 ⁵	10 ⁻³	10 ²	1	10 ⁶
			10 ⁴	10 ⁻⁴	10	10 ⁻¹	10 ⁵
			10 ³	10 ⁻⁵	1	10 ⁻²	10 ⁴
			10 ²	10 ⁻⁶	10 ⁻¹	10 ⁻³	10 ³
			10	10 ⁻⁷	10 ⁻²	10 ⁻⁴	10 ²
			1	10 ⁻⁸	10 ⁻³	10 ⁻⁵	10
			10 ⁻¹	10 ⁻⁹	10 ⁻⁴	10 ⁻⁶	1
			10 ⁻²	10 ⁻¹⁰	10 ⁻⁵	10 ⁻⁷	10 ⁻¹
			10 ⁻³	10 ⁻¹¹	10 ⁻⁶	10 ⁻⁸	10 ⁻²
			10 ⁻⁴	10 ⁻¹²	10 ⁻⁷	10 ⁻⁹	10 ⁻³
			10 ⁻⁵	10 ⁻¹³	10 ⁻⁸	10 ⁻¹⁰	10 ⁻⁴
			10 ⁻⁶	10 ⁻¹⁴	10 ⁻⁹	10 ⁻¹¹	10 ⁻⁵
			10 ⁻⁷	10 ⁻¹⁵	10 ⁻¹⁰	10 ⁻¹²	10 ⁻⁶
			10 ⁻⁸	10 ⁻¹⁶	10 ⁻¹¹	10 ⁻¹³	10 ⁻⁷

Karst limestone	Permeable basalt	Fractured igneous and metamorphic rocks	Limestone and dolomite	Sandstone	Unfractured metamorphic and igneous rocks	Shale	Unweathered marine clay	Glacial till	Silt, loess	Silty sand	Clean sand	Gravel
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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^{-3}	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 ft², multiply k in cm² by 1.08×10^{-3} .

