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Superfund - HW
Spills - SP
ERP - E
VCP - V
BCP - C

915014

ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES

PHASE I INVESTIGATION

Chemical Leaman — Site No. 915014

City of Tonawanda — 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

Norman H. Nosenchuck, P.E., *Director*

By:

ENGINEERING-SCIENCE

In Association With

DAMES & MOORE

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

CHEMICAL LEAMAN TANK LINES

NYS SITE NUMBER 915014

CITY OF TONAWANDA

ERIE COUNTY

NEW YORK STATE

Prepared For

DIVISION OF SOLID AND HAZARDOUS WASTE
NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
50 WOLF ROAD
ALBANY, NEW YORK 12233-0001

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DATE OF SUBMITTAL: JANUARY, 1986

CHEMICAL LEAMAN TANK LINES

TABLE OF CONTENTS

SECTION I

EXECUTIVE SUMMARY
CHEMICAL LEAMAN TANK LINES

This report, prepared for the New York State Department of Environmental Conservation (NYSDEC), presents the results of the Phase I investigation for the Chemical Leaman Tank Lines Site (NYS Site Number 915014, EPA Site Number D048380205) located in the City of Tonawanda, Erie County, New York (see Figure I-1).

SITE BACKGROUND

The Chemical Leaman Tank Lines terminal facility in Tonawanda, New York was purchased in 1959 and began operations in 1963 (see Figure I-2). Railroad companies, real estate companies and private parties owned the site prior to Chemical Leaman. The Chemical Leaman site, approximately one-acre in size, includes three surface impoundments at the terminal facility.

The Chemical Leaman Company is engaged in the transport of chemicals from supplier to customer. The company also performs chemical waste disposal services on a limited basis. Following the transport of chemical products or waste materials, the Chemical Leaman tankers return to the terminal facility for cleaning. After draining the remaining chemical materials, the tankers are washed. Prior to 1978, wash and rinse waters containing trace quantities of priority pollutants from the washing operations were discharged to a series (three) of wastewater treatment (settling and natural aeration) surface impoundments (Chemical Leaman, 1985). The lagoon effluent flowed by gravity to the City of Tonawanda Wastewater Treatment Plant via the sanitary sewer system. In

1978, due to the detection of trace quantities of priority pollutants in the lagoon effluent (RECRA Research, 1978), these waste disposal practices were discontinued and two underground storage tanks were installed to collect the contaminated wash and rinse waters. Also in 1978, the accumulated solids in the surface impoundments were excavated and transported off-site for disposal. These lagoon sludges were not analyzed prior to disposal. However, EP toxicity analysis of sludge samples collected from surface impoundment No. 1 after the impoundments were cleaned in 1978 did not detect contaminants in concentrations that would classify the solids as hazardous (Advanced Environmental Systems, 1981, and ARCO Corporation, 1982).

Groundwater samples were collected on four occasions from the monitoring wells upgradient and downgradient from the surface impoundments during the period 1981 to 1982, and analyzed for an expanded list of parameters. The concentration of phenols, iron, lead, and manganese were found to exceed water quality standards for Class GA waters in New York State. TOC concentrations were also detected at quantifiable levels (Chemical Leaman, 1981-1982). Also in 1981, the USGS detected phenols (38 ug/l) in groundwater samples collected from downgradient Well No. 3 (USGS, 1983).

ASSESSMENT

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

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

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

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

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

The preliminary HRS score was:

S_M	=	5.57	S_A	=	0
S_{GW}	=	5.65	S_{FE}	=	0
S_{SW}	=	7.80	S_{DC}	=	0

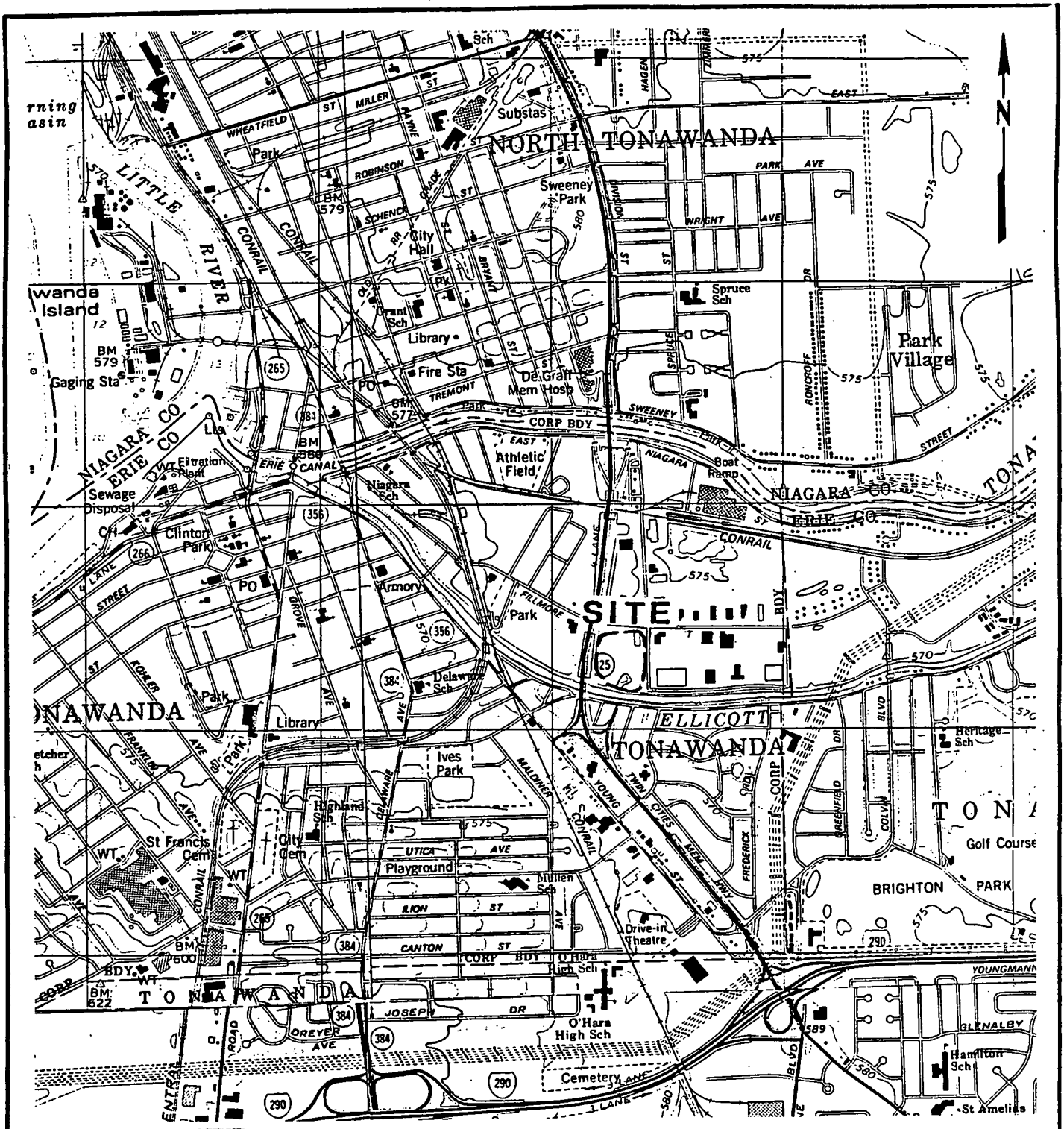
These scores reflect an observed release of contaminants in the groundwater, the potentially toxic nature of the wastes, and the low useage of groundwater and surface water in the area.

RECOMMENDATIONS

The following recommendations are made for the completion of Phase II:

- Groundwater monitoring system consisting of one new upgradient well and sampling of existing downgradient wells.
- Surface water and sediment monitoring system consisting of one upgradient and two downgradient stations.
- Sample analyses to include priority pollutants.
- Air monitoring with an HNU meter.

The estimated man-hour requirements to complete Phase II are 516, while the estimated cost is $37,624.



LATITUDE: 43°00'49"
LONGITUDE: 78°51'33"

SCALE
0 1000 2000 3000 4000 FEET

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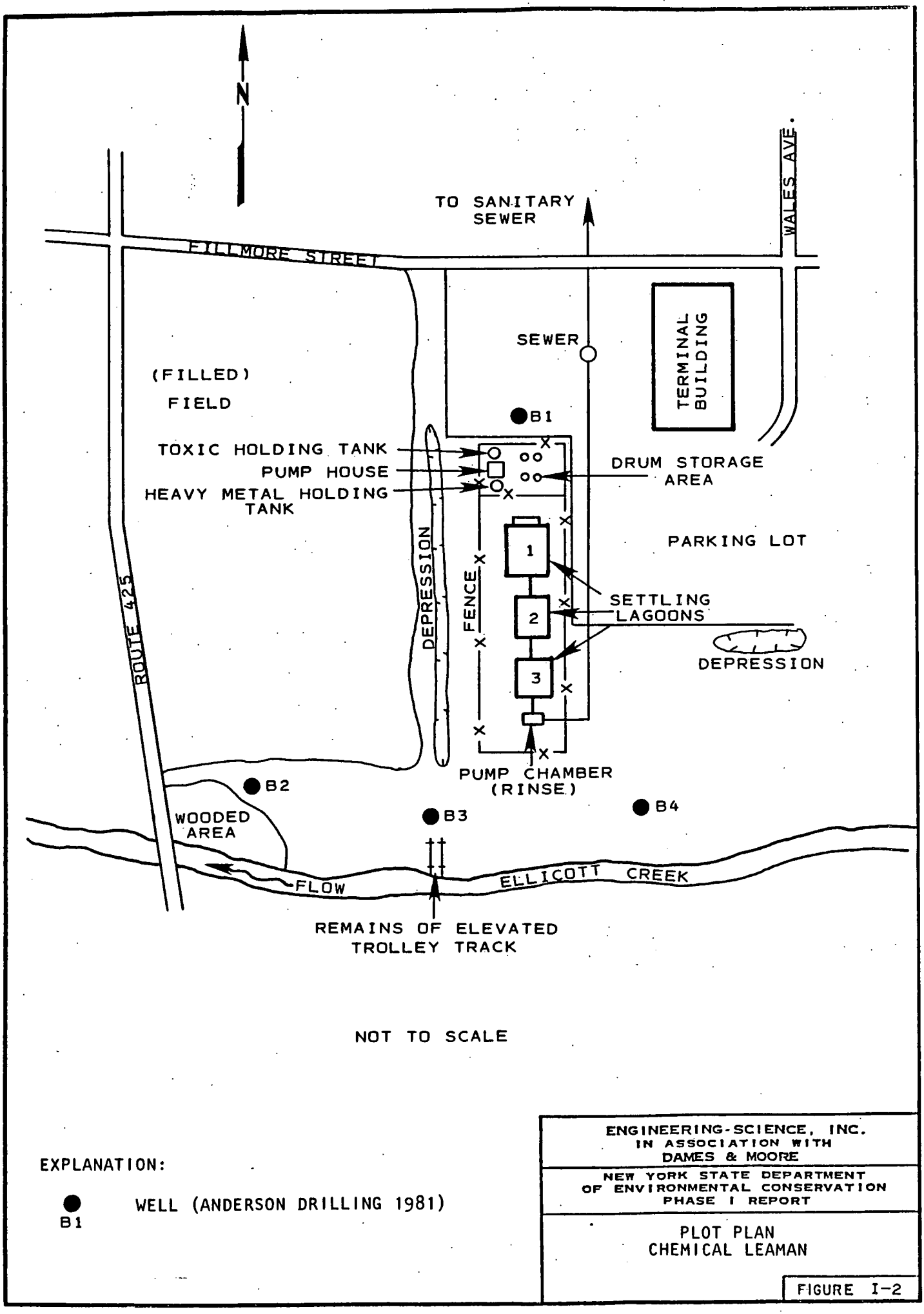
OF ENVIRONMENTAL CONSERVATION
PHASE I REPORT

SITE LOCATION MAP
CHEMICAL LEAMAN

FIGURE I-1

REFERENCE: U.S.G.S 7.5' Topographic Map
Tonawanda East, NY (1980), Tonawanda
West, NY (1980), Buffalo NE, NY (1965)
and Buffalo NW, NY-ONT. (1965) Quadrangles


N
TO SANITARY SEWER
WALES AVE.
FILLMORE STREET
SEWER
TERMINAL BUILDING
(FILLED)
FIELD
B1
TOXIC HOLDING TANK
PUMP HOUSE
HEAVY METAL HOLDING TANK
DRUM STORAGE AREA
PARKING LOT
DEPRESSION
FENCE
1
2
3
SETTLING LAGOONS
DEPRESSION
ROUTE 425
PUMP CHAMBER (RINSE)
B2
B3
B4
WOODED AREA
FLOW
ELLICOTT CREEK
REMAINS OF ELEVATED TROLLEY TRACK
NOT TO SCALE
EXPLANATION:
B1
WELL (ANDERSON DRILLING 1981)
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PLOT PLAN
CHEMICAL LEAMAN
FIGURE I-2

SECTION II

PURPOSE

The purpose of the Phase I investigation at the Chemical Leaman Tank Lines 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 groundwater contamination from the three unlined surface impoundments on-site. Based on this initial evaluation of the Chemical Leaman 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 Chemical Leaman Tank Lines terminal facility located in the City of Tonawanda, New York, was purchased in 1959 and operations began in about 1963. Prior to ownership by Chemical Leaman, the terminal site was undeveloped and previous owners included railroad companies, real estate companies and private parties. The Chemical Leaman site, approximately one-acre in size includes three surface impoundments at the terminal facility.

The Chemical Leaman Tank Lines Company is primarily engaged in the transport of chemicals from supplier to customer. The chemicals transported include hazardous materials and chemicals containing hazardous constituents. The company also performs chemical waste disposal services for off-specification chemical products which cannot be used or recycled. A list of the chemicals handled by the Chemical Leaman Tank Lines Company is provided in the Appendix.

The Chemical Leaman terminal facility is not a designated disposal site for hazardous wastes. However, following the delivery of chemical products, the tanker trucks return to the terminal facility for cleaning. The standard practice (past and present) is to drain the remaining chemical products from the tank trucks to storage drums for off-site disposal. Depending on the product transported, a number of cleaning methods are used, including hot or cold water flushing, cleaning with caustic solution, solvent cleaning, high temperature steam and hot water rinse. The caustic cleaning solution is normally used for tankers that

had contained non-hazardous materials. The caustic solution is recycled for multiple cleanings and the rinse waters from this cleaning operation are discharged to the on-site treatment facilities (i.e., three wastewater holding lagoons). Tankers used to transport hazardous chemicals are cleaned using a water flush process followed by steam cleaning. The wastewater from this operation is discharged to either the treatment lagoons or holding tanks depending on the contaminants contained within the wastewater. Wastewaters containing priority pollutants are drummed for off-site disposal at a permitted TSD facility. A concrete holding tank located on-line to the surface impoundments is used for pH adjustment of corrosive wastewaters if needed. Treated effluent from the storage tanks are discharged directly to the city sewer system (Chemical Leaman, 1985).

From 1963 to 1978, three surface impoundments (lagoons) were operated on-site for the treatment (solids settling and natural aeration) of truck wash and rinse waters. Prior to 1978, wastewater containing trace quantities of priority pollutants were discharged to the impoundments. Following treatment, the wastewater was discharged to the City of Tonawanda Wastewater Treatment Plant via the sanitary sewer system. This disposal practice was discontinued in 1978 following negotiations between Chemical Leaman and the NYSDEC (ECDEP, 1979).

In 1978, two of the surface impoundments (Nos. 1 and 2) were drained and the settled solids (sludge) were excavated and removed off-site for disposal. Between 1977 and 1978, an estimated 3,200 tons of sludge and contaminated subsurface soil were removed and transported for off-site disposal at the CECOS landfill located in Niagara Falls, NY (Chemical Leaman, 1985). The lagoons were reexcavated into the natural soil underlying the site.

Following the excavation of the sludge from the surface impoundments in 1978, several waste management practices were changed at the terminal facility. Two underground storage tanks (1,000 gallons each) were installed to receive tanker washdown wastewaters containing any of the 65 priority pollutants which are prohibited from being discharged to the Wastewater Treatment Plant. The storage tanks receive wastewater

containing heavy metals and organic wastes, respectively. The collected washwaters are transported to CECOS by Chemical Leaman for disposal. All drummed waste chemicals are contract hauled off-site for disposal at the Chem Met TSD facility located in Wyndotte, Michigan (Chemical Leaman, 1985).

Presently, the surface impoundments at the facility remain in use. However, Chemical Leaman proposes to close the facilities in the near future. The proposed closure plan requires the excavation of accumulated solids (sludge) and approximately one foot of the subsurface soil beneath the lagoons. The lagoons would be backfilled with clean fill and the excavated materials would be contract hauled off-site for disposal.

SITE TOPOGRAPHY

The Chemical Leaman site is located in the City of Tonawanda, Erie County, New York State. The site is a rectangular area bordered on the south by Ellicott Creek. The original ground surface sloped to the south toward the creek, but recent filling has created a relatively level surface across the northern two-thirds of the site. There is no surface water on the site except for three man-made settling lagoons. In addition, a linear depression trending north-south exists approximately in the center of the site. Prior to use by Chemical Leaman, an old trolley train line ran north-south through the site along an elevated embankment. Most of the embankment has been removed except for approximately 100 feet adjacent to the creek. The southwest corner of the site is low and marshy. Most of the southern border of the site is wooded with large willow trees.

The site is bordered to the west by Route 425 (a large divided highway), to the north by Fillmore Street across which is located a small stainless steel fabricating facility, to the east by Wales Avenue across which occurs a drafting facility and a warehouse, and to the northeast by RECRA Research facility. This area of Tonawanda is called the Tonawanda Industrial Park.

Local Sensitive Environments

The nearest wetland to this site is 0.27 miles away. There are no critical habitats for endangered species near the site.

SITE HYDROLOGY

This summary of site hydrology is based on information from USGS Topographic Maps, NYS Museum and Science Service Bedrock Geology and Quaternary Geology Map, LaSala (1968), and USGS drilling information from Anderson Drilling Company (1981).

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

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

Site Hydrogeology

Bedrock beneath the site is expected to be the Camillus Shale (Salina Group); top of rock may occur at approximately 35 feet. Industrial wells in this bedrock unit (approx. 100' depth) yield 200,000 to 1,000,000 gallons per day when they were in operation. The groundwater was high in H_2S (LaSala, 1968); other chemicals include:

Parameter	Concentration (ppm)
Sulfate	1,680
Chloride	2,340
(Ca,Mg) CO_3	2,780
Specific Conductance	9,010 umhos
pH	7.5

Soil stratigraphy on the site reflects the proximity of the site to the edge of former Lake Tonawanda. A generalized soil column based on USGS (1982) boring logs would be:

Soil Type	Depth (ft)
Mixed fill, topsoil	0 - 7
Layered fine sand, silts, and clay	7 - 20
Red Clay	20 - 34
Fine sand	34 - 35
Top of Bedrock	35

The upper surface of the bedrock is likely to be highly weathered and fractured. Above the bedrock there is a thin layer of fine sand, deposited as Lake Tonawanda began to flood the area. This sand may grade vertically upward into the thick red clay unit. This Lake

Tonwanda sediment is soft and grades upward into a layered grey fine sand, silt, and clay. In the southwest corner of the site, this lacustrine material is predominantly silt.

After the draining of Lake Tonawanda, a topsoil layer developed on the ground surface (evidenced by roots and organic matter) but recent filling in the north part of the site has buried this topsoil layer to a depth of approximately 7 feet.

Three settling ponds are located near the center of the site. They were originally excavated to a depth greater than 10 feet and more recently were re-excavated and bottom sediment/sludges removed. The pond bottom depths indicate that natural silty fine sand forms the floor of the ponds.

A shallow water table appears to exist on top of the moist red clay (which occurs at approximately 8 to 12 ft. depth) on the site (USGS, 1985). This water table appears to slope to the south, towards Ellicott Creek and varies from 2 feet depth in the north (north of the ponds, within the fill) to 17 feet depth in the south. This aquifer may be hydraulically connected with Ellicott Creek. The permeability of the sandy soil within this zone is estimated to be approximately 10^{-3} cm/sec. Because of its layered nature, its horizontal permeability is likely to be greater than its vertical permeability.

The ponds may be recharging the perched zone. Overall flow (including off-site flow) within this zone will follow the slope (downslope direction) of the underlying red clay. This slope, however, cannot be calculated from the available boring information.

SITE CONTAMINATION

The Chemical Leaman terminal facility has three wastewater surface impoundments used to collect and treat (solids settling and natural aeration) wash and rinse waters from chemical tanker cleanout operations. Prior to 1978, wastewater containing trace quantities of

priority pollutants were discharged to the impoundments and in turn were conveyed to the Tonawanda Wastewater Treatement Plant via the sanitary sewer system. In 1978, these waste management practices were discontinued. Provided below is a summary of the sampling and analysis efforts conducted to date at the Chemical Leaman facility.

In 1978, the effluent wastewater discharged to the municipal sewer system from the Chemical Leaman surface impoundments were analyzed by a contractor retained by Chemical Leaman as required by the NYSDEC. The parameters detected in high concentrations included total organic carbon (825 mg/l) and total halogenated organics (150 ug/l) (RECRA Research, 1978). Following negotiations with the NYSDEC, Chemical Leaman excavated accumulated solids in the impoundments, installed chemical storage tanks and modified their waste management practices as was previously discussed. The analytical results for the sampling of the surface impoundment effluent in 1978 are provided in the appendix.

Between 1977 and 1978, an estimated 3,200 tons of accumulated settled solids (sludge) were removed from the surface impoundments (Nos. 1 and 2) between October, 1977 and May, 1978. The excavated sludge was not sampled and analyzed (EP Toxicity) prior to disposal in the CECOS landfill located in Niagara Falls, New York (Chemical Leaman, 1985).

The accumulated solids in the surface impoundment, No. 1, has been sampled and analyzed since the surface impoundments were cleaned (1977-78) and the waste management practice of discharging wastewater containing trace quantities of priority pollutants was discontinued. In November 1980 and July 1982, sludge samples were collected and analyzed for EP Toxicity parameters. No hazardous waste constituents were detected in concentrations that would classify the sludges as hazardous (Advanced Environmental Systems, 1981, and ARO Corporation, 1982). These results are provided in the appendix.

