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REPORT

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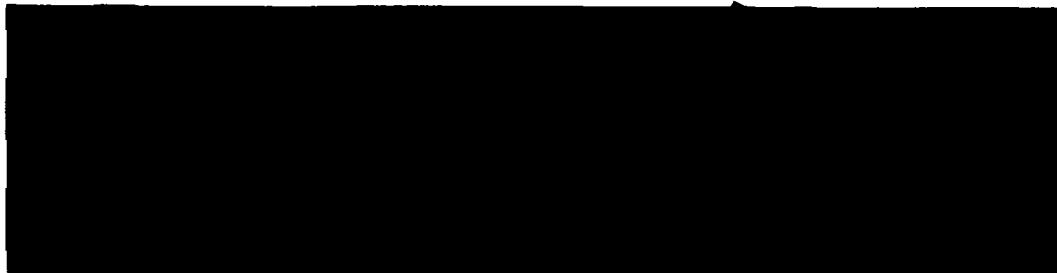
NUS
CORPORATION



A Halliburton Company

Mr. Walker

915053



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

NUS CORPORATION
SUPERFUND DIVISION

02-8704-12-SR

REV. NO. 0

FINAL DRAFT
SITE INSPECTION REPORT
HOUDAILLE INDUSTRIES
AKRON, NEW YORK

PREPARED UNDER

TECHNICAL DIRECTIVE DOCUMENT NO. 02-8704-12
CONTRACT NO. 68-01-7346

FOR THE

ENVIRONMENTAL SERVICES DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

JANUARY 19, 1989

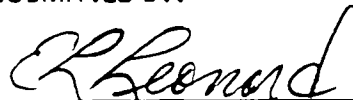
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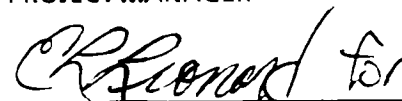
JUL 13 1989

BUREAU OF
HAZARDOUS SITE CONTROL
DIVISION OF HAZARDOUS
WASTE REMEDIATION

SUBMITTED BY:

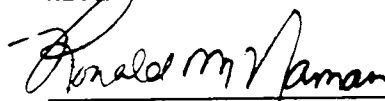


EDWARD L. LEONARD
PROJECT MANAGER



JOSEPH BRYAN GEBLER
SITE MANAGER

REVIEWED/APPROVED BY:



RONALD M. NAMAN
FACILITY MANAGER

CONTENTS

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SECTION 1

SITE INSPECTION REPORT EXECUTIVE SUMMARY



02-8704-12-SR
Rev. No. 0

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
EXECUTIVE SUMMARY

Houdaille Industries

Site Name

NYD039115621

EPA Site ID Number

12975 Clarence Center Road

Akron, New York

Address

02-8704-12

TDD Number

SITE DESCRIPTION

Houdaille Industries, which produces metal working machinery, was owned by Buffalo Arms from 1925 to 1935, by Wales Strippit Corporation from 1935 to 1956, and by Houdaille Industries Strippit Division from 1956 to the present.

Houdaille is located in a rural area approximately three-quarters of a mile due south of the village of Akron, Erie County, New York. From 1956 to 1979, approximately 20,000 gallons per year of cutting oils, coolants, and degreasing solvents; 3 tons per year of heat treatment sludge; and 450 cubic yards per year of refuse were disposed of in a 2-acre landfill immediately behind the plant. In 1979, the disposal area was covered with approximately 5 feet of clean fill during a plant expansion.

Since 1979 waste products have been disposed of off site; however, the potential for environmental contamination existed prior to that time. Significant concentrations of arsenic, lead, zinc, chromium, and halogenated organics were detected in soil samples collected outside the landfill. Samples collected on site contained di-n-butyl phthalate, fluoranthene, benzo(a)anthracene, benzo(k)fluoranthene, Aroclor 1254, and numerous other compounds.

Groundwater is used for drinking by approximately 700 residents within a 3-mile radius of the site. The major cause of concern is that the chemicals at the site could reach the groundwater and thereby contaminate this drinking water supply.

A total of nine environmental samples were collected during a site inspection conducted by NUS Corp. Region 2 FIT on 05/20/87. These consisted of two groundwater via tap water, one surface water, one sediment, and five soil samples. Di-n-butyl phthalate, fluoranthene, benzo(a)anthracene, benzo(k)fluoranthene, Aroclor 1254, and numerous other compounds were detected in the soil and sediment samples.