GROUND-WATER RESOURCES OF THE ERIE-NIAGARA BASIN, NEW YORK

REF-6



**Prepared for the
Erie-Niagara Basin Regional Water Resources
Planning Board**

by

A. M. La Sala, Jr.

**UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY**

**in cooperation with
THE NEW YORK STATE CONSERVATION DEPARTMENT
DIVISION OF WATER RESOURCES**

**STATE OF NEW YORK
CONSERVATION DEPARTMENT
WATER RESOURCES COMMISSION**

**Basin Planning Report ENB-3
1968**

New York State Atlas of Community Water System Sources

NEW YORK STATE
DEPARTMENT OF HEALTH

1982

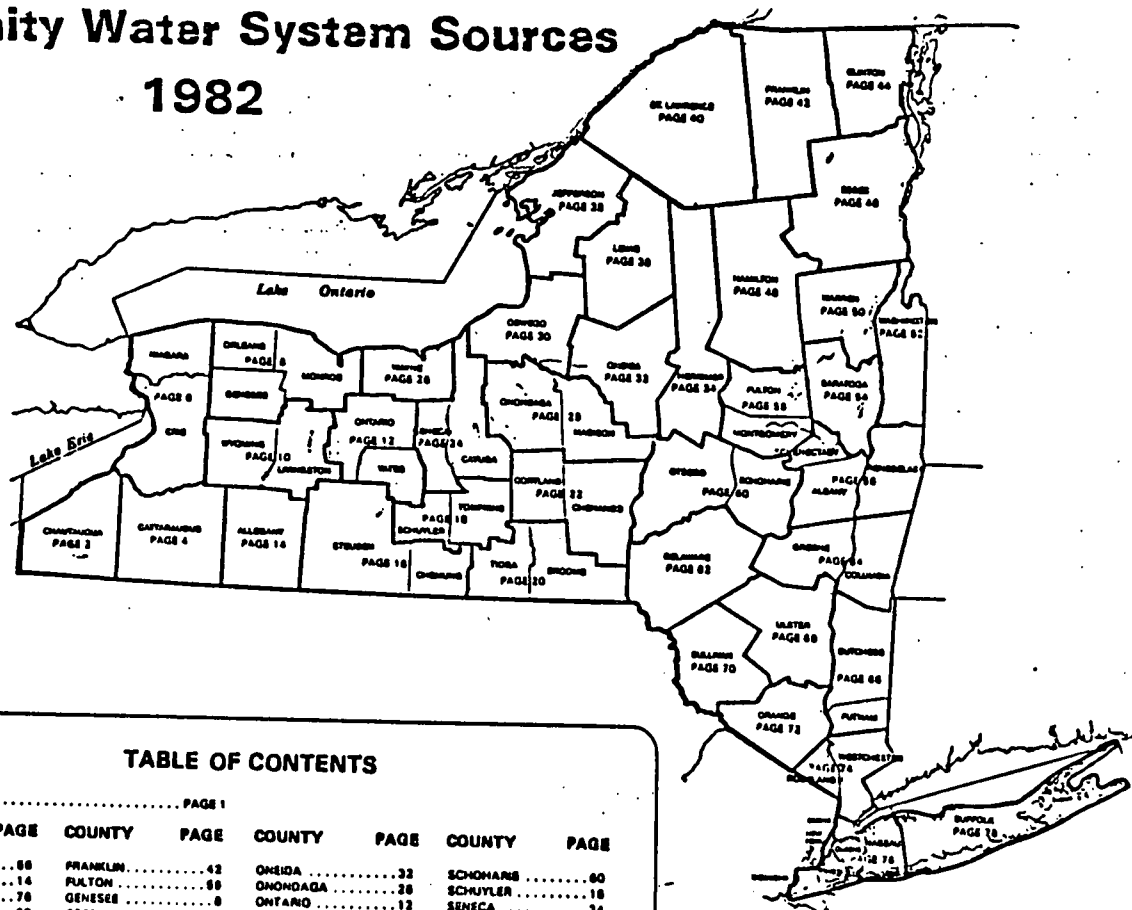


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CATTARAUGUS	4	HAMILTON	46	ORLEANS	8
CAYUGA	24	MERKNER	34	OSWEGO	30
CHAUTAUQUA	2	JEFFERSON	38	OTSEGO	60
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CORTLAND	22	MONROE	8	ROCKLAND	74
DELAWARE	62	MONTGOMERY	8	ST. LAWRENCE	40
OUTCHES	66	NASSAU	70	SARATOGA	64
ERIE	6	NEW YORK	70	SCHENECTADY	66
ESSEX	40	NAGARA	6		

LEGEND

BOUNDARIES AND PLACES

International
 State
 County
 Town
 Indian Reservation
 City
 Village
 Unincorporated Place
 Suburban 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 Hamden Bays
 250 to 2,500
 250 or less

TRANSPORTATION

Highways
 Divided Highways
 Full Control of Access
 Partial or No Control of Access
 Undivided Highway
 Interchange
 Turning Route (State, U.S., Interstate or State Parkway)
 Turning Route Markers
 State U.S. Interstate
 Railroads
 Operating Line
 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
 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-1

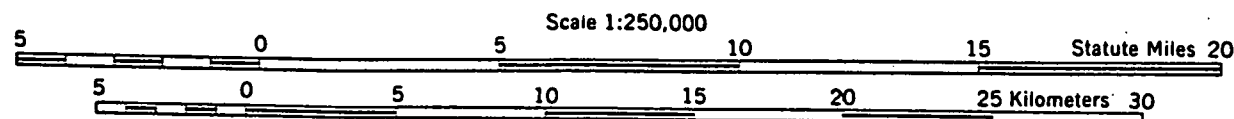
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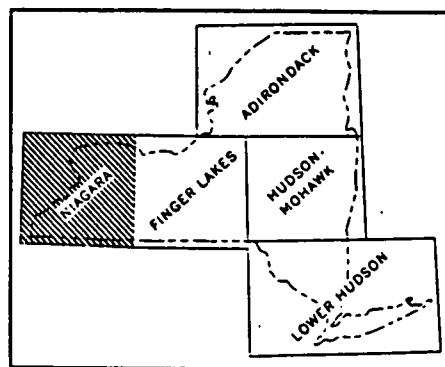
GEOLOGIC MAP OF NEW YORK

1970

Niagara Sheet



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-8

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.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