The USGS collected groundwater samples from the three monitoring wells located downgradient from the Chemical Leaman surface impoundments in July, 1981. The samples were analyzed for organic compounds includ

ing priority and non-priority pollutants. The concentration of phenol (38 ug/l) detected exceeded the groundwater quality standards for Class GA waters in New York State. Several non-priority pollutants were also detected (USGS, 1983). These results are provided in the appendix.

Groundwater samples were collected from the surface impoundments upgradient and downgradient monitoring wells by Chemical Leaman beginning in 1981. On four occasions the samples were analyzed for an expanded list of parameters. With the exception of phenols, iron, lead and manganese, all of the chemical constituents analyzed were below the maximum allowable concentrations for Class GA water in New York State (Chemical Leaman, 1981 to 1983). The concentration of TOC in the samples collected were also detected at quantifiable levels. It should also be noted that during several of the sampling efforts, the upgradient well (B-1) had higher levels of phenols, manganese and TOC than the downgradient well (B-4). These results indicate that the upgradient well may be contaminated from the chemical tanker transfer operations that were previously conducted upgradient from well B-1. The analytical results for selected parameters from these analytical results are presented in Table IV-1. The results are presented in their entirety in the appendix.

Additional groundwater samples were collected from the monitoring wells during 1983 and 1984. These samples were analyzed for indicators of contamination including pH, specific conductance, TOC, and halogenated organics. The concentration of TOC detected were similar to the levels previously found. The results of this sampling effort are provided in the appendix.

TABLE IV-1

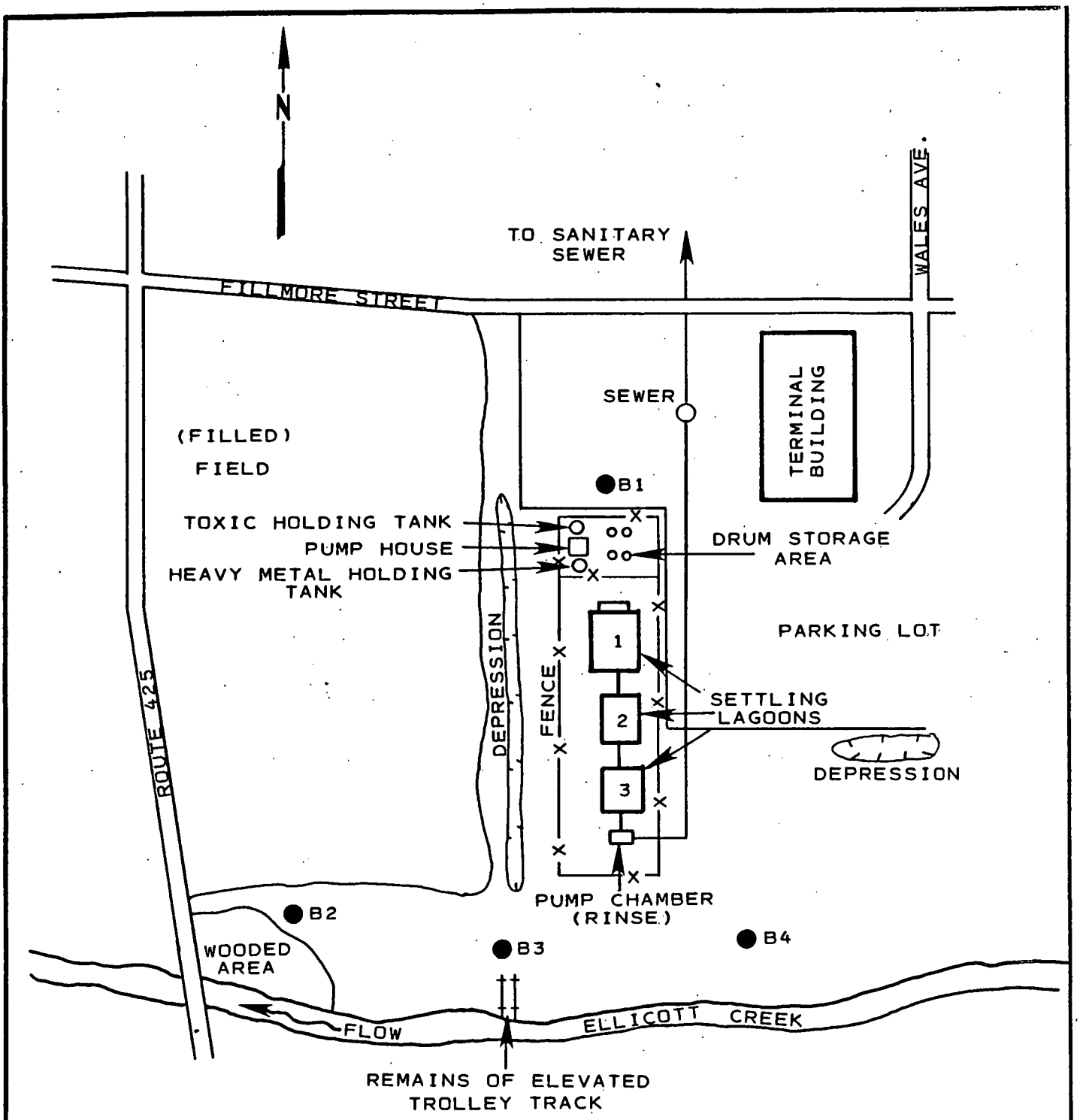
GROUNDWATER MONITORING DATA FOR SELECTED PARAMETERS

AT THE CHEMICAL LEAMAN SITE

Chemical Constituent	Class GA Water Std. in NYS	Well B-1 (Upgradient)	Well B-2	Well B-3	Well B-4
September 1982					
Phenols	0.001	0.020	0.032	0.025	0.019
TOC	---	28	72	80	41
Iron	0.3	5.1	5.9	73	50
Lead	0.025	< 0.005	< 0.005	0.005	0.007
Manganese	0.3	1.3	0.10	0.91	0.91
May 1982					
Phenols	0.001	0.027	0.039	0.025	0.020
TOC	---	32	79	72	19
Iron	0.3	5.6	10.0	9.5	300
Lead	0.025	0.06	0.13	< 0.03	0.05
Manganese	0.3	1.2	0.22	0.65	1.5
March 1982					
Phenols	0.001	0.018	0.014	0.044	0.012
TOC	---	40	46	54	16
Iron	0.3	2.5	5.6	9.9	48
Lead	0.025	< 0.03	< 0.03	0.03	0.04
Manganese	0.3	2.0	0.09	0.63	13
December 1981					
Phenols	0.001	0.016	0.020	0.050	< 0.01
TOC	---	73	74	51	14
Iron	0.3	42	28	34	9.4
Lead	0.025	< 0.03	< 0.03	< 0.03	< 0.03
Manganese	0.3	1.0	0.99	0.87	0.49

The GA Class Standards and all analytical results are expressed in mg/l unless otherwise indicated.

SOURCE: Chemical Leaman Tank Lines, 1985



NOT TO SCALE

EXPLANATION:

● B1 WELL (ANDERSON DRILLING 1981)

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PLOT PLAN
CHEMICAL LEAMAN

FIGURE IV-1

PRELIMINARY APPLICATION OF HAZARD RANKING SYSTEM

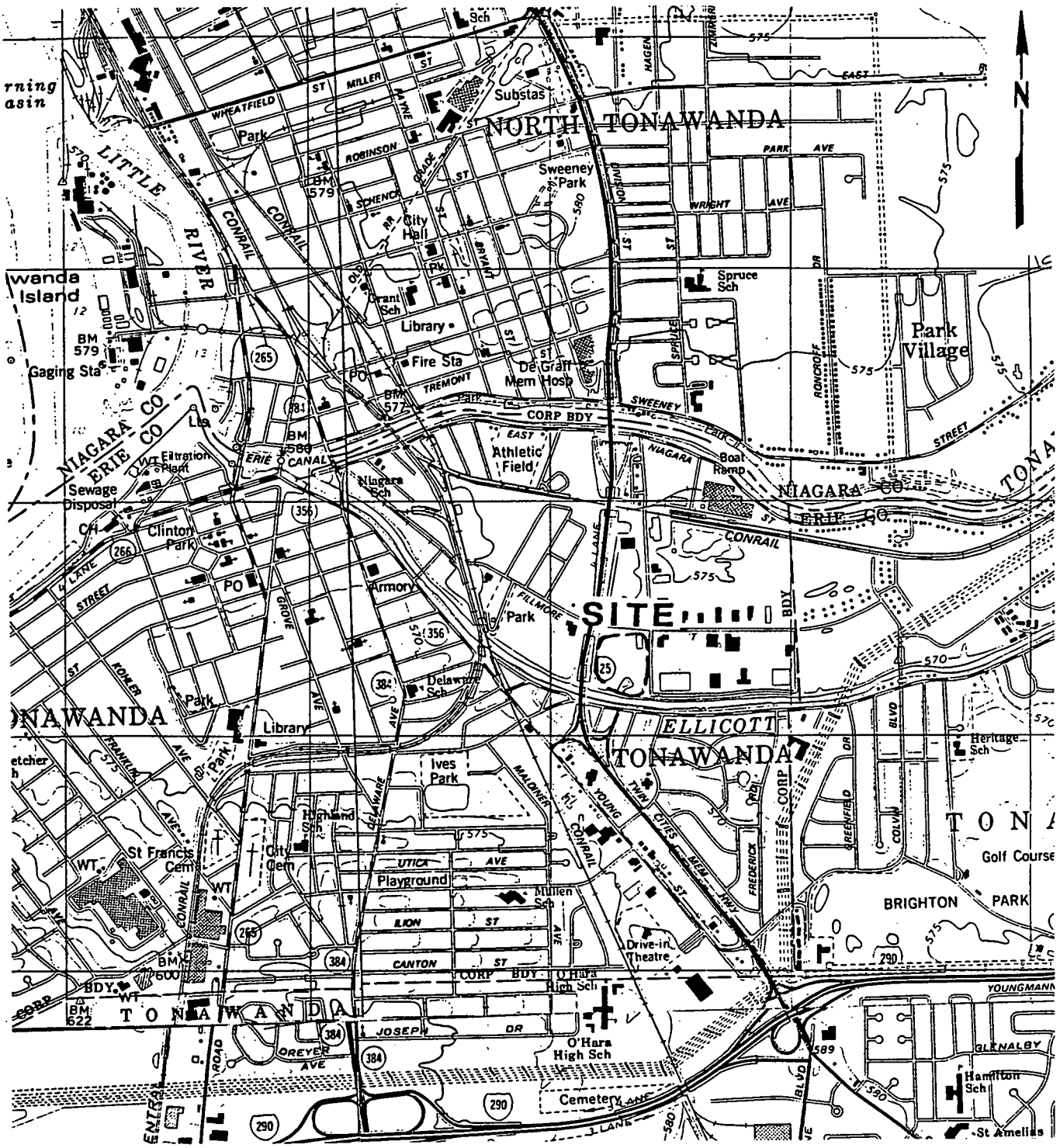
NARRATIVE SUMMARY

The Chemical Leaman Tank Lines site, consisting of three wastewater treatment lagoons, is located in the City of Tonawanda, Erie County, New York. The site is approximately one-acre is size.

The Chemical Leaman facility began operations in 1963. Chemical Leaman is engaged in the transport of chemicals and performs waste disposal services on a limited basis. Following transport, the Chemical Leaman tankers are emptied of remaining chemicals and washed out. The wash and rinse waters discharge to the three on-site surface impoundments for settling and natural aeration. Prior to 1978, wastewater containing trace quantities of priority pollutants were conveyed to the impoundments which discharge to the City of Tonawanda Wastewater Treatment Plant. These waste management practices were discontinued in 1978 and accumulated solids in lagoons Nos. 1 and 2 were excavated and removed off-site for disposal to the CECOS Landfill located in Niagara Falls, NY.

The accumulated solids in surface impoundment have been analyzed (EP Toxicity) since the remedial work was conducted in 1978. No hazardous constituents were detected in concentrations that would classify the solids as hazardous (Advanced Environmental Systems, 1981, and ARCO Corporation, 1982).

Groundwater samples have been collected from the on-site groundwater monitoring wells. In 1981, the USGS detected concentrations of phenol (38 ug/l) in groundwater samples collected from downgradient Well No. 3 (USGS, 1983). Samples collected in 1981-1982 detected concentrations of phenols, iron, lead, and manganese in excess of water quality standards for Class GA waters in New York State. TOC concentrations were also detected at quantifiable levels (Chemical Leaman, 1981 to 1982). No environmental or enforcement actions have been taken with respect to previous waste management practices at the site.



REFERENCE: U.S.G.S 7.5' Topographic Map Tonawanda East, NY (1980), Tonawanda West, NY (1980), Buffalo NE, NY (1965) and Buffalo NW, NY-ONT. (1965) Quadrangles

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SITE LOCATION MAP
CHEMICAL LEAMAN

FIGURE ii-1

HRS COVER SHEET

Facility Name: Chemical Leaman Tank Lines

Location: 470 Filmore Avenue, Tonawanda, Erie County, New York

EPA Region: II

Person(s) in charge of the facility: Bruce Hartman - Manager Engineering & Env. Services; James Rakitsky - Chemical Engineer, James Wegrzyn

Name of Reviewer: S. Robert Steele, II Date: 5/8/85

General Description of the facility:

Three surface impoundments have been operated on-site since 1963. In 1978, the sludge in impoundments Nos. 1 and 2 were excavated and removed off-site for disposal. Subsequent EP Toxicity analysis of solids (Lagoon No. 1 only) did not detect hazardous constituents in high concentrations. Analysis of groundwater samples from the on-site monitoring wells detected phenols and metals (iron, lead, and manganese) in concentrations exceeding groundwater quality standards for Class GA water in New York State. The impoundments are scheduled to be removed from service in the near future.

Scores: $S_M = 5.57$ ($S_{gw} = 5.65$ $S_{sw} = 7.80$ $S_a = 0$)

$S_{FE} = 0$

$S_{DC} = 0$

Facility Name: Chemical Leaman Date: 5/23/85

Ground Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Release	0 (45)	1	45	45	3.1
If observed release is given a score of 45, proceed to line 4. If observed release is given a score of 0, proceed to line 2.					
2 Route Characteristics					3.2
Depth to Aquifer of Concern	0 1 2 (3)	2	6	6	
Net Precipitation	0 1 (2) 3	1	2	3	
Permeability of the Unsaturated Zone	0 1 (2) 3	1	2	3	
Physical State	0 1 2 (3)	1	3	3	
Total Route Characteristics Score			13	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	6	8	
Total Waste Characteristics Score			24	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		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			3,240	57,330	
7 Divide line 6 by 57,330 and multiply by 100			S_{gw} = 5.65		

GROUND WATER ROUTE WORK SHEET

Facility Name: Chemical Leaman Date: 5/23/85

Surface Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Release	0 45	1	0	45	4.1
If observed release is given a value of 45, proceed to line 4. If observed release is given a value of 0, proceed to line 2.					
2 Route Characteristics					4.2
Facility Slope and Intervening Terrain	(0) 1 2 3	1	0	3	
1-yr. 24-hr. Rainfall	0 1 (2) 3	1	2	3	
Distance to Nearest Surface Water	0 1 2 (3)	2	6	6	
Physical State	0 1 2 (3)	1	3	3	
Total Route Characteristics Score			11	15	
3 Containment	0 1 2 (3)	1	3	3	4.3
4 Waste Characteristics					4.4
Toxicity/Persistence	0 3 6 9 12 15 (18)	1	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					4.5
Surface Water Use	0 1 (2) 3	3	6	9	
Distance to a Sensitive Environment	0 (1) 2 3	2	2	6	
Population Served/ Distance to Water	(0) 4 6 8 10 12 16 18 20 24 30 32 35 40	1	0	40	
Total Targets Score			8	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			5,016	64,350	
7 Divide line 6 by 64,350 and multiply by 100			S_{sw} = 7.80		

SURFACE WATER ROUTE WORK SHEET

Facility Name: Chemical Leaman Date: 5/23/85

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:	7/30/85				
Sampling Protocol:	HNu meter				
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		3	
Toxicity	0 1 2 3	3		9	
Hazardous Waste	0 1 2 3 4 5 6 7 8	1		8	
	Total Waste Characteristics Score			20	
[3] Targets					5.3
Population Within 4-Mile Radius	0 9 12 15 18 21 24 27 30	1		30	
Distance to Sensitive Environment	0 1 2 3	2		6	
Land Use	0 1 2 3	1		3	
	Total Targets Score			39	
[4] Multiply [1] x [2] x [3]				35,100	
[5] Divide line [4] by 35,100 and multiply by 100			S_a = (0)		

AIR ROUTE WORK SHEET

Facility Name: Chemical Leaman Date: 5/23/85

Worksheet for Computing S_M

	S	S^2
Groundwater Route Score (S_{gw})	5.65	31.92
Surface Water Route Score (S_{sw})	7.80	60.84
Air Route Score (S_a)	0.00	0.00
$S_{gw}^2 + S_{sw}^2 + S_a^2$		92.76
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		9.63
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$		5.57

WORK SHEET FOR COMPUTING S_M

Facility Name: Chemical Leaman Date: 5/23/85

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

FIRE AND EXPLOSION WORK SHEET

Facility Name: Chemical Leaman Date: 5/23/85

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

DIRECT CONTACT WORK SHEET

DOCUMENTATION RECORDS
FOR
HAZARD RANKING SYSTEM

FACILITY NAME: Chemical Leaman Tank Lines

LOCATION: 470 Filmore Avenue, City of Tonawanda, Erie County, New York

GROUNDWATER ROUTE

1. OBSERVED RELEASE

Contaminants detected (5 maximum):

1. Phenol
2. 3,4-Dichlorobenzoic Acid
3. 4-(1,1-Dimethylethyl) phenol
4. Lead
5. 2-Methyl-2-propanol

Rationale for attributing the contaminants to the facility:

Groundwater samples collected and analyzed by USGS, 1982 (USGS, 1983 and Chemical Leaman, 1981-82). The concentration of phenol and lead exceeded GA class groundwater standards in New York State. Downgradient concentrations for phenol and lead exceed upgradient concentrations on several sampling events.

* * *

2. ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifer(s) in concern:

Shallow aquifer above clay unit within sand (depth of sand 7 to 19 feet) (USGS, 1982) - may be hydrualically connected to Ellicott Creek.

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

0.5 feet (USGS, 1982).

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

Fill to 7 feet, lagoon bottoms greater than 10 feet (Anderson Driling Co., Inc., Boring Logs, Hole B-1, 8/14/81).

Net Precipitation

(U.S. Dept. of Commerce, National Climatic Center, 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" (36" - 27" = 9").

Permeability of Unsaturated Zone

Soil type in unsaturated zone:

Fill of cinders and sand atop sand or interfingered units of silt, clay and sand (Anderson Driling Company, Drilling Logs, 8/81).

Permeability associated with soil type

1. 10^{-1} to 10^{-5} cm/sec for silty sand
2. 10^{-5} to 10^{-12} cm/sec for silts and clays

(Freeze, R.A., and J.A. Cherry, Ground Water, 1979).

Physical State

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

Liquid (NYSDEC Registry Sheet, 12/83).

3. CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

A series of three unlined treatment lagoons (ES and D&M Site Inspection, 1985; Chemical Leaman, 1985).

Method with highest score:

Unlined treatment lagoons.

4. WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

Phenol (USGS, 1983; Chemical Leaman Data, 1981-1982).
Lead (Chemical Leaman Data, 1981-1982).

Compound with highest score:

Lead (toxicity = 3, persistence = 3) - 18.

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):

3 lagoons with 160,000 gallon capacity, which were half full - 160,000 gallons x 3 lagoons x 1/2 full = 240,000 gallons ÷ 50 gal/drum = 4,800 drums (Chemical Leaman Tank Lines, Site Ownership History, May, 1985).

Basis of estimating and/or computing waste quantity:

Between 1977 and 1978, an estimated 3,200 tons of sludge and contaminated soil were excavated and removed off-site for disposal. Since 1978, wastewaters containing priority pollutants have not been discharged to the surface impoundments (Chemical Leaman, 1985). The extent of contamination underlying the site from prior disposal operations is unknown. For purposes of rating the site, the once flow through volume of the three settling lagoons which were half full from 1963-1978 should be used.

5. TARGETS

Ground Water Use

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

Groundwater not used, but usable (NYS Atlas of Community Water System Sources, 1982).

Distance to Nearest Well

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

None in aquifer of concern (NYS Atlas of Community Water System Sources, 1982).

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:

Not applicable, no water supply wells within a 3 mile radius (NYS 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):

Zero.

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

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

SURFACE WATER ROUTE

1. OBSERVED RELEASE

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

No surface water samples analyzed for contamination (NYSDEC Registry Sheet, 12/83).

Rationale for attributing the contaminants to the facility:

Not applicable.

2. ROUTE CHARACTERISTICS

(USGS Topographic Maps: Tonawanda West, NY; Tonawanda East, NY; Buffalo NE, NY; Buffalo NW, NY-ONT Quadrangles).

Facility Slope and Intervening Terrain

Average slope of facility in percent:

0.3%.

Name/description of nearest downslope surface water:

Ellicott Creek.

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

Approximately 1%.

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" (U.S. Department of Commerce Technical Paper No. 40).

Distance to Nearest Downslope Surface Water

Adjacent to site.

Physical State of Waste

Liquid (NYSDEC Registry Sheet, 12/83).

3. CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Series of three unlined settling ponds (ES and D&M Site Inspection, 1985; Chemical Leaman, 1985).

Method with highest score:

Unlined treatment lagoons.

4. WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated

Phenols, heavy metals (iron, lead, and manganese). No observed release of phenols in the surface water has occurred at the site. Sludge residues containing heavy metals from previous waste disposal practices (prior to 1977-78) are suspected at the site (USGS, 1983; Chemical Leaman, 1981-1982).

Compound with highest score:

Lead (toxicity = 3, persistence = 3) - 18.

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 (NYSDEC Registry Sheet, 12/83).

Basis of estimating and/or computing waste quantity:

Wastewaters containing priority pollutants were discharged to the on-site surface impoundments prior to 1978. Contaminated soil and sludge were excavated from lagoons No. 1 and 2 in 1978. The extent of contamination with the potential to contaminant the surface water pathway is unknown. For purposes of rating the site, 1 to 10 cubic yards of hazardous waste are assumed to be on-site due to the detection of on-site contamination.

* * *

5. TARGETS

(USGS Topographic Map: Tonawanda West, NY)

Surface Water Use

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

1. Recreational greenspace (park on Fillmore St., 500' west of site).
2. Recreational boating and commercial shipping (Erie Canal).