Prepared by: Joseph Bryan Gebler
of NUS Corporation

Date: 12/30/88

SECTION 2

ENVIRONMENTAL PROTECTION AGENCY FORM 2070-13

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

1. IDENTIFICATION
01 STATE 02 SITE NUMBER
NY 0039115621

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site) 02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Houdaille Industries 12975 Clarence Center Road
03 CITY 04 STATE 05 ZIP CODE 06 COUNTY 07 COUNTY CODE 08 CONG DIST.
Akron NY 14001 Erie 029 38
09 COORDINATES 10 TYPE OF OWNERSHIP (Check one)
LATITUDE LONGITUDE
4 30 0 0' 3 7" N 0 7 80 3 0' 1 5" W
X 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
05 / 20 / 87 X ACTIVE 1925 / still active UNKNOWN
MONTH DAY YEAR INACTIVE BEGINNING YEAR ENDING YEAR
AGENCY PERFORMING INSPECTION (Check all that apply)
A. EPA X B. EPA CONTRACTOR NUS Corporation C. MUNICIPAL D. MUNICIPAL CONTRACTOR
(Name of firm) (Name of firm)
E. STATE F. STATE CONTRACTOR G. OTHER
(Name of firm) (Specify)

05 CHIEF INSPECTOR 06 TITLE 07 ORGANIZATION 08 TELEPHONE NO.
Gary Bielen Environmental Scientist NUS Corporation (201) 225-6160
09 OTHER INSPECTORS 10 TITLE 11 ORGANIZATION 12 TELEPHONE NO.
Steve Maybury Environmental Scientist NUS Corporation (201) 225-6160
Alan Cherepon Geologist NUS Corporation (201) 225-6160
Laura LaForge Environmental Scientist NUS Corporation (201) 225-6160
Roberta Riccio Environmental Scientist NUS Corporation (201) 225-6160
Gerry Gilliland Geologist NUS Corporation (201) 225-6160

13 SITE REPRESENTATIVES INTERVIEWED 14 TITLE 15 ADDRESS 16 TELEPHONE NO.
Mike Mercurio Manager, Strippitt-Houdaille Akron, New York (716) 542-4511
Bob Webster Engineer, Strippitt-Houdaille Akron, New York (716) 542-4511

17 ACCESS GAINED BY 18 TIME OF INSPECTION 19 WEATHER CONDITIONS
(Check one)
X PERMISSION 0845 Cloudy, 700F, wind 0-5 mph.
WARRANT

IV. INFORMATION AVAILABLE FROM

01 CONTACT 02 OF (Agency/Organization) 03 TELEPHONE NO.
Amy Brochu EPA, Region 2, Edison, NJ (201) 906-6802

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM 05 AGENCY 06 ORGANIZATION 07 TELEPHONE NO. 08 DATE

Joseph Bryan Gebler U.S. EPA NUS Corporation (201) 225-6160 12 / 30 / 88
MONTH DAY YEAR
EPA FORM 2070-13 (7-81) 02-8704-12-SR
Rev. No. 0

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

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
NY 3039116621

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply) 02 WASTE QUANTITY AT SITE 03 WASTE CHARACTERISTICS (Check all that apply)

☒ A. SOLID	☐ E. SLURRY	(Measures of waste quantities must be independent)	☒ A. TOXIC	☐ E. SOLUBLE	☐ I. HIGHLY VOLATILE
☒ B. POWDER, FINES	☒ F. LIQUID		☐ B. CORROSIVE	☐ F. INFECTIOUS	☐ J. EXPLOSIVE
☒ C. SLUDGE	☐ G. GAS		☐ C. RADIOACTIVE	☒ G. FLAMMABLE	☐ K. REACTIVE
☐ D. OTHER	(Specify) _____		☒ D. PERSISTENT	☐ H. IGNITABLE	☐ L. INCOMPATIBLE
		TONS 2472			
		CUBIC YARDS _____			
		NO. OF DRUMS _____			

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	3	tons/year	Heat treatment sludge disposed of for 20 years.
OLW	OILY WASTE			
SOL	SOLVENTS	20,000	gallons/year	Cutting oils, coolants, and degreasing solvents disposed of for 20 years.
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