REF-10

DIVISION OF SOLID AND HAZARDOUS WASTE

INACTIVE HAZARDOUS WASTE DISPOSAL SITE REPORT

PRIORITY CODE: 2a SITE CODE: 915030
NAME OF SITE: Hartwell Street Landfill REGION: 9
STREET ADDRESS: Foot of Hartwell Street
TOWN/CITY: Buffalo COUNTY: Erie

NAME OF CURRENT OWNER OF SITE: Atlas Steel
ADDRESS OF CURRENT OWNER OF SITE: 1963 Elmwood Ave., Buffalo, NY 14207

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

ESTIMATED SIZE: _____ ACRES

SITE DESCRIPTION:

Low areas on Atlas Steel Casting Plant have been filled with plant debris from the plant. It has also been reported that spent sand and pollution control equipment dust were stored at the site prior to off-site disposal.

DEC took soil and surface water samples in March 1982. Results indicate detectable amount of TOC in the water samples. Erie County submitted site profile report in March 1982.

HAZARDOUS WASTE DISPOSED: CONFIRMED ☐
TYPE AND QUANTITY OF HAZARDOUS WASTES DISPOSED:

SUSPECTED ☒

TYPE

QUANTITY (POUNDS, DRUMS,
TONS, GALLONS)

Plant debris, spent sand, pollution control
equipment dust

Unknown

TIME PERIOD SITE WAS USED FOR HAZARDOUS WASTE DISPOSAL:

Unknown, 19 ____ TO Unknown, 19 ____

OWNER(S) DURING PERIOD OF USE: Atlas Steel

SITE OPERATOR DURING PERIOD OF USE: Atlas Steel

ADDRESS OF SITE OPERATOR: 1963 Elmwood Ave., Buffalo, NY 14207

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

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

SOIL TYPE: Not known

DEPTH TO GROUNDWATER TABLE: Not known

LEGAL ACTION: TYPE: None STATE ☐ FEDERAL ☐

STATUS: IN PROGRESS ☐ COMPLETED ☐

REMEDIAL ACTION: PROPOSED ☐ UNDER DESIGN ☐

IN PROGRESS ☐ COMPLETED ☐

NATURE OF ACTION:

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Erie County site profile report of March 1982 indicates that no hazardous or toxic waste has been disposed. However, DEC finding of TOC in the water, suggests need for further investigation to assess environmental problem.

ASSESSMENT OF HEALTH PROBLEMS:

INVESTIGATING INFORMATION

PERSON(S) COMPLETING THIS FORM:

NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

NAME Abul Barkat
TITLE Sr. Sanitary Engr.
NAME Peter Buechl
TITLE Assoc. Sanitary Engr.
DATE: November 15, 1983

NEW YORK STATE DEPARTMENT OF HEALTH

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

NAME OF SITE: Hartwell Street Landfill

LOCATION: Foot of Hartwell Street, Buffalo (C), Erie County

CURRENT OWNER: Atlas Steel Company

HISTORY

It was reported that low areas on the Atlas Steel Casting Plant grounds were filled with earthen materials and building debris. Also spent casting sand and pollution control equipment dust were stored at the site prior to off-site disposal. Citizens living near the plant complained that material was disposed of outside Atlas Steel Casting's fence and that poor housekeeping of materials was practiced in the area. Subsequent investigations by the Erie County Department of Environment and Planning revealed that concrete and brick was accumulating on site, however no foundry sand was observed.

INVESTIGATION

This site was inspected on March 29, 1982 by Messrs. Christoffel and Senior of the DEC - Region 9 office. Samples were obtained from three locations. The first was from a puddle of water on the east side of the landfill. The second location was from a puddle of water on the west side of the landfill, near the Atlas Steel Company property. Both water and soil samples were taken at these locations. The third location was a sump in the basement of a house adjacent to the landfill. A water sample was taken from this location.

SOIL AND GEOLOGICAL INFORMATION

The soil in this area has been classified by the USDA Soil Conservation Service as urban soils. This means that the area has received extensive disturbance to the original soil by filling and/or removal.

The bedrock in this area is of the Skaneateles and Marcellus Formations which are made up of shale and thin limestone. The approximate depth of the bedrock in this area is 60 to 80 feet.

DISCUSSION OF RESULTS

The water samples contained concentrations of lead in excess of the effluent standards at locations #2 and #3, as well as detectable concentrations of chromium, copper, zinc and total organic carbon. The soil samples contained fairly high amounts of copper, nickel, and zinc, and detectable amounts of chromium, lead and silver.