Is there tidal influence?

No.

Distance to a Sensitive Environment

(USGS Topographic Maps: Tonawanda West, NY; Tonawanda East, NY; Buffalo NE, NY; Buffalo NW, NY-ONT Quadrangles)

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

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

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

0.27 mile (NYS Wetlands Maps).

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

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

Population Served by Surface Water

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

None within specified distances (NYS Atlas of Community Water System Sources, 1982).

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

Not applicable, none within 3 miles.

Total population served:

Not applicable, none within 3 miles.

Name/description of nearest of above water bodies:

Not applicable, none within 3 miles.

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

Not applicable, none within 3 miles.

AIR ROUTE

1. OBSERVED RELEASE

Contaminants detected:

No volatile organics detected.

Date and location of detection of contaminants:

Site inspection conducted by ES/D&M, 7/30/85.

Methods used to detect the contaminants:

HNU meter readings were taken and all readings were less than 1.5 ppm, indicating no air release.

Rationale for attributing the contaminants to the site:

Not applicable.

* * *

2. WASTE CHARACTERISTICS

Reactivity and Incompatibility

Most reactive compound:

Not applicable, no reactive compounds are known to exist on-site.

Most incompatible pair of compounds:

Not applicable, no incompatible compounds are known to exist on-site.

Toxicity

Most toxic compound:

No toxic compounds with the potential to impact the air pathway are known to exist on-site.

Hazardous Waste Quantity

Total quantity of hazardous waste:

The quantity of hazardous waste with the potential to impact the air pathway is unknown.

Basis of estimating and/or computing waste quantity:

Not applicable (see above comment).

* * *

3. TARGETS

Population Within 4-Mile Radius

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

(0 to 4 mi) 0 to 1 mi 0 to 1/2 mi 0 to 1/4 mi

133,403 people (Complied 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 NYS not a coastal area).

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

0.27 mile (NYS Wetlands Maps).

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

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

Land Use

(USGS Topographic Maps)

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

0.0 mile, site is located in an industrial park (ES/D&M Site Visit, 4/18/85).

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

More than 2 miles.

Distance to residential area, if 2 miles or less:

0.2 miles.

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

Not applicable, more than 1 mile.

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

Not applicable, more than 2 miles.

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

No.

FIRE AND EXPLOSION

1. CONTAINMENT

Hazardous substances present:

No information was discovered during the Phase I study which indicates that a fire and explosion situation existed or presently exists at the site.

Type of containment, if applicable:

Not applicable, see above comment.

* * *

2. WASTE CHARACTERISTICS

Direct Evidence

Type of instrument and measurements:

No measurements to determine the fire and explosion potential were taken on-site.

Ignitability

Compound used:

No ignitable compounds are known to exist on-site.

Reactivity

Most reactive compound:

No reactive compounds are known to exist on-site.

Incompatibility

Most incompatible pair of compounds:

No incompatible compounds are known to exist on-site.

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility:

No hazardous waste are known to be disposed on-site that create a potential fire and explosion situation.

Basis of estimating and/or computing waste quantity:

No applicable, see above comment

* * *

3. TARGETS

Distance to Nearest Population

0.0 mile, site is located in an industrial park (ES and D&M Site Visit, 4/18/85).

Distance to Nearest Building

Less than 200 feet (ES and D&M Site visit, 4/18/85).

Distance to Sensitive Environment

Distance to wetlands:

0.27 mile (NYS Wetlands Maps).

Distance to critical habitat:

None within 1 mile (NYSDEC, Region 9, Department of Fish and Wildlife, 1985).

Land Use

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

0.0 mile, site is located in an industrial park (ES and D&M Site Inspection, 4/18/85).

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

More than 2 miles (USGS Topographic Maps: Tonawanda West, NY; Tonawanda East, NY; Buffalo NE, NY; Buffalo NW, NY-ONT Quadrangles).

Distance to residential area, if 2 miles or less:

0.2 mile (USGS Topographic Maps: Tonawanda West, NY; Tonawanda East, NY; Buffalo NE, NY; Buffalo NW, NY-ONT Quadrangles).

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

More than 1 mile (USGS Topographic Maps: Tonawanda West, NY; Tonawanda East, NY; Buffalo NE, NY; Buffalo NW, NY-ONT Quadrangles).

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

More than 2 miles (USGS Topographic Maps: Tonawanda West, NY; Tonawanda East, NY; Buffalo NE, NY; Buffalo NW, NY-ONT 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

36,224 people (US Census Data, 1980).

Buildings Within 2-Mile Radius

Unknown.

DIRECT CONTACT

1. OBSERVED INCIDENT

Date, location, and pertinent details of incident:

There is no confirmed instance in which contact with hazardous substances at this site has caused injury, illness or death to humans or domestic or wild animals.

* * *

2. ACCESSIBILITY

Describe type of barrier(s):

Site is enclosed by a fence; however, there is no separate means to control entry.

* * *

3. CONTAINMENT

Type of containment, if applicable:

An estimated 3,200 tons of contaminated sludge were excavated from the on-site lagoons and disposed of off-site. Since this excavation work was completed in 1978, wastewater containing hazardous constituents have reportedly not been discharged to the lagoons. Therefore, the potential for direct contact with hazardous waste is unknown because the extent of on-site contamination has not been evaluated. For purposes of rating the site, a score of zero is assigned since hazardous substances have not been determined to be on-site which pose a direct contact concern.

* * *

4. WASTE CHARACTERISTICS

<u>Toxicity</u>

Compounds evaluated:

None. Because contaminated sludge has been excavated from the site, it is not known what hazardous substances may exist on-site.

Compound with highest score:

Not applicable, see above comment.

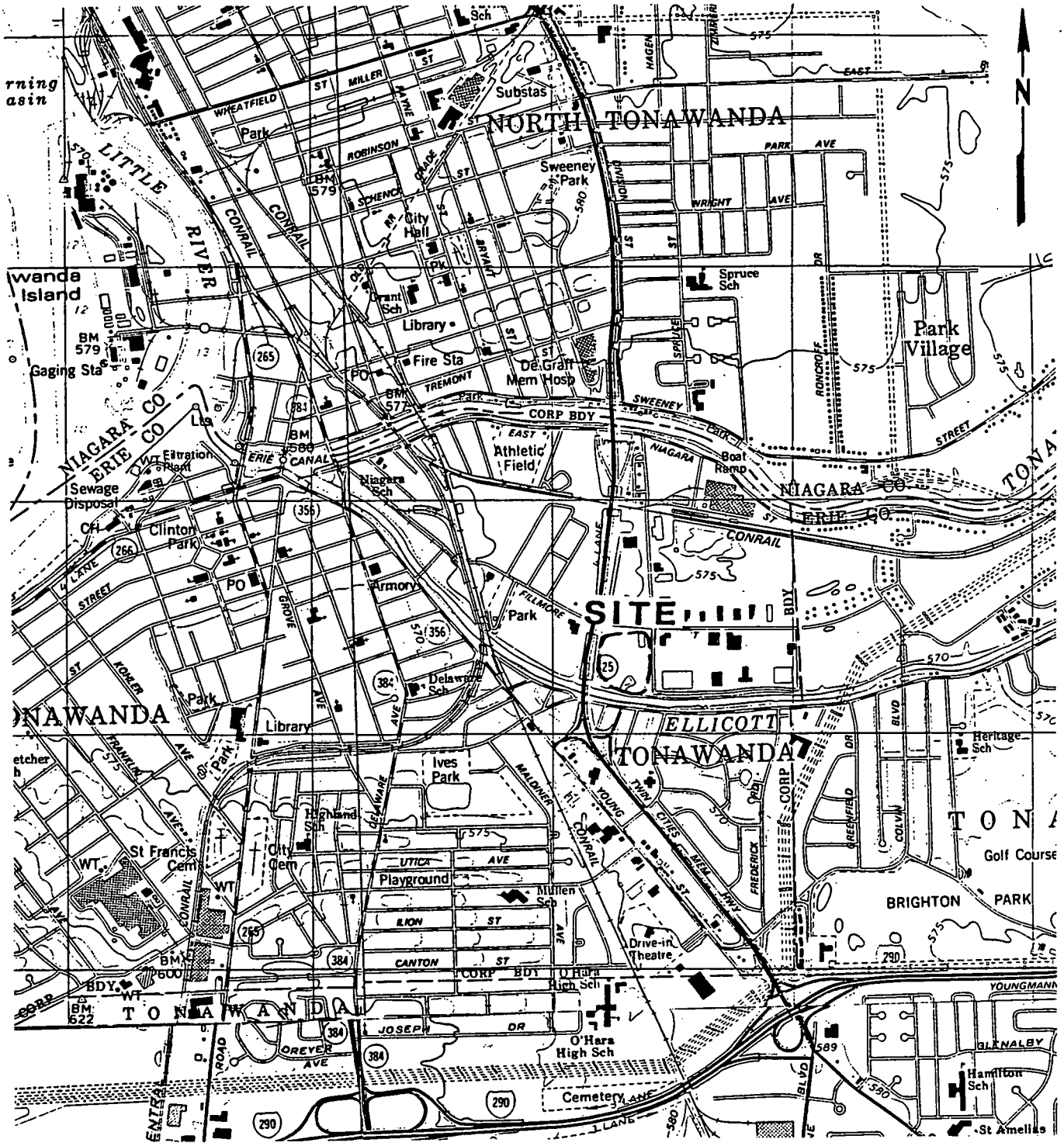
5. TARGETS

Population within one-mile radius

10,394 people (US Census Data, 1980).

Distance to critical habitat (of endangered species)

None within 1 mile (NYSDEC Region 9, Division of Fish and Wildlife, 1985).



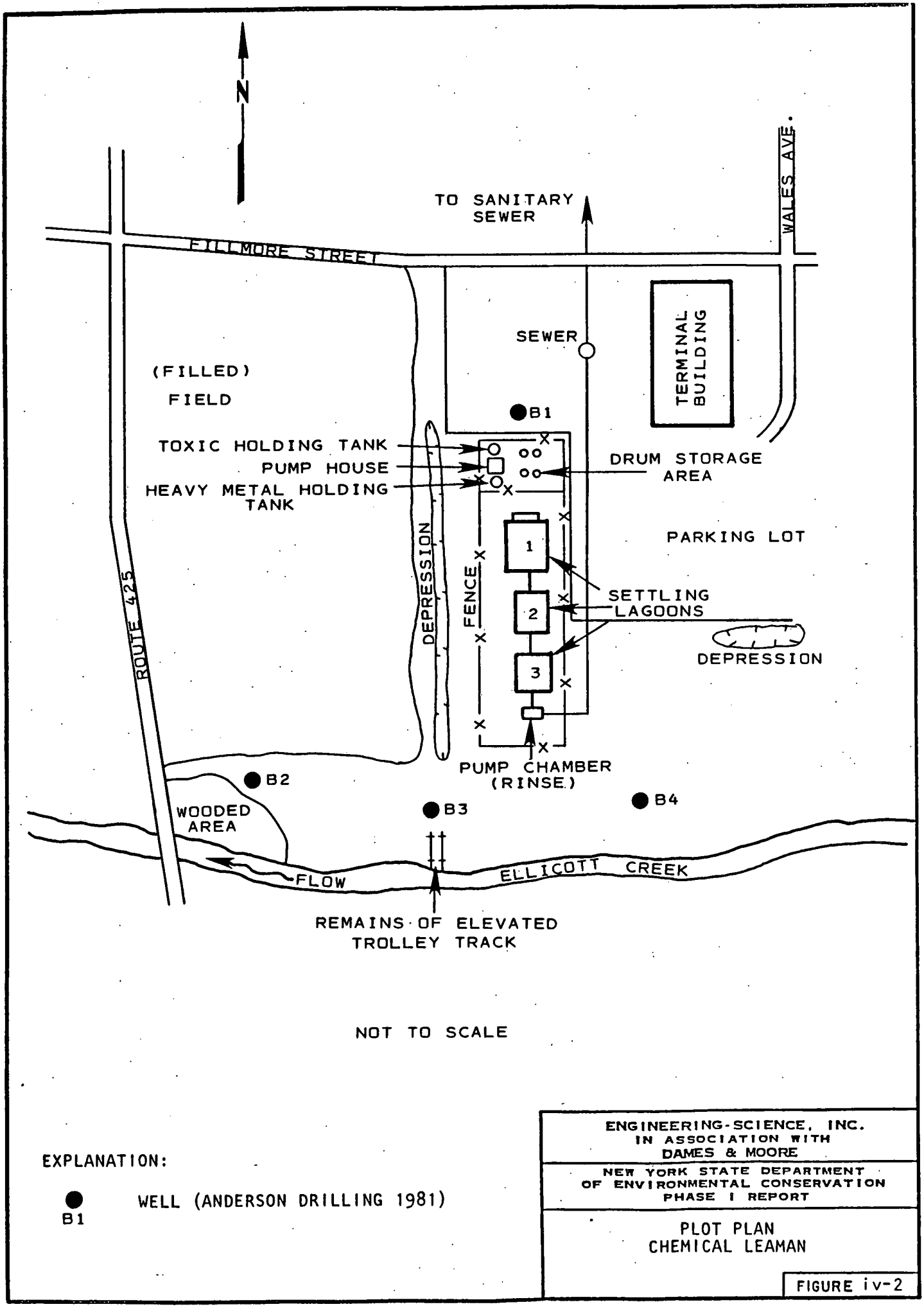
REFERENCE: U.S.G.S 7.5' Topographic Map Tonawanda East, NY (1980), Tonawanda West, NY (1980), Buffalo NE, NY (1965) and Buffalo NW, NY-ONT. (1965) Quadrangles

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

NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION
PHASE I REPORT

SITE LOCATION MAP
CHEMICAL LEAMAN

FIGURE iv-1


N
TO SANITARY SEWER
WALES AVE.
FILLMORE STREET
SEWER
TERMINAL BUILDING
(FILLED)
FIELD
B1
TOXIC HOLDING TANK
PUMP HOUSE
HEAVY METAL HOLDING TANK
DRUM STORAGE AREA
PARKING LOT
DEPRESSION
FENCE
1
2
3
SETTLING LAGOONS
DEPRESSION
ROUTE 425
PUMP CHAMBER (RINSE)
B2
B3
B4
WOODED AREA
FLOW
ELLICOTT CREEK
REMAINS OF ELEVATED TROLLEY TRACK
NOT TO SCALE
EXPLANATION:
B1
WELL (ANDERSON DRILLING 1981)
ENGINEERING-SCIENCE, INC.
IN ASSOCIATION WITH
DAMES & MOORE
NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION
PHASE I REPORT
PLOT PLAN
CHEMICAL LEAMAN
FIGURE iv-2

HRS REFERENCES

1. Anderson Drilling Company, Boring Logs, August 14, 1981.

2. ES and D&M Site Inspection, 1985.

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

4. LaSala, Groundwater Resources of the Erie-Niagara Basin, New York, 1968.

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

6. NYS Museum and Science Service Bedrock Geology Map, Map and Chart Series, No. 15 (compiled by Rickard, L. V., and Fisher, D. W.).

7. NYS Wetlands Maps.

8. NYSDEC Registry Sheet, 12/83.

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

10. US Census Data, 1980.

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

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

13. USGS Topographic Maps: Tonawanda West, NY; Tonawanda East, NY; Buffalo NE, NY; Buffalo NW, NY-ONT; Quadrangles.

14. USGS, Draft/Final Reports of Preliminary Evaluation of Chemical Migration to Groundwater and the Niagara River from Selected Waste Disposal Sites, 1983-1985.

REF-1

ANDERSON DRILLING COMPANY INC.

4318 S. BUFFALO STREET, ORCHARD PARK, NEW YORK 14127 (716) 662-5525

PROJECT Chemical Leman Tank Lines
LOCATION Tonawanda, New York
DATE STARTED 8/14/81
DATE FINISHED 8/14/81
METHOD OF INVESTIGATION ASTM D-1586, Using Drilled-In Casing.
HOLE NO. B-1
SURF. ELEV.

DEPTH-FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	BLOW ON CASING C	DESCRIPTION OF RECOVERED SAMPLES	REMARKS & WATER READINGS
0								CINDERS, SAND, FILL (Hand Excavated)	0-2' dug by hand to expose electric cable.
		1	4	3				Wet br. loose fine SAND & Silt, little medium-coarse Sand, trace fine gravel (Fill)	
			4	5		7			
		2	1	2				Wet gray loose organic fine SAND, some Silt, trace roots	
5			2	5		4			
		3	7	8				Wet brown firm fine SAND, trace silt	
			10	15		18			
		4	4	5					
			4	6		9		Becomes gray-loose-firm	
10		5	6	7					
			6	8		13			
		6	4	6	7	13			
15									
		7	2	2	4	6			
20								Boring Complete at 21.0 feet.	1. First free standing water at 1.4 feet. 2. Installed 2" dia. PVC well at 20.0 feet. 10' screen 12.2' riser 1 protective casing. 3. Free standing water after 48 hours, 4.8 feet.

N = No blows to drive 2 " spoon 12 " with 140 lb pin wt falling 30 " per blow

C = No blows to drive " casing " with lb weight falling " per blow

SHEET 1 OF 1

ANDERSON DRILLING COMPANY INC.

4318 S. BUFFALO STREET, ORCHARD PARK, NEW YORK 14127 (716) 662-5525

PROJECT Chemical Leman Tank Lines
LOCATION Tonawanda, New York
DATE STARTED 8/14/81
DATE FINISHED 8/14/81
METHOD OF INVESTIGATION ASTM D-1586, Using Drilled-In Casing.
HOLE NO. B-2
SURF. ELEV.

DEPTH-FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	BLOW ON CASING C	DESCRIPTION OF RECOVERED SAMPLES	REMARKS & WATER READINGS
0		1	1	2				Moist brown medium soft CLAY & Silt, trace fine-coarse sand (Fill)	
			2	3		4			
		2	3	4				Contains pieces of wood	
			4	7		8			
		3	2	2				Contains some fine-coarse Sand	
5			3	4		5			
		4	4	6				Contains brick fragments	1. Layer of wet black residue at 7.0 feet.
			4	7		10			
		5	3	3				Wet gray loose Clayey SILT and fine Sand	
			4	3		7			
10		6	3	4					
			4	3		8			
		7	1	1	1	2		Wet gray soft layered Clay and fine Sand	
15									
		8	2	2	2	4		Moist red soft CLAY	
20								Boring Complete at 20.5 feet.	2. Installed 2" dia. PVC well at 19.0 feet. 10' screen 11' riser 1 protective casing. 3. Free standing water at 5.5 feet.

N = No blows to drive 2 " spoon 12 " with 140 lb pin wt falling 30 " per blow

C = No blows to drive " casing " with lb pin wt falling " per blow

SHEET 1 OF 1

ANDERSON DRILLING COMPANY INC.

4318 S. BUFFALO STREET, ORCHARD PARK, NEW YORK 14127 (716) 662-5525

PROJECT Chemical Leman Tank Lines
DATE STARTED 8/14/81 HOLE NO. B-3
DATE FINISHED 8/14/81 SURF. ELEV.
LOCATION Tonawanda, New York
METHOD OF INVESTIGATION ASTM D-1586, Using Drilled-In Casing.

DEPTH-FT	SAMPLES	SAMPLE NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	BLOW ON CASING C	DESCRIPTION OF RECOVERED SAMPLES	REMARKS & WATER READINGS
0		1	2	3				4" TOPSOIL	
			3	3		6		Moist brown loose Clayey SILT, little fine Sand, few roots - organic	
		2	3	3					
			4	4		7			
		3	3	3					
5			4	4		7		Moist gray medium Silty CLAY, little-trace fine sand, organic	
		4	4	5					
			5	7		10			
		5	3	4					
			4	4		8			
10		6	4	5					
			5	4		10		Moist gray loose fine SAND, little Silt	
		7	4	2	5	7			
15									
		8	2	5	5	10		Wet gray loose fine SAND	
20									
		9	2	2	4	6		Moist red medium Silty CLAY	
								Boring Complete at 23.5 feet.	1. Installed 2" dia. PVC well at 22.6 ft. 10' screen 15' riser 1 protective casing. 2. Free standing water at 7.5 feet at completion.

N = No blows to drive 2 " spoon 12 " with 140 lb pin wt falling 30 " per blow

C = No blows to drive _____ " casing _____ " with _____ lb weight falling _____ " per blow

SHEET 1 OF 1

ANDERSON DRILLING COMPANY INC.

4318 S. BUFFALO STREET, ORCHARD PARK, NEW YORK 14127 (716) 662-5525

PROJECT Chemical Leman Tank Lines
DATE STARTED 8/17/81 HOLE NO. B-4
DATE FINISHED 8/17/81 SURF. ELEV.
LOCATION Tonawanda, New York
METHOD OF INVESTIGATION ASTM D-1586, Using Drilled-In Casing.

DEPTH-FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	BLOW ON CASING C	DESCRIPTION OF RECOVERED SAMPLES	REMARKS & WATER READINGS
0		1	1	1				TOPSOIL & ORGANIC SILT	
			2	3		3			
		2	2	2				Moist brown loose Silt & Clay, little fine Sand	
			4	3		6			
		3	2	3					
5			3	4		6		Moist brown medium Silty CLAY, trace fine sand	
		4	2	3					1. Sample #4, no recovery.
			3	4		6			
		5	3	2					
			3	3		5			
10		6	2	2					
			1	2		3		Wet brown loose fine SAND, some Silt, w/layers of clay	
15		7	1	3	6	9		Moist red medium CLAY	
								Boring Complete at 16.5 feet.	2. 2" dia. PVC well installed at 15.0 feet. 10' screen 7.4' riser 1 protective casing. 3. Free standing water at 5.8 feet at completion.