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

CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
SOL	Methylene Chloride	75-09-2	Disposed of in unlined landfill	143	ug/kg
SOL	Chloroform	67-66-3	Disposed of in unlined landfill	38	ug/L
SOL	1,1,1-Trichloroethane	71-55-6	Disposed of in unlined landfill	33	ug/L
OCC	Bromodichloromethane	75-27-4	Disposed of in unlined landfill	6	ug/kg
SOL	Toluene	108-88-3	Disposed of in unlined landfill	9	ug/kg
OCC	Naphthalene	91-20-3	Disposed of in unlined landfill	961	ug/kg
OCC	2-Methylnaphthalene	91-57-6	Disposed of in unlined landfill	1396	ug/kg
OCC	Acenaphthene	83-32-9	Disposed of in unlined landfill	596	ug/kg
OCC	Fluorene	86-73-7	Disposed of in unlined landfill	494	ug/kg
OCC	Phenanthrene	85-01-8	Disposed of in unlined landfill	6158	ug/kg
OCC	Anthracene	120-12-7	Disposed of in unlined landfill	1185	ug/kg
OCC	Di-n-butyl phthalate	84-74-2	Disposed of in unlined landfill	3310	ug/kg
OCC	Fluoranthene	206-44-0	Disposed of in unlined landfill	9491	ug/kg
OCC	Pyrene	129-00-0	Disposed of in unlined landfill	6818	ug/kg

(Continued)

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS	None		FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

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

Engineering Investigations at Inactive Hazardous Waste Sites, Phase I Investigation prepared by Engineering and Science in Association with Dames & Moore, dated May 1985.
U.S. EPA Contract Laboratory Program, Century Laboratories, Inc., and Southwest Laboratory of Oklahoma, Case 7312, Laboratory Analysis from NUS Region 2 FIT Site Inspection conducted on June 30, 1987.

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

CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	CONCENTRATION
OCC	Benzo(a)anthracene	56-55-3	Disposed of in unlined landfill	3495	ug/kg
OCC	Chrysene	218-01-9	Disposed of in unlined landfill	2978	ug/kg
OCC	Benzo(b)fluoranthene	205-99-2	Disposed of in unlined landfill	1514	ug/kg
OCC	Benzo(k)fluoranthene	207-08-9	Disposed of in unlined landfill	4072	ug/kg
OCC	Benzo(a)pyrene	50-32-8	Disposed of in unlined landfill	2326	ug/kg
OCC	Indeno(1,2,3-cd)pyrene	193-39-5	Disposed of in unlined landfill	1519	ug/kg
OCC	Dibenzo(a,h)anthracene	53-70-3	Disposed of in unlined landfill	350	ug/kg
OCC	Benzo(g,h,i)perylene	191-24-2	Disposed of in unlined landfill	1542	ug/kg
OCC	Aroclor - 1254	11097-69-1	Disposed of in unlined landfill	2770	ug/kg
MES	Antimony	7440-36-0	Disposed of in unlined landfill	173	ug/kg
MES	Arsenic	7440-38-2	Disposed of in unlined landfill	28E	ug/kg
MES	Barium	7440-39-3	Disposed of in unlined landfill	2940	mg/kg
MES	Cadmium	7440-43-9	Disposed of in unlined landfill	18	ug/L
MES	Calcium	7440-70-2	Disposed of in unlined landfill	399000	ug/L
MES	Copper	7440-50-8	Disposed of in unlined landfill	405E	mg/kg
MES	Lead	7439-92-1	Disposed of in unlined landfill	192	mg/kg
MES	Magnesium	7439-95-4	Disposed of in unlined landfill	57300	ug/L
MES	Silver	7440-22-4	Disposed of in unlined landfill	44	ug/L
MES	Zinc	7440-66-6	Disposed of in unlined landfill	946	mg/kg

E - Represents an estimated value.

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

1. IDENTIFICATION
01 STATE 02 SITE NUMBER
NY 0039115621

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 X A. GROUNDWATER CONTAMINATION 02 OBSERVED (DATE:) X POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 692 04 NARRATIVE DESCRIPTION

Groundwater could potentially become contaminated if any of the various contaminants found on site migrate into the aquifer. Groundwater is used as a drinking water source south of the site, within 3 miles.

01 X B. SURFACE WATER CONTAMINATION 02 OBSERVED (DATE:) X POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 0 04 NARRATIVE DESCRIPTION

Although numerous contaminants were detected in samples obtained in an on-site drainage ditch, the intermittent nature of this ditch precludes scoring an observed release. However, there is potential for these contaminants to migrate into Murder Creek, which is 0.75 mile away. Murder Creek is not used as a source of drinking water; however, it is used for recreational hunting, trapping, and some fishing.