At the time of this inspection there were no signs of leachate or other material leaving the site, nor were there any detectable odors. Access to this site is partially restricted; part of the landfill is fenced on the Atlas Steel property and part is open. This site is above the 100 year flood level. A code of F has been assigned to this site meaning "no further action is required; subsequent investigation has shown that no in-place toxics are present in dangerous amounts, and the sites do not present a toxics hazard".

RECOMMENDATIONS

Based on the data collected, this site does not appear to present a hazard to health or the environment. A final decision should be made concerning remedial work at this site after analysis of samples obtained as part of the Niagara River study.

HARTWELL STREET LANDFILL - Water Analyses

PARAMETER	UNITS	Site Locations			EFFLUENT STANDARD
		#1	#2	#3	
Arsenic	ug/l	<5	<5	<5	0.05 mg/l
Selenium	ug/l	<5	<5	<5	0.04 mg/l
Mercury	ug/l	<1	<1	<1	0.004 mg/l
Thallium	mg/l	<0.1	<0.1	<0.1	
Antimony	mg/l	<0.2	<0.2	0.2	
Cadmium	mg/l	<0.004	0.018	<0.004	0.02 mg/l
Chromium	mg/l	0.025	<0.004	<0.004	0.10 mg/l
Copper	mg/l	0.016	<0.005	<0.005	1.0 mg/l
Zinc	mg/l	0.068	0.066	0.081	5.0 mg/l
Lead	mg/l	<0.03	0.29	0.37	0.05 mg/l
Nickel	mg/l	<0.03	<0.03	<0.03	2.0 mg/l
Silver	mg/l	<0.01	<0.01	<0.01	0.1 mg/l
Beryllium	mg/l	<0.01	<0.01	<0.01	
Total Organic Carbon	mg/l	6.5	6.5	7.5	
Phenol	mg/l	<0.01	<0.01	---	0.002 mg/l

HARTWELL STREET LANDFILL - Soil Analyses

<u>PARAMETER</u>	<u>UNITS</u>	<u>SITE LOCATION #1</u>	<u>SITE LOCATION #2</u>
Arsenic	ug/g dry	2.2	1.1
Selenium	ug/g dry	<0.2	<0.1
Mercury	ug/g dry	0.08	0.04
Thallium	ug/g dry	<2	6.5
Antimony	ug/g dry	<5	<5
Cadmium	ug/g dry	0.23	<0.2
Chromium	ug/g dry	12	94
Copper	ug/g dry	43	260
Zinc	ug/g dry	98	100
Lead	ug/g dry	68	44
Nickel	ug/g dry	17	180
Silver	ug/g dry	0.51	3.8
Beryllium	ug/g dry	0.50	<0.5
Halogenated Organic	ug/g dry as Cl ₂ Lindane Standard	<0.5	<0.5
Phenol	ug/g dry	<0.4	<0.4
Dry Weight	%	63	65

REF-12

INTERVIEW FORM

INTERVIEWEE/CODE Jim Snieder Mike Wilkerson
 TITLE - POSITION NYS DEC, Div of Fish & Wildlife
 ADDRESS Delaware Ave.
 CITY Buffalo STATE NY ZIP _____
 PHONE () RESIDENCE PERIOD _____ TO _____
 LOCATION in DEC office INTERVIEWER Eileen Mulligan
 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. & vicinity, to site
- 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

I AGREE WITH THE ABOVE SUMMARY OF THE INTERVIEW:

SIGNATURE:

James R. Snieder - Sr. Wildlife Biologist
Michael A. Wilkerson - Conservation Biologist (Aquatic)