N = No blows to drive 2 " spoon 12 " with 140 lb pin wt falling 30 " per blow

C = No blows to drive ____ " casing ____ " with ____ lb weight falling ____ " per blow

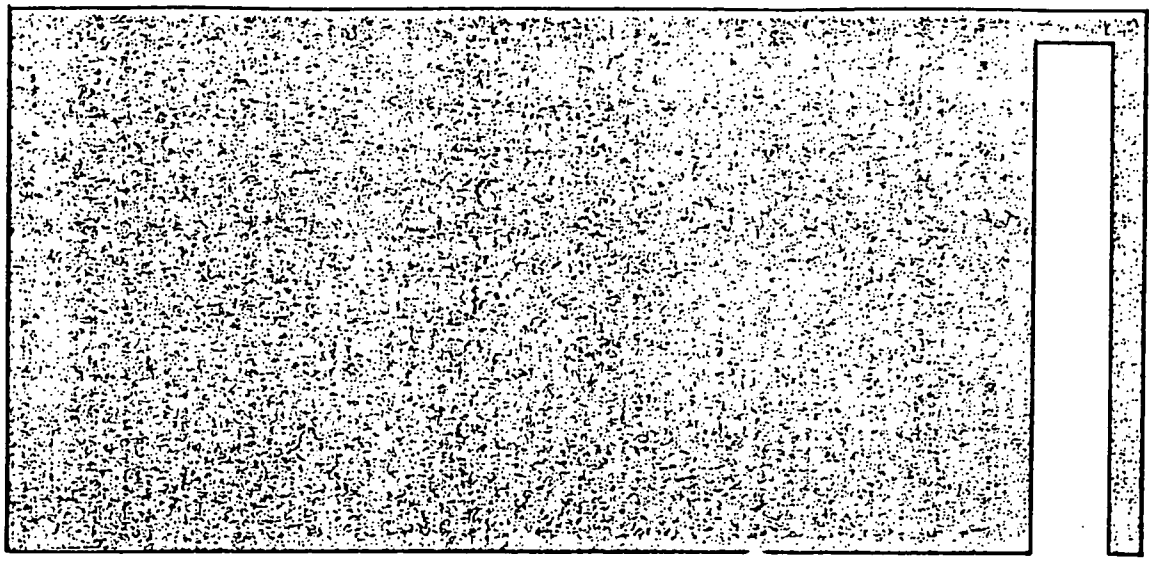
SHEET 1 OF 1

REF-2

ES AND D&M SITE INSPECTION

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

REF-3



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

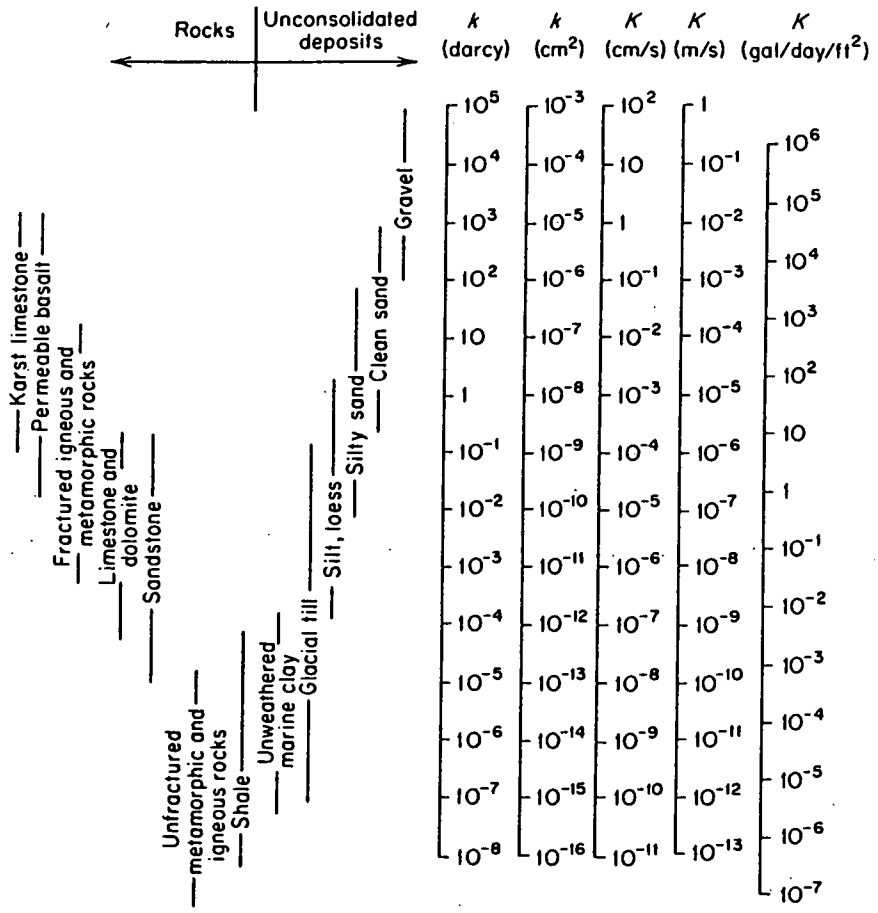


Table 2.3 Conversion Factors for Permeability and Hydraulic Conductivity Units

	Permeability, k*			Hydraulic conductivity, K		
	cm^2	ft^2	darcy	m/s	ft/s	gal/day/ft^2
cm^2	1	1.08×10^{-3}	1.01×10^{8}	9.80×10^{2}	3.22×10^{3}	1.85×10^{9}
ft^2	9.29×10^{2}	1	9.42×10^{10}	9.11×10^{5}	2.99×10^{6}	1.71×10^{12}
darcy	9.87×10^{-9}	1.06×10^{-11}	1	9.66×10^{-6}	3.17×10^{-5}	1.82×10^{1}
m/s	1.02×10^{-3}	1.10×10^{-6}	1.04×10^{5}	1	3.28	2.12×10^{6}
ft/s	3.11×10^{-4}	3.35×10^{-7}	3.15×10^{4}	3.05×10^{-1}	1	5.74×10^{5}
gal/day/ft^2	5.42×10^{-10}	5.83×10^{-13}	5.49×10^{-2}	4.72×10^{-7}	1.74×10^{-6}	1

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

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

REF-4

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

1982

NEW YORK STATE
DEPARTMENT OF HEALTH

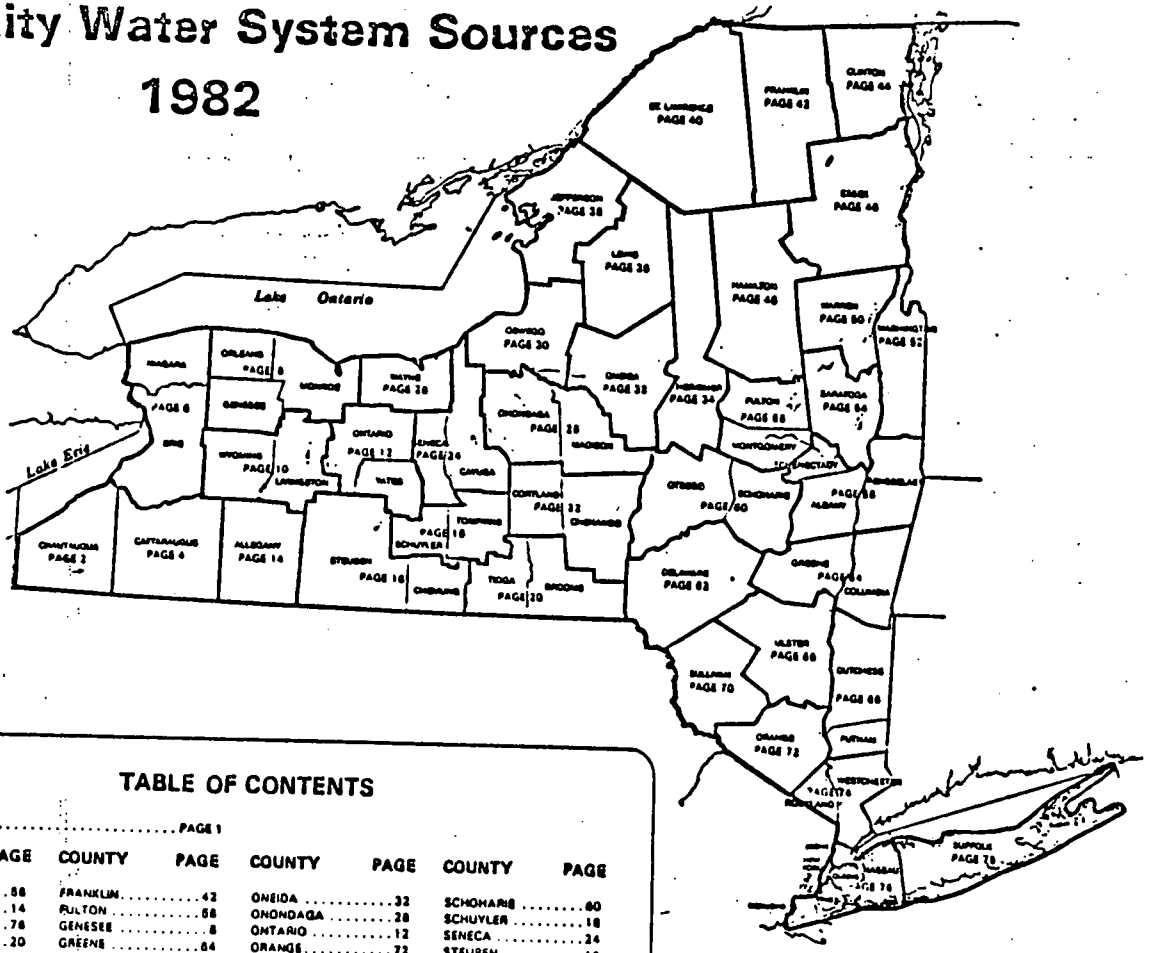


TABLE OF CONTENTS

LEGEND

BOUNDARIES AND PLACES

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

CLASSIFICATION OF POPULATED PLACES

100,000 or more ..... YONKERS
50,000 to 100,000 ..... Levittown
12,500 to 50,000 ..... Poughkeepsie
2,500 to 12,500 ..... Harrison Bay
250 to 2,500 .....
250 or less .....

TRANSPORTATION

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

Railroads
- Operating Line
- Service Discontinued
- Operator
- Owner (If Other than Operator)
- Company Having Trackage Rights

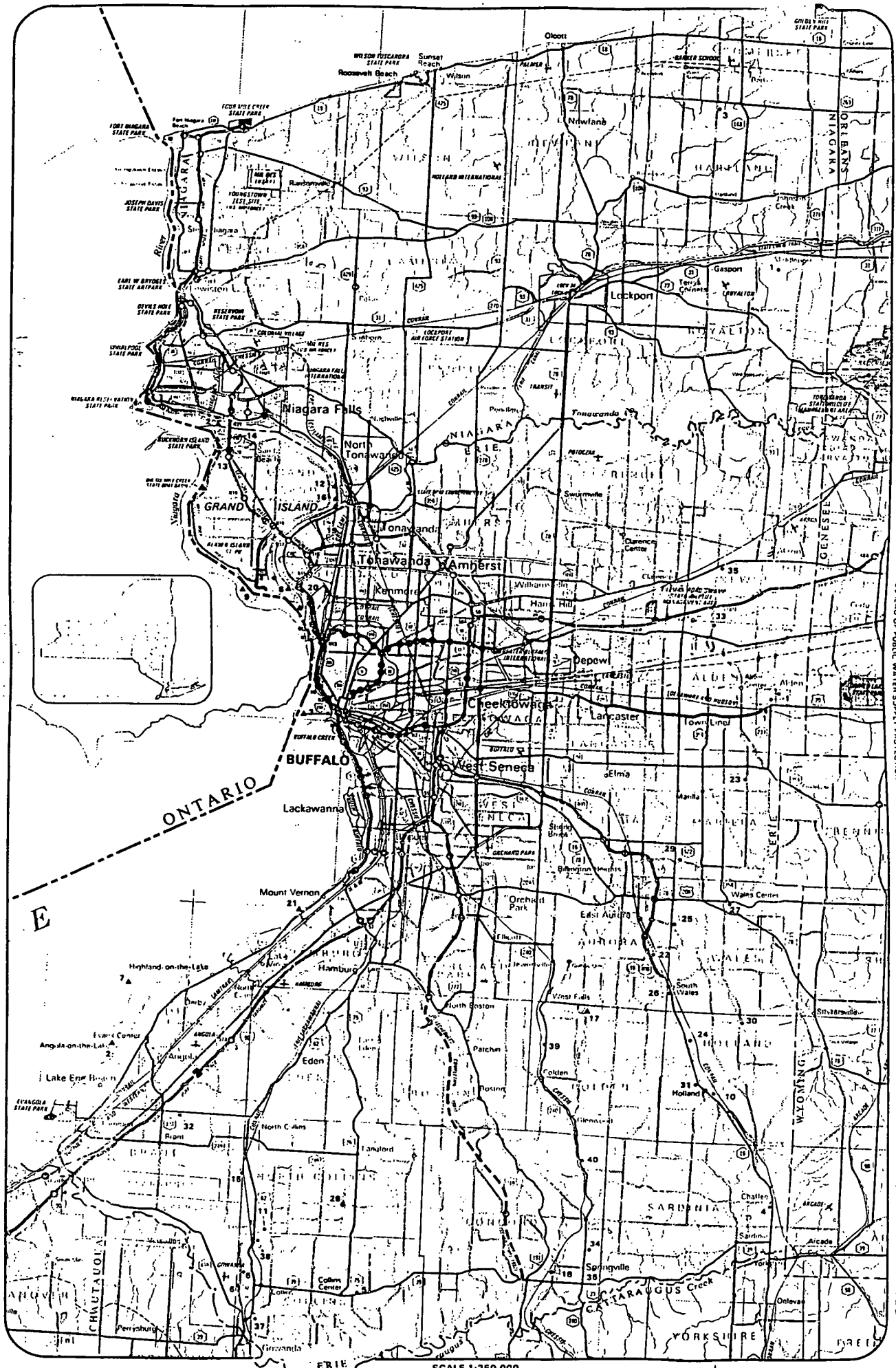
Airports (Open to the Public, Military)
- Runway under 4000'
- Runway over 4000'

Rest Areas
- Food, Gas, Rest Rooms
- Gas, Rest Rooms
- 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-5



LOCATION OF COMMUNITY WATER SYSTEM SOURCES-1982

ERIE and NIAGARA COUNTIES

BUREAU OF PUBLIC WATER SUPPLY PROTECTION

GEOLOGIC MAP OF NEW YORK

1970

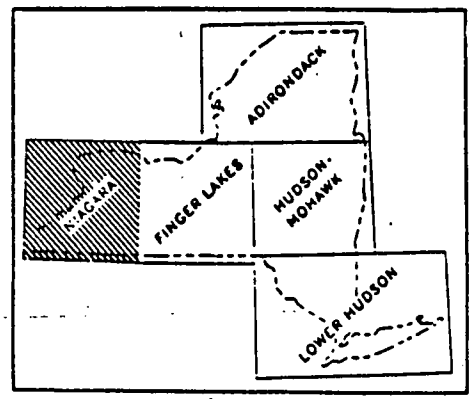
Niagara Sheet.

Scale 1:250,000

5 0 5 10 15 Statute Miles 20

5 0 5 10 15 20 25 Kilometers 30

CONTOUR INTERVAL 100 FEET



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

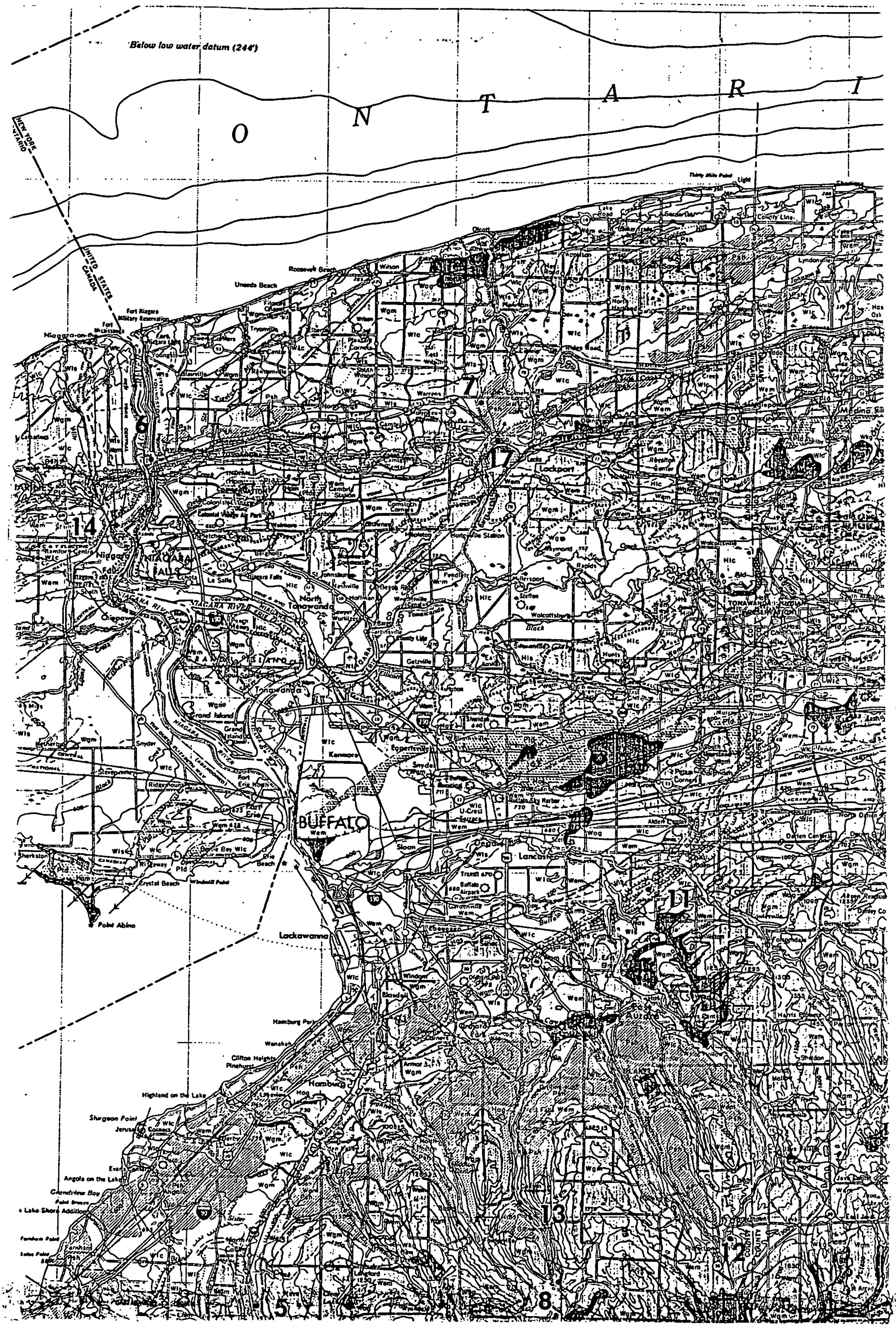
NEW YORK STATE MUSEUM AND SCIENCE SERVICE

MAP AND CHART SERIES NO. 15

COMPILED AND EDITED BY

Lawrence V. Rickard
Donald W. Fisher

March, 1970



Below low water datum (244')
O N T A R I
NEW YORK
ONTARIO
UNITED STATES
CANADA
Fort Niagara Military Reservation
Niagara-on-the-Lake
Roosevelt Beach
Wilson
Olcott
Lake Road
Thirty Mile Point
Light
Lyndonville
Youngstown
Ransomville
Lockport
NIAGARA FALLS
North Tonawanda
Tonawanda
Grand Island
Kenmore
Snyder
BUFFALO
Fort Erie
Sloan
Lancaster
Crystal Beach
Point Abino
Lackawanna
Blasdell
Hamburg Park
Clifton Heights
Pinehurst
Hamburg
Highland on the Lake
Sturgeon Point
Angola on the Lake
Grandview Bay
Farnham
Aurora
14
6
7
17
11
13
12
8
5

EXPLANATION

HOLOCENE		Has Alluvial sand and silt Medium to coarse sand with subordinate intercalated silt and gravel; loosely packed and permeable; generally oxidized and noncalcareous; mellow, but commonly with high water table. Floodplain deposits of streams in mature reaches. Overbank deposition by streams flowing on low gradients and in open valleys.	Hag Alluvial gravel Pebble to cobble gravel with subordinate medium to coarse sand; loosely packed and permeable; generally oxidized and noncalcareous; locally bouldery. Alluvial fan and channel deposits of streams flowing on steep gradients or emanating from narrow valleys into rapidly aggrading reaches.	Hls Beach sand and gravel Coarse sand with subordinate medium sand and gravel lenses; cross-bedded; highly permeable generally well sorted, without significant silt or clay. Strand and nearshore deposits of large lakes in basins possessing closure independent of the former receding glacier margin, hence persisting after deglaciation. Notable are shore deposits of Lakes Erie and Ontario and former Lake Tonawanda.	Hlc Lake silt, sand and clay Silt, fine to medium sand and clay; thin-bedded to massive; in part very regularly bedded with cyclic alternation of clay and silt laminae; moderately permeable along along bedding surfaces. Offshore deposits of lakes in basins which did not require an impounding ice margin for closure, hence persisted after deglaciation. Notable among filled basins is that of former Lake Tonawanda.	Hws Wind deposited sand Fine to medium sand; well sorted; oxidized and noncalcareous; cross-bedded; highly permeable. Closely associated with strand and nearshore deposits of postglacial lakes. Wind-reworked littoral and beach sand initially deposited in postglacial lake basins.	Hpm Peat, marl and muck Bog deposits, dominantly peat and muck with subordinate gyttja; marl is a major component except in the southern tier of counties. Silt and clay are intercalated at base of organic section. Deposition during late stages of in-filling of pond and lake basins, including numerous kettles and other shallow depressions on glacial drift; also parts of former Lake Tonawanda such as the Oak Orchard and Bergen Swamps.
WISCONSINAN	Woodfordian			Wls Beach sand and gravel of ice-dammed lakes Coarse sand with subordinate medium sand and gravel lenses; cross-bedded; well-sorted and without significant silt or clay; highly permeable. Strand and nearshore deposits in proglacial Lakes Whittlesey and Warren in the Erie Basin and Lake Iroquois in the Ontario Basin. Includes suitable material for generally small scale sand and gravel production.	Wlc Lake silt, sand and clay Silt, fine to medium sand and clay; thin-bedded to massive; regularly bedded, in part with cyclic alternation of clay and silt laminae; moderate bedding plane permeability. Offshore deposits in basins which required ice marginal impondment for closure; includes primitive lakes in northward-draining troughs as well as ancestral Lakes Whittlesey and Warren in the Erie Basin and Lake Iroquois in the Ontario Basin.		
		Wem End moraine Includes both ablation and lodgment till; till generally rather stony with limited admixture of poorly sorted gravel; carbonate and crystalline clasts generally exceed 20%; thickness and permeability variable but generally greater than in associated ground moraine. Deposited by melting of ice at edge of ice sheet either at end of an advance or during stillstand at a stable ice-border position. See figure 2 for names of principal moraines and schematic representation of chronology of glacial advance and retreat.	Wgm Ground moraine Dominantly lodgment till; silty clay till and sandy till; sparsely to moderately stony; carbonate and crystalline clasts generally exceed 20%; compact and generally very impermeable. Variably comminuted rock material, transported by and lodged beneath actively flowing ice of the continental ice sheet.	Wkg Ice-contact stratified drift Coarse gravel and sand; sorting, poor and variable; ranges from sand to boulder gravel; in some areas with subordinate lenses of unsorted flow till; attitude of beds variable; moderately to highly permeable; carbonate and crystalline clasts comprise more than 20% and commonly dominate coarse fraction; locally indurated by secondary calcium carbonate. Deposition as ablation moraine, mudflow and by saltwater streams distributing drift on stagnant ice to be deposited finally as the buried ice melted. Steep slopes commonly mark former ice-contact surfaces. Comprises a major gravel source, but requires washing and crushing for many purposes.	Wog Outwash, terrace and delta gravel Pebble and cobble gravel with subordinate sand; well sorted; extremely permeable; carbonate and crystalline clasts generally exceed 30% of the coarse fraction; locally cemented by secondary calcium carbonate. Deposition by strongly aggrading streams flowing from former ice sheets. Coarse alluvium deposited in coalescent aprons near the ice sheet, or as valley trains where streams drained freely from the glacier margin. Commonly persist as stream terraces or terrace remnants. Includes minor lenses of very coarse torrent (klaya) deposits. Comprises a major source of relatively clean and uniform gravel.
	Altonian	Aem End moraine Includes both ablation and lodgment till; silty clay till to sandy till; moderately to abundantly stony with admixture of poorly sorted gravel; sandstone and siltstone channers generally comprise more than 80% of coarse fraction; permeability and thickness variable but generally greater than for associated ground moraine. Deposited by melting of ice at edge of ice sheet either at end of an advance or during stillstand at a stable ice-border position.	Agm Ground moraine Dominatly lodgment till but locally with a veneer of variably washed ablation drift; clay till, silty clay till and sandy till; moderately to abundantly stony; siltstone and sandstone channers comprise more than 80% of coarse fraction; deeply oxidized and essentially noncalcareous; compact and generally impermeable. Variably comminuted rock material, transported by and lodged beneath actively flowing ice of the continental ice sheet.	Akg Ice-contact stratified drift Coarse gravel and sand; sorting poor and variable; ranges from sand to boulder gravel, in some areas with subordinate lenses of unsorted flow till; attitude of beds variable; moderately to highly permeable; siltstone and sandstone generally more than 80% of coarse fraction; generally uncemented. Deposition as ablation moraine, mudflow and by meltwater streams distributing drift on stagnant ice to be deposited finally as the buried ice melted. Steep slopes commonly mark former ice-contact surfaces. Comprises a major gravel source but requires washing and crushing for many purposes.	Aog Outwash, terrace and delta gravel Pebble and cobble gravel with subordinate sand; well sorted; extremely permeable; carbonate and crystalline clasts generally less than 30% of the coarse fraction; generally uncemented. Deposition by strongly aggrading streams flowing from former ice sheets. Coarse alluvium deposited in coalescent aprons near the ice sheet, or as valley trains where streams drained freely from the glacier margin. Commonly persist as stream terraces or terrace remnants. Comprises a major source of relatively clean and uniform gravel.
ILLINOIAN		Iem End moraine Includes both ablation and lodgment till; silty clay till; moderately to abundantly stony with admixture of poorly sorted gravel; sandstone and siltstone channers dominate coarse fraction; permeability and thickness variable but generally greater than for associated ground moraine. Deposited by melting of ice at edge of ice sheet either at the end of an advance or during stillstand at a stable ice-border position.	Igm Ground moraine Dominantly lodgment till but with local veneer of variably washed ablation drift; clay till to silty clay till; moderately to abundantly stony; siltstone and sandstone channers dominate coarse fraction; deeply oxidized and essentially noncalcareous; compact and generally impermeable. Variably comminuted rock material, transported by and lodged beneath actively flowing ice of the continental ice sheet.	Ikg Ice-contact stratified drift Coarse gravel with subordinate pebbly sand; well stratified but laterally variable, ranging from sand to coarse gravel and subordinate lenses of unsorted flow till; attitude of beds variable; moderately to highly permeable; siltstone and sandstone dominate coarse fraction; oxidized and essentially noncalcareous; uncemented. Deposition as ablation moraine, mudflow and by meltwater streams distributing drift on stagnant ice to be deposited finally as the buried ice melted. Steep slopes commonly mark	Iog Outwash and terrace gravel Pebble and cobble gravel with subordinate sand; well-sorted; extremely permeable; carbonate and crystalline clasts generally less than 30% of the coarse fraction; generally uncemented; contains lower proportion of shale than in associated materials; oxidized and noncalcareous in general. Deposition by strongly aggrading streams flowing from ice sheets. Coarse alluvium deposited as valley trains and preserved as limited terrace remnants beyond the glaciated region.

A small fraction of living matter is made up carbon) which disintegra 5570±130 years. In foss ing Radiocarbon atoms to affords a basis for estir organism died.

SITE	NAME, TOWN
1	Otto, Otto
2	Clear Creek, Collins
3	Corry Bog, Corry
4	Nichols Bk., Sardinia

REF-7

NYS WETLANDS MAPS

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

REF-8

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: 915014

NAME OF SITE : Chemical Leaman Tank Lines
STREET ADDRESS: 470 Filmore Avenue
TOWN/CITY: Tonawanda
COUNTY: Erie
ZIP:

SITE TYPE: Open Dump- Structure- Lagoon- Landfill- Treatment Pond-X
ESTIMATED SIZE: -1 Acres

SITE OWNER/OPERATOR INFORMATION:
CURRENT OWNER NAME....: Chemical Leaman Tank Lines, Inc.
CURRENT OWNER ADDRESS.: 470 Filmore Avenue., Tonawanda, NY
OWNER(S) DURING USE...:
OPERATOR DURING USE...: Chemical Leaman
OPERATOR ADDRESS.....: 470 Filmore Avenue, Tonawanda, NY
PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From Unknown7 To Present

SITE DESCRIPTION:
Garage, storage yard, and settling ponds for tank trailers and tractors. "Heels" from non-dedicated tankers which have been used for incompatible products are drummed and removed off-site to an approved TSD facility. Tank washings, after draining, pass through the three ponds, where floating material is skimmed off. Solids settling in the ponds are periodically removed to an approved off-site TDS facility. Discharge from ponds to Tonawanda sewer system.

HAZARDOUS WASTE DISPOSED: Confirmed-X Suspected -

TYPE	QUANTITY (units)
Cleanout form bulk liquid tank trailers	Unknown

SITE CODE: 915014

ANALYTICAL DATA AVAILABLE:

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

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: Clayey
GROUNDWATER DEPTH: >10'

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

No apparent environmental problems associated with this site.

ASSESSMENT OF HEALTH PROBLEMS:

Insufficient information.

PERSON(S) COMPLETING THIS FORM:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

NAME.: John S. Tygert, P.E.
TITLE: Senior Sanitary Engr.

NAME.: Roberto A. Olazagasti
TITLE: Solid Waste Management Spec.

DATE.: 01/24/85

NEW YORK STATE DEPARTMENT OF HEALTH

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

NAME.: E. D. Gilligan
TITLE: Geologist

5/23/85

DATE.: 01/24/85

REF-9

4

INTERVIEW FORM

INTERVIEWEE/CODE Jim Sneider Mike Wilkenson

TITLE - POSITION NYSDEC, Div of Fish & Wildlife

ADDRESS Delaware Ave.

CITY Buffalo STATE NY ZIP

PHONE ( ) RESIDENCE PERIOD TO

LOCATION in DEC office INTERVIEWER Eileen Gilligan

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

SUBJECT: Phase I site information

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

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

Chemical Leaman - There is no critical habitat of an endangered species within one mile of the site

I AGREE WITH THE ABOVE SUMMARY OF THE INTERVIEW:

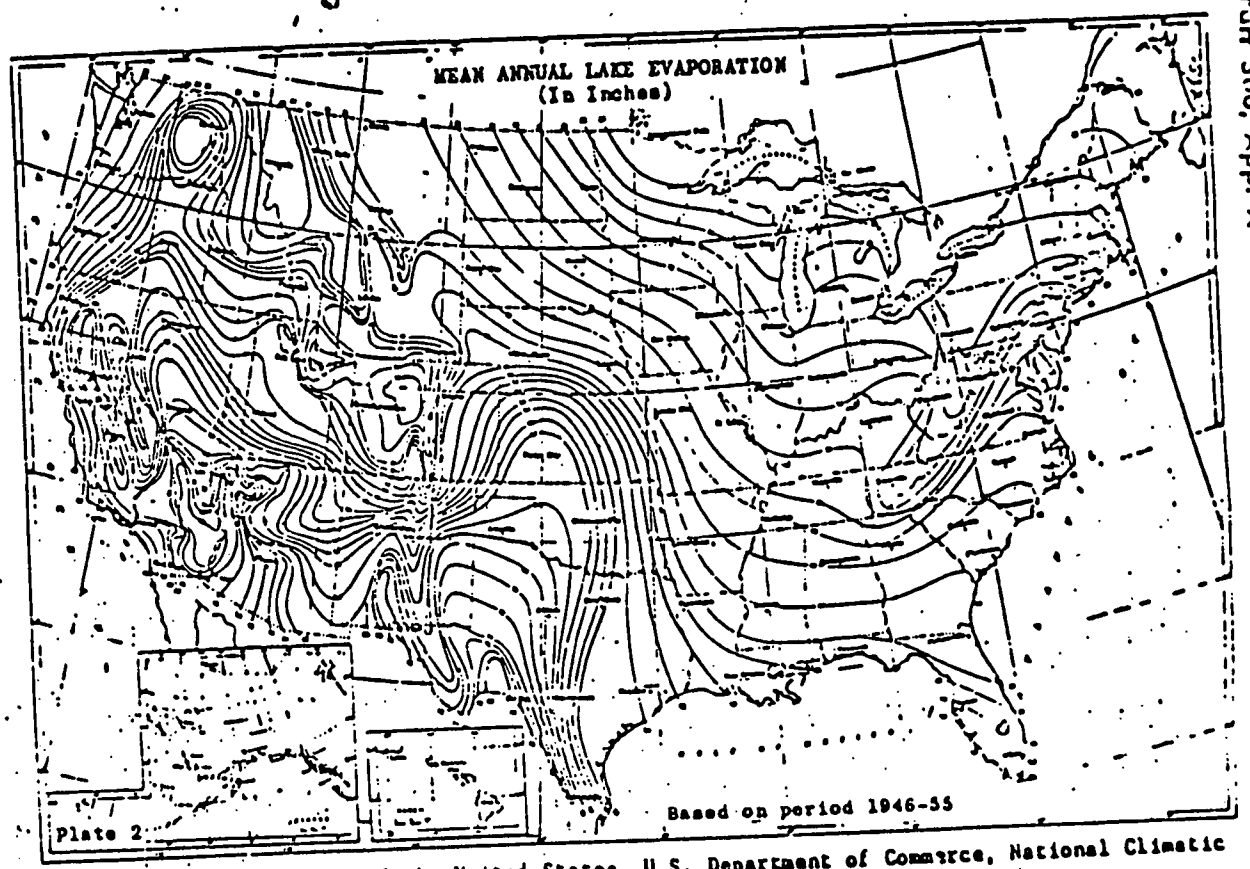
SIGNATURE: James R. Snider - Sr. Wildlife Biologist
Michael A. Wilkinson - Conservation Biologist (Aquatic)

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

REF-10

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.

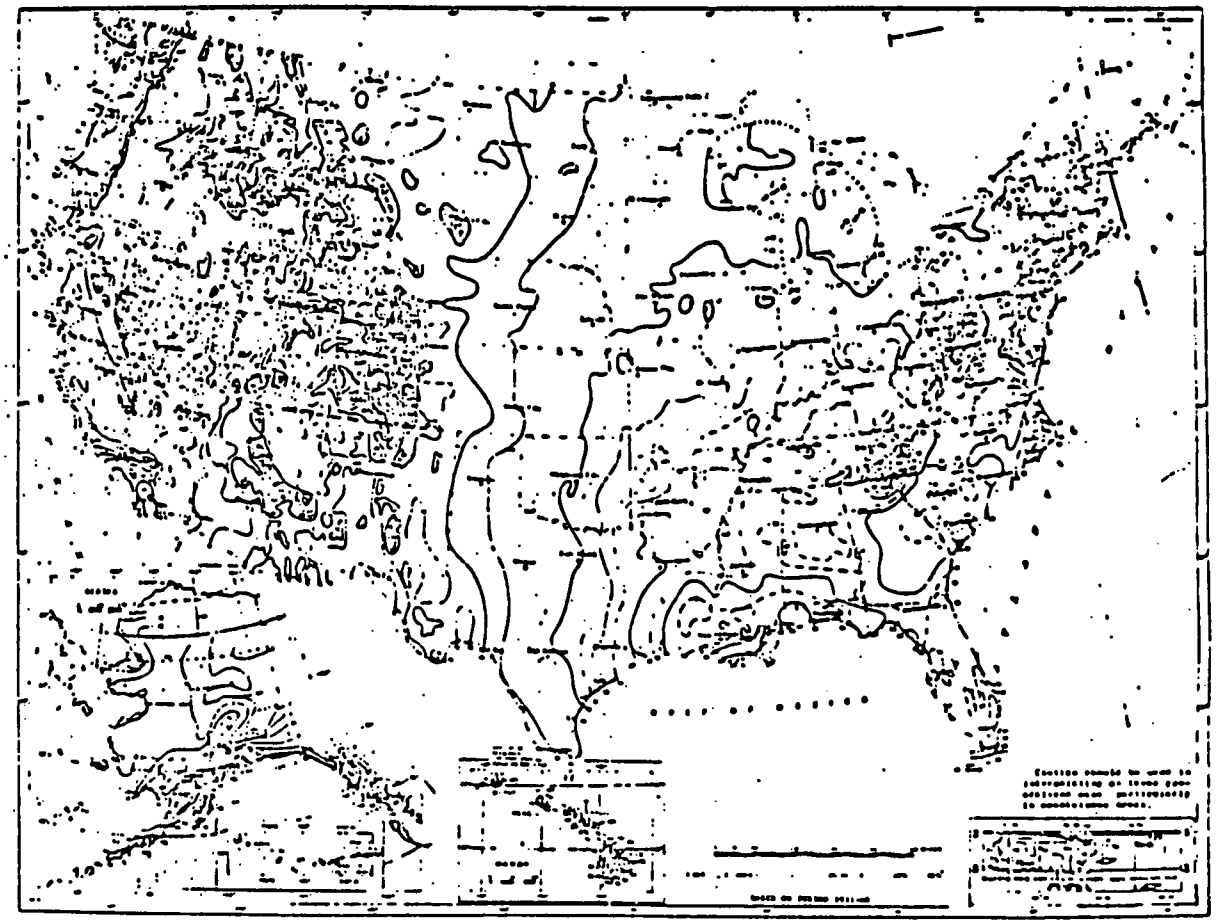


Source: Climatic Atlas of the United States, U.S. Department of Commerce, National Climatic Center, Ashville, N.C., 1979.

Figure 4

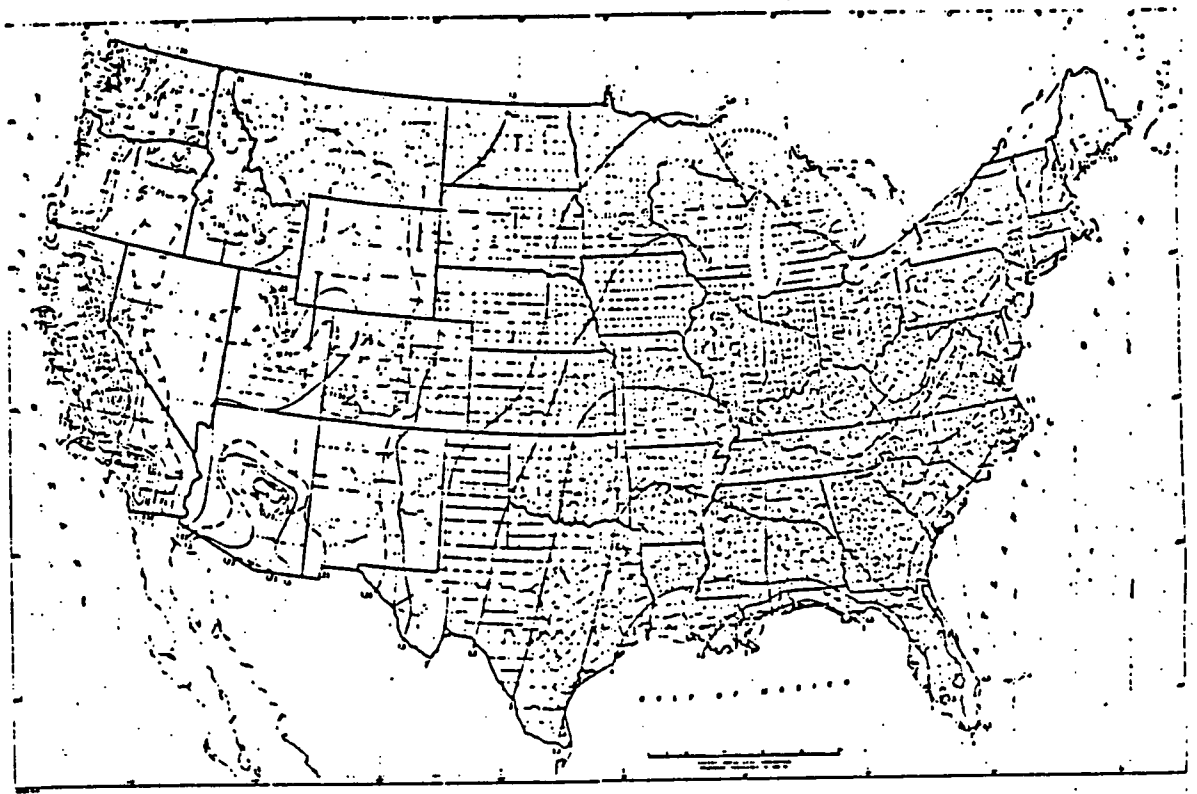
Mean Annual Lake Evaporation (In Inches)

RSC-11



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

Figure 5
Normal Annual Total Precipitation (inches)



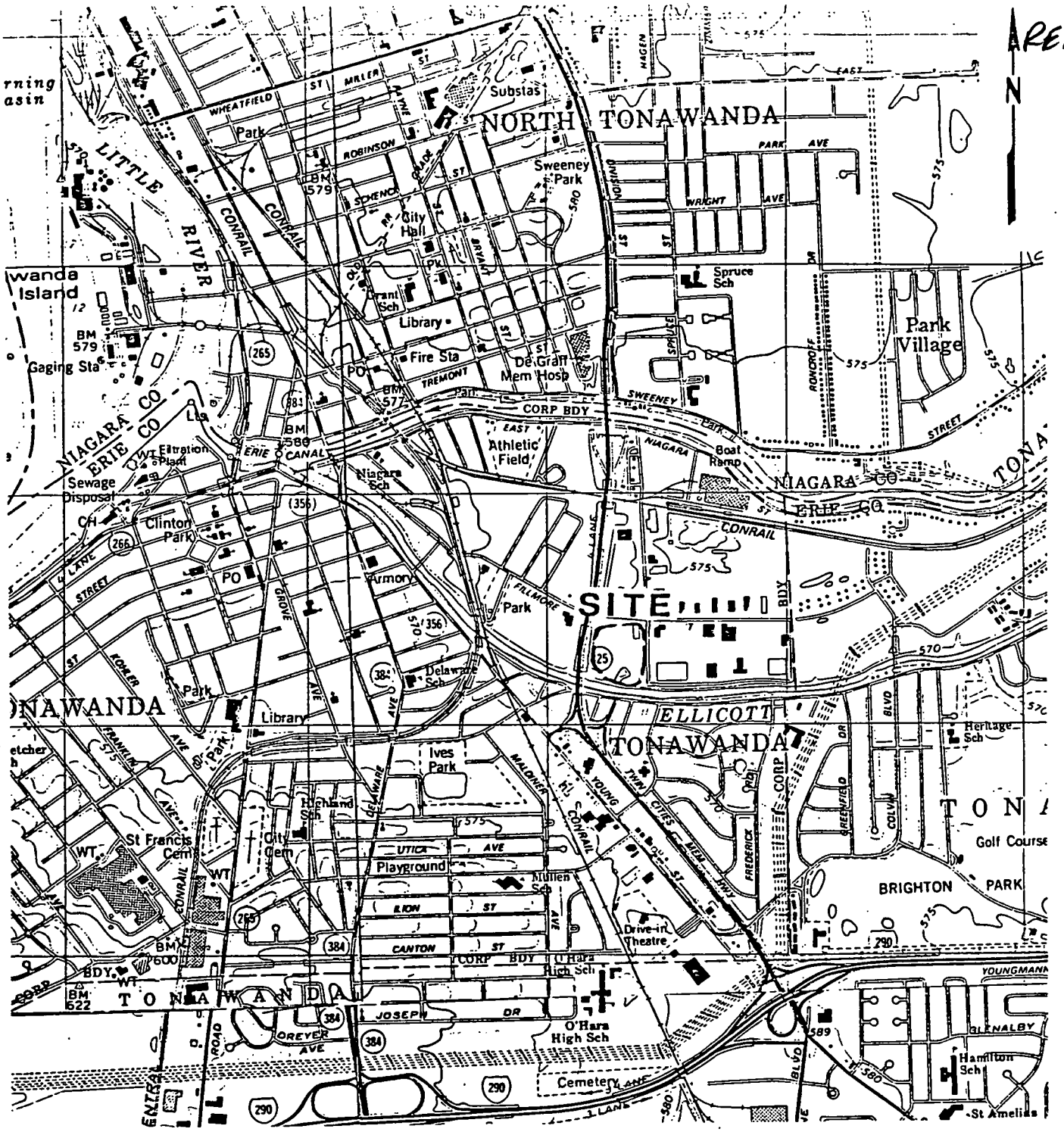
Source: Rainfall Frequency Atlas of the United States, Technical Paper No. 40, U.S. Department of Commerce, U.S. Government Printing Office, Washington, D.C., 1961.