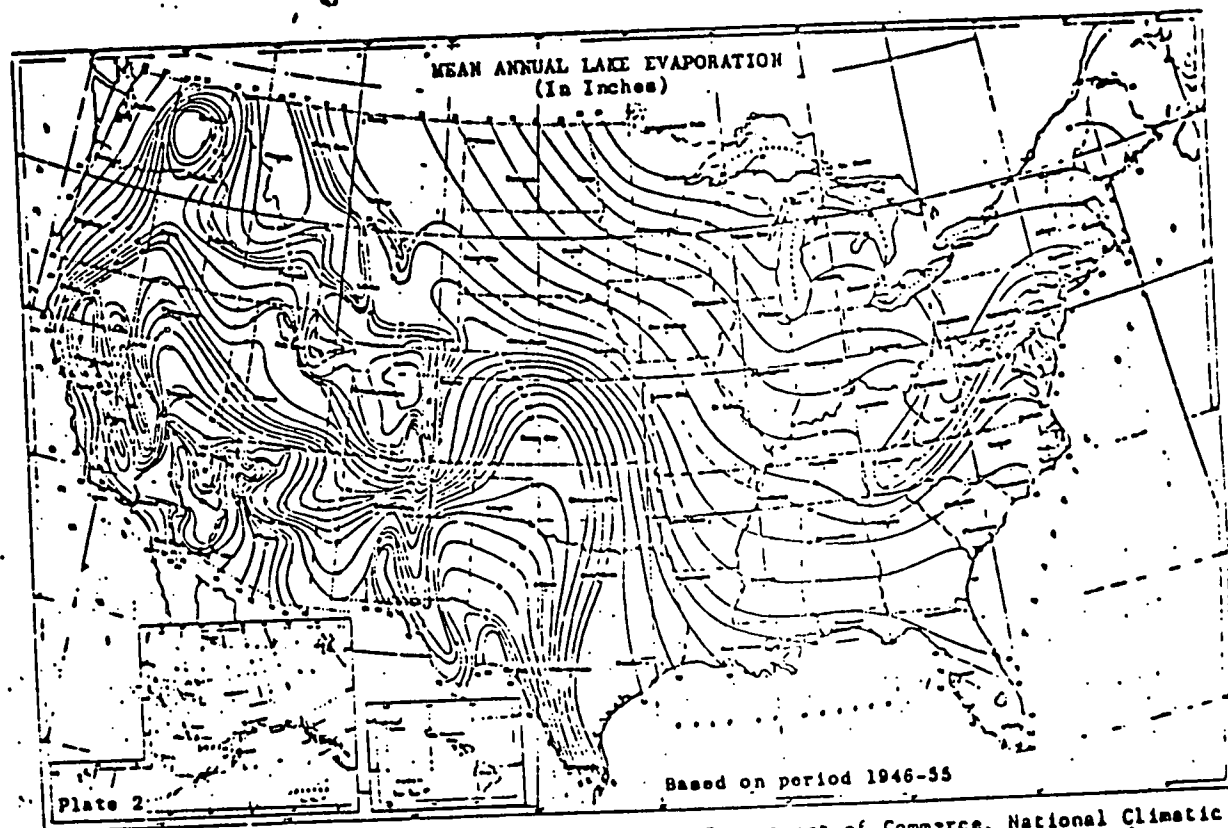
COMMENTS:

No discussion of wetlands/wildlife regarding
Mina Landfill site - referred to Olean Office

US CENSUS DATA, 1980

US Census Data used in the HRS scoring was obtained from various County Planning Offices. This data was not 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.