Figure 8

1-Year 24-Hour Rainfall (Inches)

REF-12

AREA-13



LATITUDE: 43°00'49"
LONGITUDE: 78°51'33"

SCALE
0 1000 2000 3000 4000 FEET

REFERENCE: U.S.G.S 7.5' Topographic Map Tonawanda East, NY (1980), Tonawanda West, NY (1980), 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
CHEMICAL LEAMAN

FIGURE I-1

REF-14

167. CHEMICAL LEAMAN TANK LINES (USGS reconnaissance) NYSDEC 915014

General information and chemical-migration potential.--The Chemical Leaman Tank Lines site, in the city of Tonawanda, consists of three unlined settling ponds that are used to hold drained tanker residue for offsite disposal to the Tonawanda sewer system.

Geologic and chemical data indicate a possibility for contaminant migration, but the potential is indeterminable. Ground-water samples contained several organic compounds that could be associated with past disposal operations.

Geologic information.--The Anderson Drilling Company drilled four test borings in 1981. The drilling logs indicate that the site consists of fill overlying a fine silty sand approximately 15 ft thick and underlain by a soft red clay. The borings did not reach bedrock, which is probably Camillus Shale.

Table B-31.--Analyses of ground-water samples from Chemical Leaman Tank Lines, site 167, Tonawanda, N.Y., July 19, 1982.
[Concentrations are in µg/kg; dashes indicate that compound was not found, LT indicates it was found but below the quantifiable detection limit.]

	Sample number and depth below land surface (ft)		
	1 (8.1)	2 (8.7)	3 (11.6)
pH	6.9	7.0	7.4
Specific conductance (µmho/cm)	1,496	2,400	1,400
Temperature (°C)	11.0	11.0	11.0
Organic compounds			
Priority pollutant			
Phenol	--	LT	38†
Nonpriority pollutants			
3,4-Dichlorobenzoic acid[1]	780	--	--
4-(1,1-Dimethylethyl)phenol[1]	--	--	62
1-(2-Butoxyethoxy)ethanol[1]	690	--	--
Compounds potentially of natural origin			
1-Hexanol[1]	--	--	60
2-Methyl-2-propanol[1]	13	--	--

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

† Exceeds USEPA criterion for maximum permissible concentration in drinking water or New York State standard for maximum concentration in ground water.

Hydrologic information.--Ground water was encountered at depths of 8 to 12 ft below land surface. The direction of ground-water flow is southward toward Ellicott Creek.

Chemical information.--The U.S. Geological Survey collected water samples from three monitoring wells downgradient from the settling ponds along the southern boundary of the property. Each sample was analyzed for organic compounds; results are given in table B-31. Phenol concentrations in samples from well 3 exceed the USEPA criterion for drinking water and the NYS ground-water standard. No other priority pollutants were found.

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D048380205

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Chemical Leaman Tank Lines	470 Filmore Ave

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Tonawanda	NY	14150	Erie	029	36

09 COORDINATES LATITUDE	LONGITUDE
43° 00' 49"	78° 51' 33"

10 DIRECTIONS TO SITE (Starting from nearest public road)

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)
Chemical Leaman Tank Lines	470 Filmore Ave

03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
	NY	14150	( )

07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)
Chemical Leaman Tank Lines	PO Box 200

09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER
Lionville	NY	19353	(215) 363-4233

13 TYPE OF OWNERSHIP (Check one)

☒ A. PRIVATE ☐ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL

☐ F. OTHER: _____ (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)

☐ A. RCRA 3001 DATE RECEIVED: ___/___/___ (MONTH DAY YEAR) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: ___/___/___ (MONTH DAY YEAR) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION

☐ YES ☐ NO DATE ___/___/___ (MONTH DAY YEAR)

BY (Check all that apply)

☐ A. EPA ☐ B. EPA CONTRACTOR ☐ C. STATE ☐ D. OTHER CONTRACTOR

☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: _____ (Specify)

CONTRACTOR NAME(S): _____

02 SITE STATUS (Check one)	03 YEARS OF OPERATION	
☒ A. ACTIVE ☐ B. INACTIVE ☐ C. UNKNOWN	1963 (BEGINNING YEAR)	present (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Phenol and heavy metals (manganese, iron, lead, were detect in groundwater samples collected by the USGS and Chemical Leaman, 1981-82.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

Unknown

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)

☐ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☒ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NUMBER
S. Robert Steele, II	Engineering - Science	(703) 591-7575

04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
S. Robert Steele, II		ES	( ) Same	4 / 18 / 85 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D048380205

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
(Measures of waste quantities must be independent)

~~TONS~~ 150,000 gal

CUBIC YARDS

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	UNKNOWN		Accumulated Solids in lagoons
(OLW)	OILY WASTE			3 Lagoons - 40'x100'x3' deep liq
(SOL)	SOLVENTS			- 40'x40'x3' deep liq
PSD	PESTICIDES			- 40'x40'x3' deep liq
OCC	OTHER ORGANIC CHEMICALS			Lagoons had oily layer
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			15-20 drums on Storage Pad
BAS	BASES			
MES	HEAVY METALS			2 below ground storage manholes

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
	phenols	108-95-2	GW data	.01-.05	mg/l
	manganese	7439-96-5	GW data	.09-13	mg/l
	iron	15438-31-0	GW data	2.5-300	mg/l
	TOC	—	GW data	14-79	mg/l
	waste oil				

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 by ES and DEM, 4/18/85

USGS and Chemical Leaman analytical data, 1981-82

EPA

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

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: D048380205

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A. GROUNDWATER CONTAMINATION — 02 [X] OBSERVED (DATE: 1983) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____
04 NARRATIVE DESCRIPTION

Organic contaminants detected in on-site wells

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

In Ellicott Creek, due to possible groundwater seeps

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

unknown

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

NO

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

unknown

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

due to migration of contaminants in groundwater

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

ND

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

unknown

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

unknown

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	0 048 380 205

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

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

due to contaminant migration

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

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

01 [X] M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoff/Standing liquids, Leaking drums) — 02 [X] OBSERVED (DATE: 1985) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____
04 NARRATIVE DESCRIPTION

unlined sewage lagoon ponds

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

NO

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

NO

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

NO

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

NONE

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

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

Site visit 1985

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

EPA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	0054838020S

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Chemical Leaman Tank Lines	470 Fillmore Ave

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Tonawanda	NY	14150	Erie	029	36

09 COORDINATES	10 TYPE OF OWNERSHIP (Check one)
LATITUDE 43° 00' 42" LONGITUDE 78° 51' 33"	☒ A. PRIVATE ☐ B. FEDERAL _____ ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL ☐ F. OTHER _____ ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION	02 SITE STATUS	03 YEARS OF OPERATION
4 18 85 MONTH DAY YEAR	☒ ACTIVE ☐ INACTIVE	1963 (BEGINNING YEAR) present (ENDING YEAR) ☒ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)

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

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
S. Robert STEELE, II	Environmental Scientist	ES	(703) 591-7575
09 OTHER INSPECTORS	**10 TITLE**	**11 ORGANIZATION**	**12 TELEPHONE NO.**
John P. McAuliffe	Environmental Engineer	ES	(315) 451-4700
Dr. Eileen Gilligan	Geologist	D+M	(315) 638-2572
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
Bruce J. Hartmann	Manager, Env. Services	Chemical Leaman Tank Lines Lionville, PA 19353	(215) 363-4233
James A. Rakitsky	Chemical Engineer	" "	(") " "
James Wegrzyn	Terminal Manager	470 Fillmore Ave Tonawanda, NY 14150	( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☒ PERMISSION ☐ WARRANT	8:30 AM	Clear, Windy, 60°F

IV. INFORMATION AVAILABLE FROM

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

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
S. Robert STEELE II			Same	4 18 85 MONTH DAY YEAR

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	0048380205

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
(Measures of waste quantities must be independent)

~~TONS~~ 150,000 gal
CUBIC YARDS
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	UNKNOWN		– Accumulated Solids in lagoons
(OLW)	OILY WASTE			– 3 Lagoons - 40'x100'x3' deep liq
(SOL)	SOLVENTS			- 40 x 40 x 3' deep liq
PSD	PESTICIDES			- 40 x 40 x 3' deep liq
OCC	OTHER ORGANIC CHEMICALS			Lagoons had oily layer
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			– 15-20 drums on Storage Pad
BAS	BASES			
MES	HEAVY METALS			– 2 below ground storage manholes

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
	Phenols	108-95-2	GW data	.01-.05	mg/l
	Manganese	7439-96-5	GW data	.09-13	mg/l
	Iron	15438-31-0	GW data	2.5-300	mg/l
	TOC	—	GW data	14-79	mg/l
	Waste oil				

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 by ES and DEM, 4/18/85
USGS and Chemical Leaman analytical data, 1981-82

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D048380205

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION — 02 ☒ OBSERVED (DATE: 1983) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

Organic contaminants detected in on-site wells

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

in Ellicott Creek, due to possible groundwater seeps

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

unknown

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

NO

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

unknown

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

due to migration of contaminants in groundwater

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

NO

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

unknown

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

unknown

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	0048380205

II. HAZARDOUS CONDITIONS AND INCIDENTS *(Continued)*

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

due to contaminant migration

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

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

01 [X] M. UNSTABLE CONTAINMENT OF WASTES *(Spills/Runoff/Standing liquids, Leaking drums)* — 02 [X] OBSERVED (DATE: 1985) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

unlined Sethup ponds

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

NO

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

NO

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

NO

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

None

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

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

Site visit 1585

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D048380205

II. PERMIT INFORMATION

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

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☒ A. SURFACE IMPOUNDMENT	150,000	gallons
☐ B. PILES		
☒ C. DRUMS, ABOVE GROUND	15-20	drums
☐ D. TANK, ABOVE GROUND		
☒ E. TANK, BELOW GROUND	<2,000	gallons
☐ F. LANDFILL		
☐ G. LANDFARM		
☐ H. OPEN DUMP		
☐ I. OTHER (Specify)		

04 TREATMENT (Check all that apply)

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

05 OTHER

☒ A. BUILDINGS ON SITE

06 AREA OF SITE

< 1 (Acres)

Drum storage + lagoon

07 COMMENTS

The on-site surface impoundments contain wastewater from tanker wash out operations. Hazardous wastes are emptied from tankers prior to washing. Wash wastes containing trace amounts of priority pollutants are collected (underground tanks) for disposal.

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 lagoons do not have liners, however, natural clay deposits underlie the site. Contaminants have been detected in groundwater samples collected from the on-site monitoring wells.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☐ YES ☒ NO

02 COMMENTS

4' chain link fence around lagoon + drum storage

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

Site inspection conducted by ES and O&M 4/18/85. Analytical data collected by the USGS (1981) and Chemical Leaman (1981-82)

EPA

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

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: D048380205

II. DRINKING WATER SUPPLY

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

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

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

02 POPULATION SERVED BY GROUND WATER	03 DISTANCE TO NEAREST DRINKING WATER WELL
0	N/A (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
0.5-2.0 (ft)	S	8-12 (ft)	_____ (gpd)	☐ YES ☐ NO

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

There are no wells in vicinity of site.

10 RECHARGE AREA		11 DISCHARGE AREA	
☐ YES ☐ NO	COMMENTS: unknown	☐ 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
Ellicott Creek	☐	adjacent (mi)
Niagara River	☐	1.5 (mi)
	☐	_____ (mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE	02 DISTANCE TO NEAREST POPULATION
A. _____ NO. OF PERSONS	B. _____ NO. OF PERSONS	C. _____ NO. OF PERSONS	0.06 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE	04 DISTANCE TO NEAREST OFF-SITE BUILDING
_____	0.01 (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)

Sparse suburban population. Near edge of City of Tonawanda, which is densely populated

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

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: 0048380205

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

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

02 PERMEABILITY OF BEDROCK (Check one)

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

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

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
9 (in)	2.1 (in)	0.3 %	S	0.3 %

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	OTHER
A. >2 (mi)	B. 0.27 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

MIGRATORY BIRDS 7 (mi)

ENDANGERED SPECIES: AQUILA CHRYSAETOS, HALIAEETUS LEUCOCEPH, FALCO PEREGRINES.

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AGRICULTURAL LANDS: AG LAND
A. 0.0 (mi)	B. 0.06 (mi)	C. >2 (mi)	D. >1 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

Site + surrounding areas are now level, gently sloping to the south towards Ellicott Creek.

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

U.S.G.S. Topographic Maps
NYSDEC Region 9 Dept. of Fish & Wildlife files.
NYS Wetlands Maps
USGS 1983 Draft Report
USDOC Technical Paper No. 40
USDOC Climatic Atlas of the United States.
Map: "Depth to Bedrock," URS Engineers 1/80
NYS Atlas of Community Water System Sources, 1982.
Site visit 1985

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	0048380205

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 not collected during the ES and DEM site inspection due to equipment malfunction.

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☑ GROUND ☐ AERIAL

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

03 MAPS ☑ YES ☐ NO

04 LOCATION OF MAPS Site map updated during inspection

V. OTHER FIELD DATA COLLECTED *(Provide narrative description)*

NONE

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

Site inspection by ES and DEM, 4/18/85

EPA FORM 2070-13 (7-81)

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	D048380205

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

II. CURRENT OWNER(S)				PARENT COMPANY (If applicable)			
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
Chemical Leaman Tank Lines				Chemical Leaman Tank Line			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)		11 SIC CODE	
470 Fillmore Ave				Box 200			
05 CITY	06 STATE	07 ZIP CODE		12 CITY	13 STATE	14 ZIP CODE	
Tonawanda	NY	14150		Lionville	Penn	19353	
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)		11 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		12 CITY	13 STATE	14 ZIP CODE	
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)		11 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		12 CITY	13 STATE	14 ZIP CODE	
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)		11 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		12 CITY	13 STATE	14 ZIP CODE	

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

III. PREVIOUS OWNER(S)			IV. REALTY OWNER(S)		
01 NAME		02 D+B NUMBER	01 NAME		02 D+B NUMBER
RailRoad			unknown		
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
01 NAME		02 D+B NUMBER	01 NAME		02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
01 NAME		02 D+B NUMBER	01 NAME		02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

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

Interview of Chemical Leaman employees during ES and D&M site inspection, 4/18/85

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D004838205

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME	02 D+B NUMBER
Chemical Leaman Tank Lines	

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

05 CITY	06 STATE	07 ZIP CODE
Tonawanda	NY	14150

08 YEARS OF OPERATION	09 NAME OF OWNER
1963 - present	SAME

OPERATOR'S PARENT COMPANY (If applicable)

10 NAME	11 D+B NUMBER
Chemical Leaman Tank Lines	

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
BOX 200	

14 CITY	15 STATE	16 ZIP CODE
Lionville	NY	19353

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

01 NAME	02 D+B NUMBER
Not applicable	

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

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)

10 NAME	11 D+B NUMBER
Not applicable	

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

14 CITY	15 STATE	16 ZIP CODE

01 NAME	02 D+B NUMBER

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

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

10 NAME	11 D+B NUMBER

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

14 CITY	15 STATE	16 ZIP CODE

01 NAME	02 D+B NUMBER

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

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

10 NAME	11 D+B NUMBER

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

14 CITY	15 STATE	16 ZIP CODE

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

Interview of Chemical Leaman employees during the ES and O&M site Inspection, 4/18/85

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	0048380205

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
Chemical Leaman Tank Lines	

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

05 CITY	06 STATE	07 ZIP CODE
Tonawanda	NY	14150

The ON-Site Surface impoundments are used to treat wastewater generated during tanker washing operations only.

III. OFF-SITE GENERATOR(S)

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

IV. TRANSPORTER(S)

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

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

ES and O&M site inspection, 4/18/85

EPA

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

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: D048380205

II. PAST RESPONSE ACTIVITIES

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

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

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

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

01 ☒ E. CONTAMINATED SOIL REMOVED — 02 DATE 1977-78 — 03 AGENCY _____
04 DESCRIPTION: An estimated 300-500 TONS OF sludge was removed from lagoons 1 and 2

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

01 ☒ G. WASTE DISPOSED ELSEWHERE — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: Excavated sludge from the lagoon was disposed in the Celos landfill, Niagara Falls.

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

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

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

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

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

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

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

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

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

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

EPA

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

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: D048380205

II PAST RESPONSE ACTIVITIES *(Continued)*

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

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

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

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

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

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

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

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

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

01 ☐ 1. ACCESS TO SITE RESTRICTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: 4' chain link fense surrounds the lagoons

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

01 ☐ 3. OTHER REMEDIAL ACTIVITIES — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: Settling ponds may be removed in the near future

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

Site visit 1985

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	D004838205

II. 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:

- To collect additional field data necessary to identify the occurrence and extent of contamination and to determine if any imminent health hazard exists.

- To perform a conceptual evaluation of remedial alternatives and estimate budgetary costs for the most likely alternative.

- To prepare a site investigation report including final HRS score.

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

Groundwater - A groundwater monitoring system consisting of one new upgradient well and sampling of existing downgradient wells. The new well will be drilled to a maximum depth of 25 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 priority pollutants.

Surface Water and Sediment - A surface water and sediment monitoring system consisting of 3 monitoring stations is recommended. One station (S-1) will be upgradient of the site in Ellicott Creek, and two stations (S-2, S-3) will be downgradient in the same creek. The surface water and sediment samples will be analyzed for priority pollutants.

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

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 estimated total cost for this project is $37,624.

TABLE VI-1

ASSESSMENT OF DATA ADEQUACY

HRS Data Requirement	Comments on Data
Observed Release	
Groundwater	Adequate to score an observed release
Surface Water	Inadequate to score an observed release
Air	Inadequate to score an observed release
Route Characteristics	
Groundwater	Adequate for HRS score
Surface Water	Adequate for HRS score
Air	Adequate for HRS score
Containment	Adequate for HRS score
Waste Characteristics	Adequate for HRS score
Targets	Adequate for HRS score
Observed Incident	Adequate for HRS score
Accessibility	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	No further studies necessary.
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	No further studies necessary.
	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	3 sediment samples are to be collected and analyzed for priority pollutants.
	Groundwater samples	4 groundwater samples are to be collected and analyzed for priority pollutants.
	Surface water samples	3 surface water samples are to be collected and analyzed for priority pollutants.

TABLE VI-2 (Continued)

PHASE II WORK PLAN - TASK DESCRIPTION

Tasks		Description of Task
	Air samples	Using the HNu determine the presence of organics.
	Waste samples	No further sampling necessary.
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.

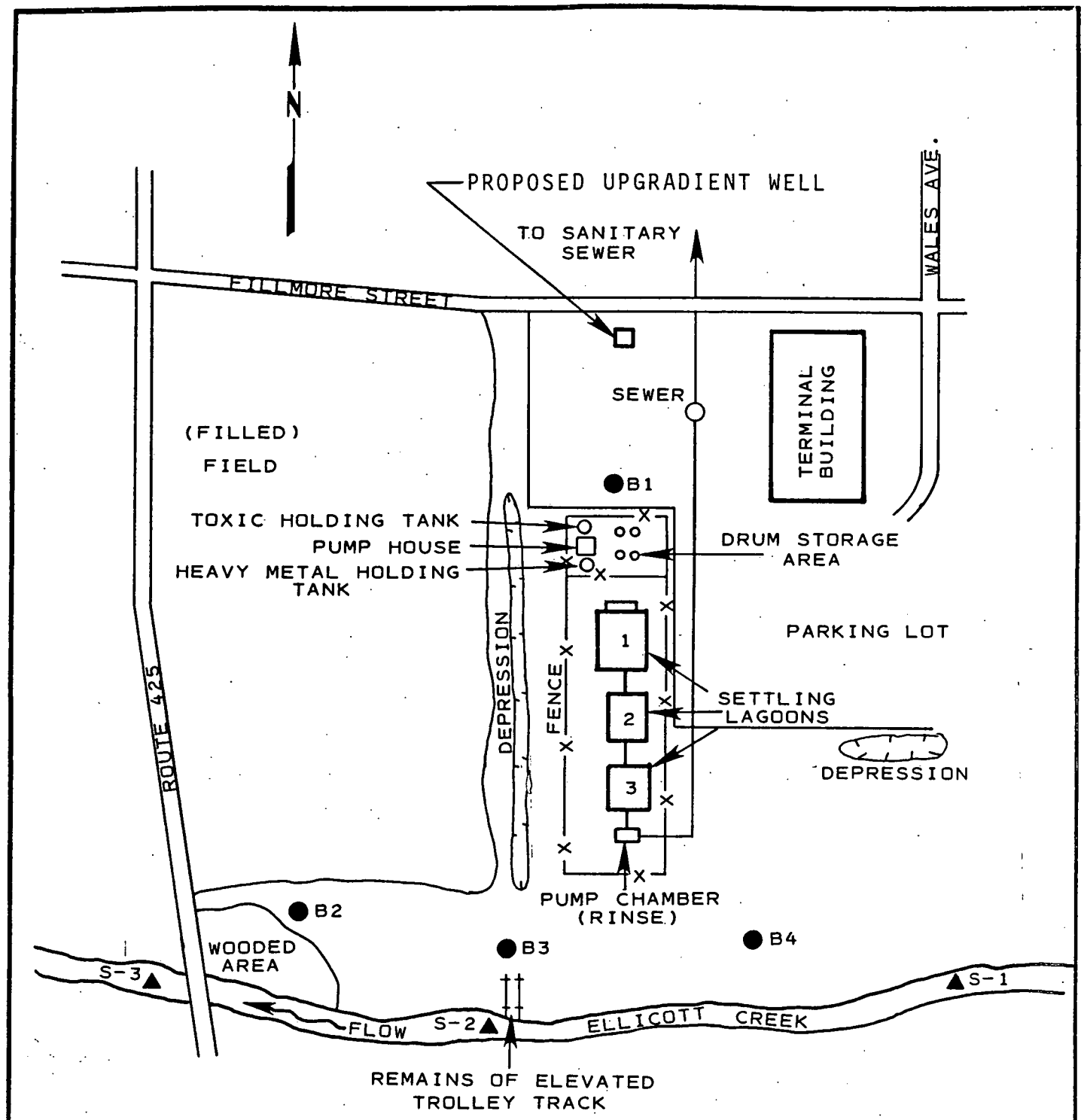
TABLE VI-3
PERSONNEL RESOURCES BY TASK
PHASE II HRS SITE INVESTIGATION (SITE: CHEMICAL LEAMAN)

TASK DESCRIPTION	TEAM MEMBERS, MANHOURS													
	PIC	TRB	PM	DPM	PCM	QAM	HSM	FTL	FT	RAAL	RAAT	SS	TOTAL HOURS	TOTAL $
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			8	16		4	4	16	40			8	96	1522.68
II-D CONSTRUCT TEST PITS/AUGER HOLES													0	0
II-E PERFORM SAMPLING AND ANALYSIS														
SOIL SAMPLES FROM BORINGS													0	0
SOIL SAMPLES FROM SURFACE SOILS													0	0
SOIL SAMPLES FROM TEST PITS AND AUGER HOLES													0	0
SEDIMENT SAMPLES FROM SURFACE WATER			4	4		1	1	4	16			8	38	529.19
GROUND-WATER SAMPLES			4	2		1	1	4	16			8	36	470.49
SURFACE WATER SAMPLES			4	2		1	1	4	16			4	32	440.81
AIR SAMPLES			2	2			1	2	4			2	13	214.61
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	2217.02
II-H PROJECT MANAGEMENT	2		6	2	3	4	4					12	33	529.88
TOTALS	5	3	48	38	3	15	16	74	128	22	40	124	516	7463.34

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

TASK DESCRIPTION	DIRECT LABOR HOURS	DIRECT LABOR COST	OTHER DIRECT COSTS (ODC), $ LAB ANALYSIS	TRAVEL AND SUBSISTANCE	SUPPLIES	EQUIP. CHARGES	SUBCON-TRACTORS	MISC.	SUBTOTAL ODC	TOTAL ($)
II-A UPDATE WORK PLAN	74	$1,144.10		$200.00	$50.00	$50.00		$50.00	$350.00	$1,494.10
II-B CONDUCT GEOPHYSICAL STUDIES	0	$0.00							$0.00	$0.00
II-C CONDUCT BORING/INSTALL MONITORING WELLS	96	$1,522.68							$0.00	$1,522.68
II-D CONSTRUCT TEST PITS/AUGER HOLES	0	$0.00							$0.00	$0.00
II-E PERFORM SAMPLING AND ANALYSIS										
SOIL SAMPLES FROM BORINGS	0	$0.00							$0.00	$0.00
SOIL SAMPLES FROM SURFACE SOILS	0	$0.00							$0.00	$0.00
SOIL SAMPLES FROM TEST PITS AND AUGER HOLES	0	$0.00							$0.00	$0.00
SEDIMENT SAMPLES FROM SURFACE WATER	38	$529.19	$4,800.00	$85.00	$20.00	$75.00		$50.00	$5,030.00	$5,559.19
GROUND-WATER SAMPLES	36	$470.49	$4,800.00	$200.00	$200.00	$100.00			$5,300.00	$5,770.49
SURFACE WATER SAMPLES	32	$440.81	$3,600.00	$85.00	$20.00	$75.00		$50.00	$3,830.00	$4,270.81
AIR SAMPLES	13	$214.61				$60.00			$60.00	$274.61
WASTE SAMPLES	0	$0.00							$0.00	$0.00
II-F CALCULATE FINAL HRS	22	$394.56			$150.00	$150.00		$20.00	$320.00	$714.56
II-G CONDUCT SITE ASSESSMENT	172	$2,217.02			$750.00	$300.00		$75.00	$1,125.00	$3,342.02
II-H PROJECT MANAGEMENT	33	$529.88	$700.00	$300.00	$150.00	$50.00		$50.00	$1,250.00	$1,779.88
TOTALS	516	$7,463.34	$13,900.00	$870.00	$1,340.00	$860.00	$0.00	$295.00	$17,265.00	$24,728.34

OVERHEAD=	$10,657.65
SUBTOTAL=	$35,385.99
FEE=	$2,238.38
TOTAL PROJECT COST=	$37,624.37


N
PROPOSED UPGRADIENT WELL
TO SANITARY SEWER
WALES AVE.
FILLMORE STREET
SEWER
TERMINAL BUILDING
(FILLED)
FIELD
B1
TOXIC HOLDING TANK
PUMP HOUSE
HEAVY METAL HOLDING TANK
DRUM STORAGE AREA
PARKING LOT
DEPRESSION
FENCE
1
2
3
SETTLING LAGOONS
DEPRESSION
ROUTE 425
PUMP CHAMBER (RINSE)
B2
B3
B4
WOODED AREA
S-3
S-1
FLOW
S-2
ELLICOTT CREEK
REMAINS OF ELEVATED TROLLEY TRACK
NOT TO SCALE
EXPLANATION:
WELL (ANDERSON DRILLING 1981)
B1
PROPOSED SURFACE WATER AND SEDIMENT SAMPLE
S-1
ENGINEERING-SCIENCE, INC.
IN ASSOCIATION WITH
DAMES & MOORE
NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION
PHASE I REPORT
PROPOSED SAMPLING LOCATIONS
CHEMICAL LEAMAN
FIGURE VI-1

APPENDIX A

REFERENCES

Sources Contacted

Documentation

SOURCES CONTACTED FOR
CHEMICAL LEAMAN INVESTIGATION

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

CONTACT	DATE CONTACTED	PERSON CONTACTED	TELEPHONE NUMBER	LOCATION	INFORMATION COLLECTED
NYSDEC - Division of Environmental Enforcement	12/20/84	Kevin Walter	(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
CHEMICAL LEAMAN 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 information 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.
Chemical Leaman Tank Lines, Inc. (Terminal Facility	4/18/85	Bruce Hartman James Rakitsky James Wegrzyn	(215) 363-4232 (716) 695-1440	470 Filmore Ave. Tonawanda, NY 14150	Conducted site inspection.
Chemical Leaman Tank Lines, Inc. (Corporate Headquarters)	4/30/85	James Rakitsky	(215) 363-4232	Box 200 Lionville, PA 19353	Reviewed site ownership and past waste management practices.

REFERENCES

15. ARO Corporation, EP Toxicity Data for Chemical Leaman Surface Impoundment Sludges, July 27, 1982.

16. Advanced Environmental Systems, Inc., EP Toxicity Data for Chemical Leaman Surface Impoundment Sludges, November 21, 1980.

17. Chemical Leaman Tank Lines, Operation Description, May, 1985.

18. Chemical Leaman Tank Lines, Site Ownership History, May, 1985.

19. Chemical Leaman Tank Lines, Groundwater Monitoring Data, 1981-82.

20. Chemical Leaman Tank Lines, J. Wegrzyn, Personal Communication, March 4, 1985.

21. Chemical Leaman Tank Lines, List of Products Typically Cleaned Out at Tonwawanda Facility, May, 1982.

22. ECDEP, Memo to File from D. Koczaja, March 9, 1979.

23. RECRA Research, Inc., Analytical Data, March 23, 1983, September 28, 1983, May 29, 1984, and September 25, 1984.

THE ARO CORPORATION
BUFFALO DIVISION
3695 BROADWAY, BUFFALO, N.Y. 14227

REF-15

ENVIRONMENTAL LABORATORY ANALYTICAL RESULTS

Customer Chemical Leaman Tank Lines, Inc.

ARO Laboratory Number 20,512W-5292 Customer P.O. # 042-4963

Date: Collected 7/12/82 Received 7/12/82 Reported 7/27/82

Sampling Point/Description Dewatered Sludge - Lagoon #1

The above referenced material has been classified as

x Non-hazardous _____ Hazardous

as a result of testing for the following characteristics according to the procedures and protocols in 40CFR261.

Ignitability:	_____ ignitable	_____ non-ignitable	x not tested
Corrosivity:	_____ corrosive	_____ non-corrosive	x not tested
Reactivity:	_____ reactive	_____ non-reactive	x not tested
EP Toxicity:	_____ toxic	x non-toxic	_____ not tested

Hazardous Constituents (per 40CFR 261; Appendix VII)

1. _____ 2. _____
3. _____ 4. _____

RESULTS OF EP TOXICITY TEST

Contaminant	Allowed (mg/L)	Found (mg/L)	Contaminant	Allowed (mg/L)	Found (mg/L)
Arsenic	5.0 ✓	< 0.001	Silver	5.0 ✓	< 0.001
Barium	100.0 ✓	0.390	Endrin	0.02 ✓	< 0.00002
Cadmium	1.0 ✓	0.004	Lindane	0.40 ✓	< 0.00001
Chromium	5.0 ✓	0.038	Methoxychlor	10.0 ✓	< 0.00002
Lead	5.0 ✓	0.063	Toxaphene	0.5 ✓	< 0.0005
Mercury	0.2 ✓	< 0.0002	2,4-D	10.0 ✓	< 0.0001
Selenium	1.0 ✓	< 0.001	2,4,5-TP	1.0 ✓	< 0.0001

The above characteristics have been determined in accordance with 40CFR 261 and the EPA manual Test Methods for the Evaluation of Solid Waste; SW-846, Revision A; August 8, 1980.

Initial pH (5% slurry) = 8.95

Bernard J. Grieza

Bernard J. Grieza, Director
Environmental Laboratory

Form No. G-03/81

REF-16

ANALYSIS FOR

EP TOXICITY METALS

CHEMICAL LEAMAN TANK LINES

by

ADVANCED ENVIRONMENTAL SYSTEMS, INC.

Prepared by Robert C. Wojcik

Robert C. Wojcik
Operations Manager

November 21, 1980

Advanced Environmental [illegible]

Monitoring and Support Laboratory

LABORATORY REPORT

SCOPE OF WORK

Analysis of one lagoon bottom sludge sample for the eight EP metals.

METHODOLOGY

Extraction of the sample will be performed in accordance with Federal Register, Vol. 45, No. 98, May 19, 1980; Section 261.30, Appendix II.

Analysis of extract for arsenic, barium, cadmium, chromium, lead, mercury, silver and selenium will be performed in accordance with "Methods for the Analysis of Water and Wastes," Environmental Monitoring and Support Laboratory, Office of Research and Development U.S. EPA, Cincinnati, Ohio; EPA 600/4-79-020, March 1979.

LABORATORY REPORT

RESULTS

Table 1

Results of EP Toxicity Test for Metals
(Expressed in micrograms per liter or ppb)

Metal	Concentration	Maximum Allowable
Arsenic	31.	5,000.
Barium	<500.	100,000.
Cadmium	<50.	1,000.
Chromium	250.	5,000.
Lead	<360.	5,000.
Mercury	<0.5	200.
Selenium	13.	1,000.
Silver	<50.	5,000.

LABORATORY REPORT

QUALITY ASSURANCE

Precision

All metals were assayed in triplicate. Agreement for all were within the 95% confidence limits of ±5% recommended by EPA.

Accuracy

Table 2

Analysis of EPA Test samples or
Spiked Samples for Measurement of Accuracy

Metal	Type	Original	Added	Expected	Reported	Acceptable Range for 95% Confidence Limit
Arsenic	EPA	-	-	61.	61.	46. - 81.
Barium	Spike	<500.	2500.	2500-3000	2850.	1875. - 4000.
Cadmium	EPA	-	-	32.	27.	24. - 43.
Chromium	Spike	250.	2500.	2750.	2770.	2062. - 3667.
Lead	Spike	<360.	2500.	2500-2860	2600.	1875. - 3810.
Mercury	EPA	-	-	4.4	4.4	2.0 - 7.0
Selenium	EPA	-	-	37.5	43.5	28. - 50.
Silver	Spike	<500.	100.	100-600.	100.	75. - 800.

DISCUSSION

All concentrations are well below maximum allowable concentration of contaminants for characteristics of EP Toxicity.

Analysis of quality control data demonstrates that precision and accuracy falls within the 95% confidence limits recommended by the U.S. EPA, Environmental Monitoring and Support Laboratory.

REF-17

ATTACHMENT "A"

CHEMICAL LEAMAN TANK LINES, INC.
Tonawanda, New York Facility

OPERATING DESCRIPTION

Chemical Leaman Tank Lines, Inc. is a common carrier transporting bulk chemical commodities by tank truck. At this terminal, Chemical Leaman operates both a tractor/trailer maintenance shop and an internal/external cleaning facility for the washing of tank trailers. The intent of our company's service is to safely and efficiently deliver all of the productload transported and to manage all waste generated in an environmentally-safe manner.

In order to perform our "common carrier" services according to present regulations, we may transport both dry and liquid chemical commodities and chemical wastes. Some of these materials may be classified as hazardous or have constituents which may be classified as hazardous.

After delivery of the product, tank trailers return to the terminal facility to be cleaned and inspected. A specific form is prepared for each trailer to be cleaned indicating the chemical commodity transported and any special handling instructions. Cleaning personnel follow written Company procedures for cleaning of each chemical product.

Any material remaining in the trailer is removed by draining the product into 55 gallon drums. These drums are categorized according to chemical waste groups for compatibility and disposed off-site at permitted facilities in accordance with governmental

regulatory authorities. After draining of all possible product is accomplished, the trailer is cleaned using one or more of the following processes, depending upon the product transported:

- Hot water flushing
- Cold water flushing
- Caustic cleaning solution
- Solvent cleaning compound
- High temperature steam
- Hot water rinse

Tank trailers which have contained non-hazardous materials are normally cleaned using a caustic solution followed by a hot water rinse. The caustic cleaning solution is applied to the tank interior by means of a recirculatory system. After multiple recycling of the caustic solution, this material is expended and disposed off-site at permitted facilities. The rinsewaters following the caustic wash are discharged to the wastewater treatment facility.

Most hazardous chemical products are cleaned by a water flush followed by steam. The flush water and expended steam condensate and any chemical residue remaining in the tank is discharged to the wastewater treatment facility or to a 55 gallon drum for off-site disposal at a permitted facility.

The wastewater treatment facility consists of three ponds and a concrete holding tank in series. The ponds provide settling and natural aeration. The concrete holding tank is where pH adjustment, if needed, occurs. The effluent from the tank is pumped to a concrete manhole which eventually drains by gravity to city sewer system. In addition, two concrete holding tanks contain rinsewaters from odorous products.

5/8

REF- 18

ATTACHMENT "B"

SITE OWNERSHIP HISTORY

1. Chemical Leaman Tank Lines, Inc. (CLTL) has owned site since 1959.

2. Site was basically undeveloped land prior to CLTL ownership. Previous owners have included railroad companies, real estate companies and private parties.

3. Corporate address for Tonawanda facility:

   Chemical Leaman Tank Lines, Inc.
   102 Pickering Way
   P. O. Box 200
   Lionville, PA 19353

4. Principal contact for corporation:

   Richard C. Littlepage
   Vice President, Operational Services

WASTE MANAGEMENT ACTIVITIES

I. History of Waste Management

A. Rinsewaters (99% water plus trace contaminants) from the cleaning process are discharged to the lagoon system. Operation of the system began in 1963. The lagoon system consists of three lagoons in series plus a concrete holding tank located after the last pond. Effluent is pumped from the holding tank at ± 25 GPM to a concrete manhole outside the shop bays of the terminal building. Effluent then drains by gravity to the City Sewer System. Lagoons provide settling and natural aeration and the concrete holding tank is where pH adjustment, if needed, and sampling take place.

B. In 1978, two concrete holding tanks were installed. Rinsewaters from the cleaning of priority pollutant products were sent to the holding tanks (one for organics; one for metals). Tanks were installed at the request of the City of Tonawanda to isolate any trace amounts of priority pollutants. Rinsewaters from the cleaning process (except priority pollutant rinses) were discharged to the lagoon system.

C. Currently, concrete holding tanks are used to contain rinsewaters from the cleaning of odorous products only. The remaining rinsewaters are discharged to the lagoon system or drums for off-site disposal depending on the product cleaned.

D. All pure product remaining in tank trailers after delivery is drained into drums and stored on the drum pad for eventual off-site disposal at a licensed TSD facility.

II. Physical Characteristics of Waste Disposal Facilities

A. Wastewater Holding Lagoons (3)

1. Storage capacity of each lagoon - approximately 160,000 gallons.

2. The three lagoons were cleaned out (dewatered and solids removed) once since they were installed between October 1977 and May 1978.

3. The lagoons were constructed in a natural clay layer. Clay layer in the area extends at least 25 feet below grade according to drilling logs. No synthetic liner material was used. Lagoons were constructed by excavating down into the ground approximately 10 feet from surface grade.

4. Wastewater in the lagoons is kept at a level of about 5 feet.

5. Wastes discharged to the lagoon system consist only of tank truck washings from the operations of the cleaning facility located at the site. No pure product is discharged to the lagoons.

6. Volume of Sludge Removed

   a. Between October 1977 to December 1977, 1,102.51 tons of waste sediment and soil were removed from surface impoundments.

   b. Between January 1978 to July 1978, 2,101.54 tons of waste sediment and soil were removed from surface impoundments.

7. Waste sediment and soil were taken to Newco - Chemical Waste Systems, Niagara Falls, NY (now called CECOS).

B. Chemical Storage Tanks

1. No chemical storage tanks for pure product waste at this site.

2. Two concrete holding tanks, 1,000 gallon capacity each, were intended to contain rinsewaters from the cleaning of priority pollutant products only. One tank held rinsewaters from trailers containing organic priority pollutants; the other tank held rinsewaters from trailers containing heavy metals. Currently, tanks are used to contain rinsewaters from the cleaning of odorous products only.

3. Volume in concrete holding tanks is kept at about 500 gallons or below.

4. Frequency of waste removed depends on operations; i.e., amount of trailers cleaned that previously carried priority pollutant products.

5. Waste is hauled off-site by CLTL.

6. Waste is disposed at a licensed TSD facility such as CECOS, Buffalo.

C. Drum Storage

1. Maximum amount stored on pad is 100 drums. Typically, between 10 - 60 drums are stored at one time.

2. Type of chemicals typically stored include fatty acids, fatty alcohols, resins, liquid plastics, latexes, petroleum oils, paints, glycols and caustic sludge.

3. Drum types are DOT specification.

4. Drums hauled off-site by CLTL.

5. Drums disposed at licensed TSD facilities such as CECOS, Niagara Falls, NY and Chem-Met, Wyandotte, MI.

III. Future Waste Management Plans

A. Lagoons to be Closed

1. Lagoons are to be dewatered.

2. Lagoon sludge to be solidified and removed.

3. Lagoon wastewater and sludge to be disposed at a licensed TSD facility.

B. Pretreatment system to be installed with final effluent to be discharged to the City Sewer System.

SAMPLING DATE SEPT 1982

REF- 19

PARAMETER	UP GRADIENT WELL 1	DOWN GRADIENT WELL 2	DOWN GRADIENT WELL 3	DOWN GRADIENT WELL 4	REMARKS
INDICATORS OF CONTAMINATION					
a. pH	7.11	7.34	7.59	7.38	
Standard Units	7.13				
	7.11				
	7.10				
avg.	7.11				
b. Specific Conductance	2180	2990	2320	1610	
µmhos/cm	2180				
	2160				
	2180				
avg.	2175				
c. Total Organic Carbon	28	72	90	41	
mg/l	30				
	34				
	30				
avg.	30.50				
d. Total Organic Halogen	<0.5	<0.5	<0.5	<0.5	
mg/l as Chloride, Lower	<0.5				
Standard	<0.5				
	<0.5				
avg.	<0.5				
INDICATORS OF QUALITY					
a. Chloride mg/l	350	320	310	77	
b. Iron mg/l	5.1	5.9	73	50	
c. Phenols mg/l	0.020	0.032	0.025	0.019	
d. Sodium mg/l	700	1000	1500	730	
e. Sulfate mg/l	220	99	88	272	
f. Manganese mg/l	1.3	0.10	0.91	0.91	
SUITABILITY FOR DRINKING					
a. Metals					
(1) Arsenic mg/l	<0.004	<0.004	<0.004	<0.004	
(2) Barium mg/l	1.8	1.8	1.2	1.4	
(3) Cadmium mg/l	<0.004	<0.004	<0.004	<0.004	
(4) Chromium mg/l	<0.004	0.016	0.006	0.004	
(5) Lead mg/l	<0.005	<0.005	0.007	0.007	
(6) Mercury mg/l	<0.0005	<0.0005	<0.0005	<0.0005	
(7) Selenium mg/l	<0.005	<0.005	<0.005	<0.005	
(8) Silver mg/l	<0.02	<0.02	<0.02	<0.02	
b. Pesticides/Herbicides					
(1) Endrin mg/l	<0.01	<0.01	<0.01	<0.01	
(2) Lindane mg/l	<0.01	<0.01	<0.01	<0.01	
(3) Methoxychlor mg/l	<0.05	<0.05	<0.05	<0.05	
(4) Toxaphene mg/l	<0.1	<0.1	<0.1	<0.1	
(5) 2,4-D mg/l	<2	<4	<2	<4	
(6) 2,4,5-TP Silvex mg/l	<1	<2	<1	<0.5	
c. Other					
(1) Fluoride mg/l	0.30	0.45	98	0.31	
(2) Nitrate mg N/l	0.07	<0.05	<0.05	0.08	
(3) Turbidity JTU	83	52	45	520	
(4) Coliform organisms/100 ml	<1	<1	<1	<1	
d. Radiation					
(1) Radium	<2	<2	<2	<2	
(2) Gross Alpha	<2	<2	<2	<2	