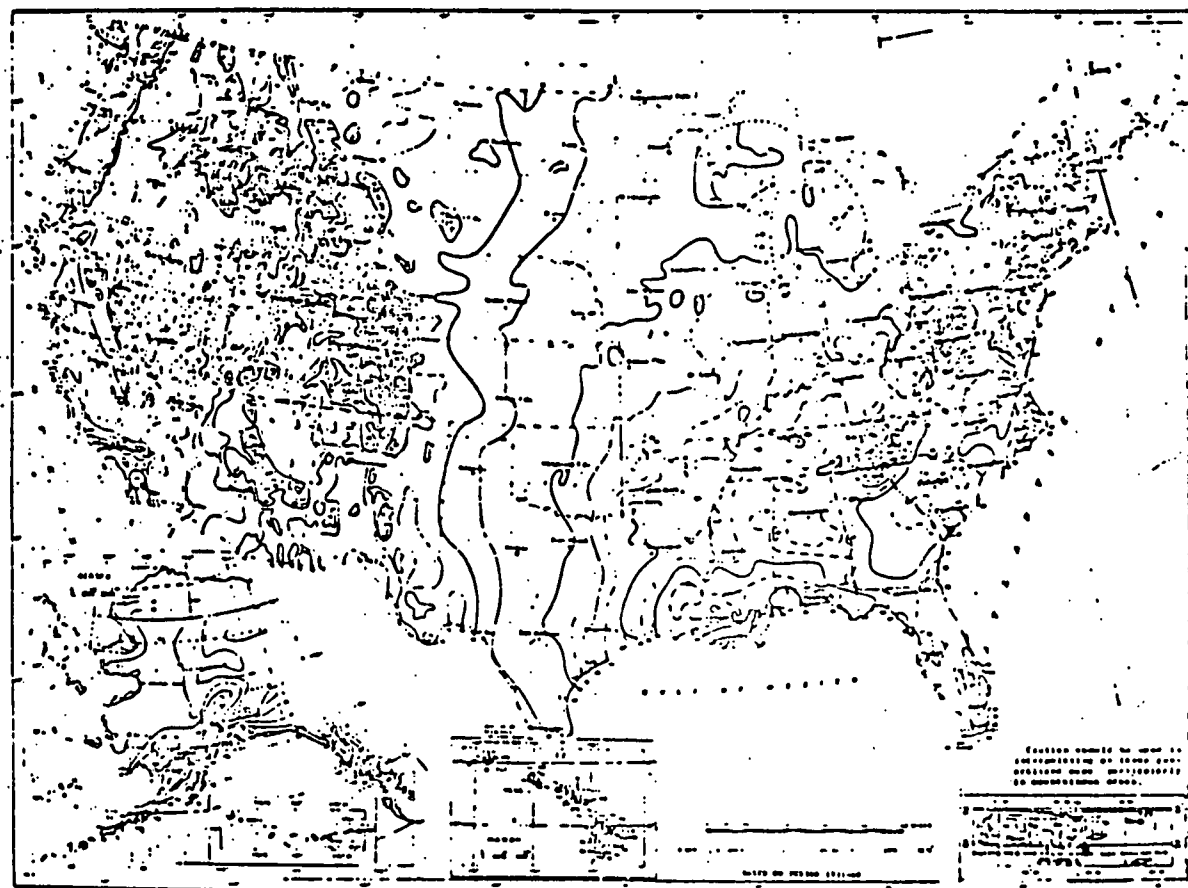
**THE FOLLOWING
IMAGES ARE THE BEST
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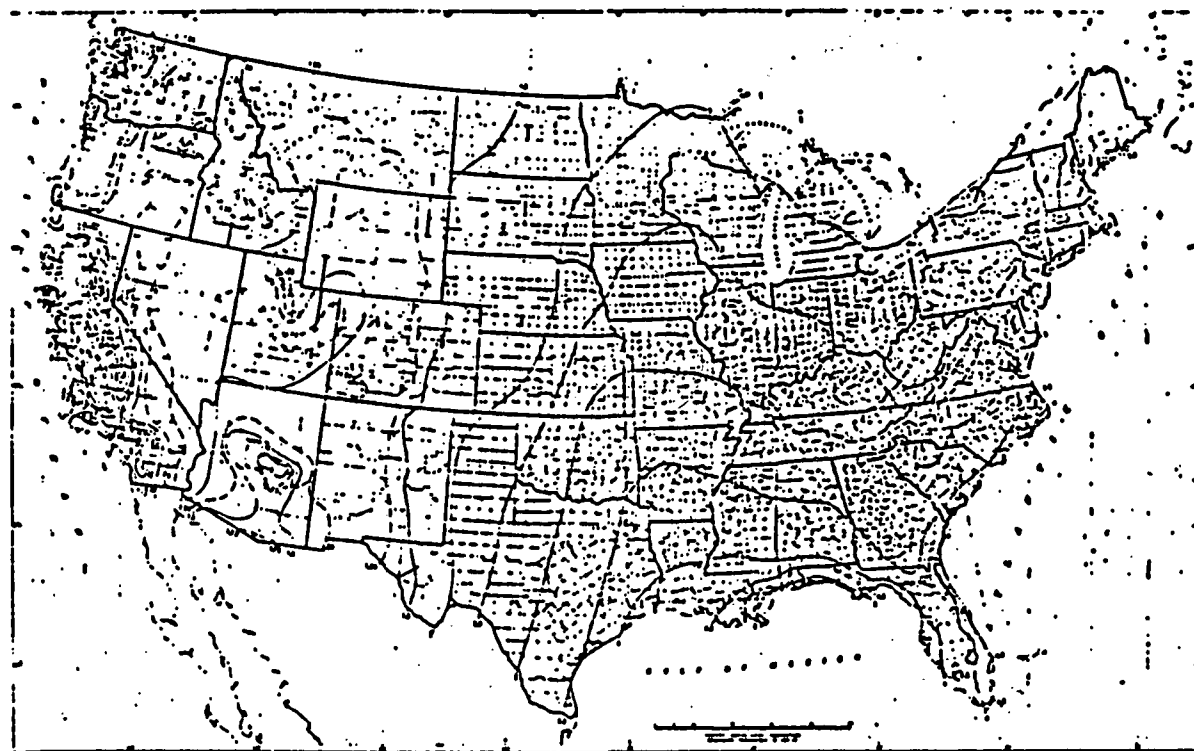
Source: Climatic Atlas of the United States, U.S. Department of Commerce, National Climatic Center, Asheville, N.C., 1979.