SAMPLING DATE May 1982

PARAMETER	UP GRADIENT WELL 1	DOWN GRADIENT WELL 2	DOWN GRADIENT WELL 3	DOWN GRADIENT WELL —	REMARKS
INDICATORS OF CONTAMINATION					
a. pH	7.28	7.38	7.28	7.34	
	7.27				
	7.26				
	7.28				
avg.	7.27				
b. Specific Conductance	2,120	2,420	1,690	1150	
µmhos/cm	2,150				
	2,150				
	2,162				
avg.	2,105				
c. Total Organic Carbon	32	79	72	19	
mg/l	29				
	26				
	29				
avg.	29				
d. Total Organic Halogen	<0.5	<0.5	<0.5	<0.5	
µg/l	<0.5				
	0.59				
	0.62				
avg.	<0.5				
INDICATORS OF QUALITY					
a. Chloride mg/l	360	320	160	47	
b. Iron mg/l	5.6	10	9.5	300	
c. Phenols mg/l	0.027	0.029	0.025	0.020	
d. Sodium mg/l	290	500	430	290	
e. Sulfate mg/l	230	110	78	200	
f. Manganese mg/l	1.2	0.22	0.65	1.5	
SUITABILITY FOR DRINKING					
a. Metals					
(1) Arsenic mg/l	<0.005	<0.005	<0.005	<0.005	—
(2) Barium mg/l	0.1	0.1	0.1	0.6	
(3) Cadmium mg/l	<0.01	<0.01	<0.01	<0.01	—
(4) Chromium mg/l	<0.01	0.038	<0.01	0.106	
(5) Lead mg/l	0.06	0.13	<0.05	0.05	
(6) Mercury mg/l	<0.0005	<0.0005	<0.0005	<0.0005	—
(7) Selenium mg/l	<0.005	<0.005	<0.005	<0.005	—
(8) Silver mg/l	<0.03	<0.03	<0.03	<0.03	—
b. Pesticides/Herbicides					
(1) Endrin µg/l	<0.02	<0.02	<0.02	<0.02	
(2) Lindane µg/l	<0.01	<0.01	<0.01	<0.01	
(3) Methoxychlor µg/l	<0.05	<0.05	<0.05	<0.05	
(4) Toxaphene mg/l	<0.1	<0.1	<0.1	<0.1	
(5) 2,4-D µg/l	<2	<10	<5	<3	
(6) 2,4,5-TP Silvex µg/l	<1	<5	<3	<1	
c. Other					
(1) Fluoride mg/l	0.29	0.55	0.79	0.27	
(2) Nitrate mg N/l	<0.05	0.05	<0.05	<0.05	
(3) Turbidity NTU	230	850	120	1,500	
(4) Coliform colonies/100ml	<3	<3	<3	43	
d. Radiation					
(1) Radium pCi/l	<2	<2	<2	<2	
(2) Gross Alpha pCi/l	30±17 *	43±36 *	<2	57±17 *	* 1 STANDARD ERROR

TERMINAL

SAMPLING DATE March 1982

PARAMETER	UP GRADIENT WELL 1	DOWN GRADIENT WELL 2	DOWN GRADIENT WELL 3	DOWN GRADIENT WELL 4	REMARKS
INDICATORS OF CONTAMINATION					
a. pH	7.33	7.24	7.32	7.46	
	7.30				
	7.32				
	7.29				
avg.	7.33				
b. Specific Conductance	1,820	2,140	1,720	1,090	
umhos/cm	1,060				
	1,870				
	1,000				
avg.	1,840				
c. Total Organic Carbon	40	44	54	16	
mg/l	35				
	35				
	40				
avg.	37.5				
d. Total Organic Halogen	<0.5	<0.5	<0.5	<0.5	
mg/l	<0.5				
	<0.5				
	<0.5				
avg.	<0.5				
INDICATORS OF QUALITY					
a. Chloride mg/l	280	260	160	32	
b. Iron	2.5	5.6	9.9	48	
c. Phenols	0.010	0.014	0.044	0.012	
d. Sodium	190	320	260	140	
e. Sulfate	240	810	160	220	
Manganese	2.8	0.09	0.63	13	
SUITABILITY FOR DRINKING					
a. Metals mg/l					
(1) Arsenic	<0.005	<0.005	<0.005	0.014	
(2) Barium	0.25	0.60	0.17	0.33	
(3) Cadmium	<0.01	<0.01	<0.01	<0.01	
(4) Chromium	<0.01	<0.01	<0.01	0.039	
(5) Lead	<0.03	<0.03	0.03	0.04	
(6) Mercury	<0.0008	<0.0008	<0.0008	<0.0008	
(7) Selenium	<0.005	<0.005	<0.005	<0.005	
(8) Silver	0.019	0.013	<0.005	<0.005	
b. Pesticides/Herbicides					
(1) Endrin µg/l	<0.01	<0.01	<0.01	<0.01	
(2) Lindane	<0.01	<0.01	<0.01	<0.01	
(3) Methoxychlor	<0.05	<0.05	<0.1	<0.05	
(4) Toxaphene	<0.1	<0.1	<0.2	<0.3	
(5) 2,4-D	<1	2	<1	<1	
(6) 2,4,5-TP Silvex	<0.5	1	<0.5	<0.5	
Other					
(1) Fluoride mg/l	0.34	0.39	0.50	0.72	
(2) Nitrate	0.17	0.17	0.25	0.57	
(3) Turbidity NTU	50	37	50	560	
(4) Coliform #/100ml	<3	<3	<3	7	
d. Radiation					
(1) Radium	<2	<2	<2	<2	
(2) Gross Alpha	<2				

...ical Lechuza Tank Farm, II

SAMPLING DATE [illegible] 1981
December 1981

PARAMETER	UP GRADIENT WELL #1	DOWN GRADIENT WELL #2	DOWN GRADIENT WELL #3	DOWN GRADIENT WELL #4	REMARKS
I. INDICATORS OF CONTAMINATION					
a. pH	7.54	7.99	7.17	- -	
	7.51				
	7.50				
	7.54				
avg.	7.52				
b. Specific Conductance μmhos/cm	1980	2230	1230	1110	
	1970				
	1970				
	1990				
avg.	1977.5				
c. Total Organic Carbon mg/l	73	74	51	19	
	66				
	61				
	41				
avg..	60.25				
d. Total Organic Halogen μg/l	<.5	<.5	<.5	<.5	
	<.5				
	<.5				
	<.5				
avg.	<.5				
II. INDICATORS OF QUALITY					
a. Chloride mg/l	350.	260	120	[illegible]	
b. Iron mg/l	92	28	34	[illegible]	
c. Phenols mg/l	.016	.020	.050	<.01	
d. Sodium mg/l	270	390	230	[illegible]	
e. Sulfate mg/l	590	320	160	[illegible]	
[illegible] mg/l	1.0	0.99	0.87	0.49	
III. SUITABILITY FOR DRINKING					
a. Metals					
(1) Arsenic mg/l	.019	.037	.016	<.01	
(2) Barium mg/l	.18	.12	.11	.12	
(3) Cadmium mg/l	<.01	<.01	<.01	<.01	
(4) Chromium mg/l	.06	.05	<.01	<.01	
(5) Lead mg/l	<.03	<.03	<.03	<.03	
(6) Mercury mg/l	<.0004	<.0004	<.0009	<.0004	
(7) Selenium mg/l	<.008	<.006	<.006	<.006	
(8) Silver mg/l	<.01	<.01	<.01	<.01	
b. Pesticides/Herbicides					
(1) Endrin μg/l	<.01	<.01	<.01	<.01	
(2) Lindane μg/l	<.01	<.01	<.01	<.01	
(3) Methoxychlor μg/l	<.02	<.02	<.02	<.02	
(4) Toxaphene μg/l	<.1	<.1	<.1	<.1	
(5) 2,4-D μg/l	<.1	.27	.18	<.1	
(6) 2,4,5-TP Silvex μg/l	<.05	<.05	<.05	<.05	
c. Other					
(1) Fluoride mg/l	.36	.44	.54	.24	
(2) Nitrate mg N/l	.11	<.1	.22	.12	
(3) Turbidity NTU	140	120	60	[illegible]	
(4) Coliform colonies/100ml	3.6	<3	<3	[illegible]	
d. Radiation					
(1) Radium pCi/l	2.1 ± 0.2	0.9 ± 0.6	0.7 ± 0.7	2.0 ± 0.2	
(2) Gross Alpha pCi/l	<2	<2	<2	<2	

REF-20

INTERVIEW FORM

INTERVIEWEE/CODE Mr Jim Wegrzyn 1

TITLE - POSITION Manager, Terminal Operations

ADDRESS 470 Fillmore Ave

CITY Tonawanda / Erie County STATE NY ZIP

PHONE (716) 695-1440 RESIDENCE PERIOD TO

LOCATION Telephone Interview INTERVIEWER S. Robert Steele

DATE/TIME 4 March 1985 / 2:15 pm

SUBJECT: Chemical Leaman Tank Lines, waste lagoons

REMARKS: Chemical Leaman has operated three (3) lagoons used to contain rinse water from the washing of tanker trucks used to transport chemicals and waste chemical residues. These lagoons have been in operation at the above listed address from approximately 1963 to the present. Following settling, the wastewater from the third lagoon discharges to the City of Tonawanda, wastewater treatment plant. In 1978, the city of Tonawanda temporarily disallowed the discharge of wastewater from the Chemical Leaman lagoon to the public sewer system until the constituents in the wastewater were identified. Chemical Leaman is presently considering closing the lagoons by the end of 1985. The condition of the lagoon liner is unknown and routine inspections are not conducted to determine the condition of the liner(s).

I AGREE WITH THE ABOVE SUMMARY OF THE INTERVIEW:

SIGNATURE:

COMMENTS:

REF-21

LIST OF PRODUCTS TYPICALLY CLEANED AT TONAWANDA FACILITY

Acetic acid
Acrylates
Adhesives
Alcohols
Aluminum sulfate
Ammonium nitrate
Aniline oil

Benzene
Butyl acetate
Butyl acrylate
Butyl amine
Butyl phenol

Calcium chloride
Caustic soda
p-Chlorotoluene
o-Chlorotoluene
Chlorobenzotrifluoride
Clay pellets
Cresol

Detergents
Dichlorotoluene
Diisobutylene
Dimethyl formamide

Epichlorohydrin
Ethyl acrylate
Ethyl hexyl chloroformate

Fatty acids
Fluorosilic acid
Formaldehyde
Fuel oil

Glycol

Hydrochloric acid

Latex
Lube oil

Methyl esters
Methylene diphenyl diisocyanate
Mineral spirits
Monoglycerides
Morpholine

Naphtha

Octyl phenol
Oil additives

Paint
Petroleum oil
Petroleum tar
Phenol
Phosphoric acid
Pine oil
Plasticizers
Plastics
Polyethylene glycol
Potassium silicate
Pyridine

Resin
Rosin

Silicate of soda
Sodium chlorite
Sodium hypochlorite
Sulfuric acid

Tall oil
Tar
Toluene
o-Toluidene

Varnish
Vinyl acetate

Zinc ammonium chloride
Zinc chloride

COUNTY OF ERIE
DEPARTMENT OF ENVIRONMENT & PLANNING
DIVISION OF ENVIRONMENTAL CONTROL

REF- 22

MEMORANDUM

FROM Ronald D. Koczaja DATE March 9, 1979

TO FILE

SUBJECT Chemical Leamon Tank Lines, Incorporated
740 Fillmore Avenue
Tonawanda, New York

The above referenced truck terminal facility was inspected by the writer on March 7, 1979. Mr. James Wegrzyn, Terminal Manager, was interviewed. The object of the inspection was to determine the method of contaminated waste washwater disposal. Mr. McMahon, DEC, requested this action following review of the company's Part 364, Haulers Permit. The terminal is not listed as an approved waste disposal site on the permit.

Chemical Leaman is primarily engaged in the transport of a pure product from supplier to customer. On occasion the firm will be contracted to carry a waste to a disposal or processing facility or it is necessary to dispose of a product which does not meet a customer's specifications and cannot be recycled. The truck terminal is not a disposal site for any wastes generated or carried by the firm and therefore does not require Part 360 registration or inclusion on the Part 364 permit. Mr. Wegrzyn also reported that the firm has been exempted by the DEC from displaying Part 364 registration numbers on the tankers. Wastes are disposed of either off-site or through the City of Tonawanda sewerage system.

During discussions with Mr. Wegrzyn, it was learned that during the summer and fall of 1978, the New York State DEC was an intimate party in negotiations to determine how and what wastes would be allowed into the sewerage system. As a result of these negotiations, Chemical Leamon received a permit to discharge into the sewerage system, was required to segregate certain wastes, and install a separate disposal system for toxic and hazardous wastes. A list of 65 toxic materials (Federal Register, Volume 43, June 26, 1978 Appendix B) was used to determine which chemicals should be excluded from the discharge to the sewerage system.

A brief summary of the terminal operation is as follows: Tankers which have made a delivery and are received at the terminal may require cleaning. The content of the tanker is checked and the small amount of material that remains in the tanker is drained into 55 gallon drums which are cataloged by chemical. The tankers are then washed. Wash waters contaminated with a chemical contained on the list of 65 are directed to two holding tanks. One holding tank stores

- continued -

heavy metals, the other holds the remaining chemicals on the list. The holding tanks are equipped with level sensors which will indicate when the tank is in need of pumping. The toxic chemical contaminated washwater is then carted to Newco by Chemical Leaman for disposal. One tanker has been specifically designated by the firm to carry its own waste. Washwater not contaminated by any of the 65 toxic chemicals is discharged to the sewerage system after passing through 3 settling ponds and receiving pH adjustment. Mr. Wegrzyn reported the ponds were originally lined with clay but from observation it appears that most of the clay had been removed during pond cleaning. The natural soil which remains appeared to be a loose sandy mixture. Oil is removed at the first pond and is vacuumed off approximately once a year. The chemicals which are drained into drums are carted away to Newco by an outside hauler when a suitable number, approximately 30, has been collected.

Due to company policy, the writer was unable to obtain copies of correspondence generated during the negotiations with the DEC. Mr. Speed has agreed to forward copies to this office. These documents will include a procedure sheet detailing the methods used at the terminal to adequately separate and dispose of the waste. The only suggestion the writer has to offer lowing theinspection of the facility and verbal description of the operation is that the connections to the pond and holding tank piping systems be labeled to preclude an inadvertent discharge through the wrong system. This recommendations will be forwarded to Mr. Wegrzyn.

RDR/jk

cc: Mr. Campbell
Mr. Voell
Mr. McMahon, NYSDEC

REF-23

ANALYTICAL RESULTS

CHEMICAL LEAMAN TANK LINES, INC.

Report Date: 3/23/83
Date Received: 3/1/83

PARAMETER	UNITS OF MEASURE	SAMPLE IDENTIFICATION (DATE)			
		W-1 (3/1/83)	W-2 (3/1/83)	W-3 (3/1/83)	W-4 (3/1/83)
pH	Standard Units	7.14	7.04	7.16	7.08
		7.15	7.08	7.17	7.10
		7.18	7.08	7.18	7.11
		7.19	7.09	7.19	7.13
Specific Conductance (25°C)	µmhos/cm	1,730	2,110	1,690	990
		1,740	2,120	1,700	1,000
		1,750	2,130	1,710	1,000
		1,770	2,160	1,730	1,040
Total Organic Carbon	mg/l	49	63	57	21
		52	64	59	26
		66	86	79	29
		88	96	83	32
Halogenated Organic Scan (ECD)	µg/l as Chlorine; Lindane Standard	0.41	<0.2	<0.2	0.88
		0.43	<0.2	<0.2	1.1
		0.88	0.24	0.28	2.2
		1.3	0.32	0.98	3.1
Water Level	Feet from top of well casing	7.25	8.29	9.42	5.17

COMMENTS: Samples were collected by RECRA personnel on March 1, 1983. Analyses were performed according to U.S. Environmental Protection Agency methodologies where applicable.

Halogenated organic scan (ECD) results are used for screening purposes only and are not designed for qualification or quantification of any specific organic compound. Results are calculated based upon the response factor and chlorine content of Lindane but do not imply either the presence or absence o Lindane itself. Halogenated organic scan results do not include volatile organic constituents.

The values reported as "less than" (<) indicate the working detection limit for the particular sample and/or parameter.

FOR RECRA ENVIRONMENTAL LABORATORIES Deborah J. Piacitelli

DATE 3/23/83

RECRA ENVIRONMENTAL LABORATORIES

ANALYTICAL RESULTS

CHEMICAL LEAMAN TANK LINES, INC.

Report Date: 9/28/83
Date Received: 8/22/83

PARAMETER	UNITS OF MEASURE	SAMPLE IDENTIFICATION (DATE)			
		W-1 (8/22/83)	W-2 (8/22/83)	W-3 (8/22/83)	W-4 (8/22/83)
pH	Standard Units	7.10	7.20	7.52	7.16
		7.09	7.25	7.48	7.17
		7.14	7.21	7.49	7.21
		7.12	7.24	7.51	7.19
Specific Conductance (25°C)	µmhos/cm	1,700	2,400	2,230	1,520
		1,680	2,020	2,230	1,650
		1,900	2,330	2,250	1,500
		1,710	2,090	2,230	1,210
Total Organic Carbon	mg/l	51	60	68	47
		75	60	68	58
		78	74	68	46
		58	54	74	51
Halogenated Organic Scan (ECD)	µg/l as Chlorine; Lindane Standard	0.18	0.12	0.11	0.08
		0.25	0.15	0.14	0.09
		0.31	0.16	0.14	0.14
		0.31	0.26	0.19	0.15
Chloride	mg/l	303	300	200	55
Sulfate	mg/l	250	90	140	290
Total Recoverable Phenolics	mg/l	0.016	0.042	0.074	0.011
Total Iron	mg/l	7.1	4.2	12	23
Total Manganese	mg/l	9.0	0.03	0.27	0.61
Total Sodium	mg/l	490	640	710	490

COMMENTS: Samples were collected by Recra personnel on August 22, 1983. Analyses were performed according to U.S. Environmental Protection Agency methodologies where applicable.

Halogenated Organic Scan (ECD) results are used for screening purposes only and are not designed for qualification or quantification of any specific organic compound. Results are calculated based upon the response factor and chlorine content of Lindane but do not imply either the presence or absence of Lindane itself. Halogenated Organic Scan (ECD) results do not include volatile organic constituents.

Results of the analyses for specific organic compounds are based upon the matchi of retention times, between samples and standards, on a single gas chromatograph column.

Values reported as "less than" (<) indicate the working detection limit for the particular sample or parameter.

FOR RECRA ENVIRONMENTAL LABORATORIES Deborah J. Garcia

RECRA ENVIRONMENTAL LABORATORIES

ANALYTICAL RESULTS

CHEMICAL LEAMAN TANK LINES, INC.

Report Date: 5/29/84
Date Received: 3/20/84

PARAMETER	UNITS OF MEASURE	SAMPLE IDENTIFICATION (DATE)			
		W-1 (3/20/84)	W-2 (3/20/84)	W-3 (3/20/84)	W-4 (3/20/84)
Total Organic Carbon	mg/l	46/45 62/37	38	32	12
Halogenated Organic Scan (ECD)	µg/l as Chlorine; Lindane Standard	<0.2/<0.2 <0.2/<0.2	<0.2	<0.2	0.47

COMMENTS:

Analyses were performed according to U.S. Environmental Protection Agency methodologies where applicable.

Halogenated Organic Scan (ECD) results are used for screening purposes only and are not designed for qualification or quantification of any specific organic compound. Results are calculated based upon the chlorine content and response factor of Lindane but do not imply either the presence or absence of Lindane itself. Halogenated Organic Scan results do not include volatile organic constituents.

FOR RECRA ENVIRONMENTAL LABORATORIES Deborah J. Travis

DATE 5/29/84

ANALYTICAL RESULTS

CHEMICAL LEAMAN TANK LINES INC.

Report Date: 9/25/84
Date Received: 9/5/84

PARAMETER	UNITS OF MEASURE	SAMPLE IDENTIFICATION (DATE)			
		W-1 (9/5/84)	W-2 (9/5/84)	W-3 (9/5/84)	W-4 (9/5/84)
pH	Standard Units	8.14 8.23 8.26 8.16	8.08	8.09	8.11
Specific Conductance (25°C)	mhos/cm	1,670 1,630 1,920 1,930	2,120	2,170	1,570
Total Organic Carbon	mg/l	36 33 32 28	69	91	26
Halogenated Organic Scan (ECD)	g/l as Chlorine; Lindane Standard	<0.5 <0.5 <0.5 <0.5	<0.5	<0.5	<0.5
Total Iron	mg/l	4.75	5.53	8.71	7.12
Total Manganese	mg/l	0.679	1.48	0.285	0.550
Total Sodium	mg/l	219	425	495	336
Chloride	mg/l	259	251	149	58
Sulfate	mg/l	170	205	151	285
Total Recoverable Phenolics	mg/l	0.033	0.024	0.038	0.010

COMMENTS: Samples were collected by Recra personnel on 9/15/84. Analyses were performed according to U.S. Environmental Protection Agency methodologies where applicable.

Halogenated Organic Scan (ECD) results are used for screening purposes only and are not designed for qualification or quantification of any specific organic compound. Results are calculated based upon the response factor and chlorine content of Lindane but do not imply either the presence or absence of Lindane itself. Halogenated Organic Scan (ECD) results do not include volatile organic constituents.

Values reported as "less than" (<) indicate the working detection limit for the particular sample or parameter.

FOR RECRA ENVIRONMENTAL LABORATORIES Deborah J. Marcia

DATE 9/25/84

D. V. Finn

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: 915014

NAME OF SITE : Chemical Leaman Tank Lines
STREET ADDRESS: 470 Filmore Avenue
TOWN/CITY: COUNTY: ZIP:
Tonawanda Erie

SITE TYPE: Open Dump- Structure- Lagoon- Landfill- Treatment Pond-X
ESTIMATED SIZE: -1 Acres

SITE OWNER/OPERATOR INFORMATION:
CURRENT OWNER NAME....: Chemical Leaman Tank Lines, Inc.
CURRENT OWNER ADDRESS.: 470 Filmore Avenue., Tonawanda, NY
OWNER(S) DURING USE...:
OPERATOR DURING USE...: Chemical Leaman
OPERATOR ADDRESS.....: 470 Filmore Avenue, Tonawanda, NY
PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From Unknown7 To Present

SITE DESCRIPTION:
Garage, storage yard, and settling ponds for tank trailers and tractors. "Heels" from non-dedicated tankers which have been used for incompatible products are drummed and removed off-site to an approved TSD facility. Tank washings, after draining, pass through the three ponds, where floating material is skimmed off. Solids settling in the ponds are periodically removed to an approved off-site TDS facility. Discharge from ponds to Tonawanda sewer system.

HAZARDOUS WASTE DISPOSED: Confirmed-X Suspected -

TYPE	QUANTITY (units)
Cleanout form bulk liquid tank trailers	Unknown

SITE CODE: 915014

ANALYTICAL DATA AVAILABLE:

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

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: Clayey
GROUNDWATER DEPTH: >10'

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

No apparent environmental problems associated with this site.

ASSESSMENT OF HEALTH PROBLEMS:

Insufficient information.

PERSON(S) COMPLETING THIS FORM:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION	NEW YORK STATE DEPARTMENT OF HEALTH
NAME.: John S. Tygert, P.E.	NAME.: R. Tramontano
TITLE: Senior Sanitary Engr.	TITLE: Bureau Tox. Subst. Assess.
NAME.: Roberto A. Olazagasti	NAME.:
TITLE: Solid Waste Management Spec.	TITLE:
DATE.: 01/24/85	DATE.: 01/24/85