Figure 4
Mean Annual Lake Evaporation (In Inches)

DEF-14



989



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.

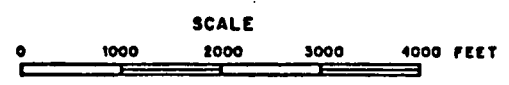
Figure 8

1-Year 24-Hour Rainfall (Inches)

REF-15



LATITUDE: 42°57'04"
LONGITUDE: 78°52'35"



ENGINEERING-SCIENCE, INC. IN ASSOCIATION WITH DAMES & MOORE
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION PHASE I REPORT
SITE LOCATION MAP HARTWELL ST. LANDFILL
FIGURE I-1

REFERENCE: U.S.G.S. 7.5' Topographic Map
Buffalo NE, NY (1965) and Buffalo NW,
NY-ONT. (1965) Quadrangles

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: 915030

NAME OF SITE : Hartwell Street Landfill

STREET ADDRESS: Foot of Hartwell Street

TOWN/CITY:

Buffalo

COUNTY:

Erie

ZIP:

14207

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

SITE OWNER/OPERATOR INFORMATION:

CURRENT OWNER NAME....: Atlas Steel

CURRENT OWNER ADDRESS.: 1963 Elmwood Ave., Buffalo, NY 14207

OWNER(S) DURING USE....: Atlas Steel

OPERATOR DURING USE....: Atlas Steel

OPERATOR ADDRESS.....: 1963 Elmwood Ave, Buffalo, NY 14207

PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From 1952 To present

SITE DESCRIPTION:

Low areas on Atlas Steel Casting Plant have been filled with debris from the plant. It has also been reported that spent sand and pollution control equipment dust were stored at the site prior to off-site disposal. DEC took soil and surface water samples in March 1982. Results indicate detectable amount of TOC in the water samples. Erie County submitted site profile report in March 1982.

HAZARDOUS WASTE DISPOSED:	Confirmed-	Suspected	-X
TYPE	QUANTITY (units)		
Plant debris, spent sand, pollution control equipment dust.			Unknown

SITE CODE: 915030

ANALYTICAL DATA AVAILABLE:

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

CONTRAVENTION OF STANDARDS:

Groundwater- Drinking Water- Surface Water- Air-

LEGAL ACTION:

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

REMEDIAL ACTION:

Proposed- Under Design- In Progress- Completed-

NATURE OF ACTION: None.

GEOTECHNICAL INFORMATION:

SOIL TYPE: Clay and silt

GROUNDWATER DEPTH: Not known

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Erie County site profile report of March 1982 indicates that no hazardous or toxic waste has been disposed. However, DEC finding of TOC in the water, suggests need for further investigation to assess environmental problem.

ASSESSMENT OF HEALTH PROBLEMS:

Insufficient information

PERSON(S) COMPLETING THIS FORM:

NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

NAME.: Abul Barkat
TITLE: Senior Sanitary Engineer

NAME.: Peter Buechi
TITLE: Assoc. Sanitary Engineer

DATE.: 01/24/85

NEW YORK STATE DEPARTMENT
OF HEALTH

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

NAME.:
TITLE:

DATE.: 01/24/85