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

Based on field observations and background information, there is no potential for contamination of air.

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

Background information and field observations during the site inspection indicate that conditions for fire and/or explosion do not exist.

01 X E. DIRECT CONTACT 02 OBSERVED (DATE:) X POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 2,869 04 NARRATIVE DESCRIPTION

Because two sides of the landfill are unfenced, direct contact by the public is potentially a problem.

01 X F. CONTAMINATION OF SOIL 02 OBSERVED (DATE:) X POTENTIAL _ ALLEGED
03 AREA POTENTIALLY AFFECTED: 2 (ACRES) 04 NARRATIVE DESCRIPTION

Di-n-butyl phthalate, fluoranthene, benzo(a)anthracene, benzo(k)fluoranthene, and Aroclor 1254 were detected in soil samples at concentrations of 3310, 9491, 3495, 4072, and 2770 ug/kg respectively. Numerous other contaminants were also detected.

01 X G. DRINKING WATER CONTAMINATION 02 OBSERVED (DATE:) X POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 692 04 NARRATIVE DESCRIPTION

There is potential drinking water contamination if the hazardous substances found on site migrate into groundwater. Groundwater is the source of drinking water for 692 people south of the site.

01 X H. WORKER EXPOSURE/INJURY 02 OBSERVED (DATE:) X POTENTIAL _ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: 400 04 NARRATIVE DESCRIPTION

Worker exposure and/or injury could potentially occur because the landfill is only 100 feet (approximately) from the plant, and there is a gate in the fence through which workers could pass and thereby come into contact with hazardous on-site soil.

01 X I. POPULATION EXPOSURE/INJURY 02 OBSERVED (DATE:) X POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 2,869 04 NARRATIVE DESCRIPTION

As mentioned above, two sides of the landfill are unfenced, presenting potential direct contact by the local populus and/or workers. Potential drinking water contamination is also a concern if hazardous substances migrate into groundwater reserves.

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

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

Potential damage to flora could occur if the hazardous substances present were to enter into plant physiological pathways. Significant habitat for plants exists within 3 miles of the site as determined from New York State Department of Environmental Conservation significant habitat maps.

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

Direct contact and/or consumption of potentially affected flora and contaminated water could potentially damage fauna. Significant habitat for wildlife is within 3 miles of the site as determined by New York State Department of Environmental Conservation significant habitat maps.

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

Various hazardous contaminants were detected in environmental samples collected from the site. These could potentially enter the food chain and could potentially bioaccumulate in many organisms.

01 X M. UNSTABLE CONTAINMENT OF WASTES 02 _ OBSERVED (DATE: _____) X POTENTIAL _ ALLEGED
(Spills/runoff/standing liquids/leaking drums)
03 POPULATION POTENTIALLY AFFECTED: 2,869 04 NARRATIVE DESCRIPTION

The landfill is not known to be lined, presenting potential for known hazardous substances to enter groundwater. Contaminants were detected in sediments of an on-site drainage ditch, indicating unstable containment of wastes.

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

Because contaminants were detected in an intermittent drainage ditch, there is a distinct potential for damage to off-site property. Additionally potential damage to off-site wells could occur if contaminants were to migrate into groundwater.

01 X O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTs 02 _ OBSERVED (DATE: _____) X POTENTIAL _ ALLEGED
04 NARRATIVE DESCRIPTION

Hazardous substances could potentially migrate into off-site sewers and storm drains.

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

Because the landfill is not completely fenced, the potential for illegal/unauthorized dumping is present.

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

There are no other known hazards.

III. TOTAL POPULATION POTENTIALLY AFFECTED: 2,869

IV. COMMENTS

A number of hazardous substances were detected in environmental samples obtained during the site inspection of May 20, 1987. These substances present potential environmental concerns.

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

Phase I Engineering Investigations at Inactive Hazardous Waste Sites. Engineering-Science in association with Dames and Moore, New York State Department of Environmental Conservation, May 1985.
New York State Department of Environmental Conservation, Division of Fish and Wildlife, Significant Habitat Map, Toronto Quad, August 1980, Revised November 6, 1985.
General Sciences Corporation, Graphical Exposure Modeling Systems (GEMS). Landover, Maryland, 1986.
Field Notebook No. 0068, Houdaille Industries, TDD No. 02-8704-12, Site Inspection, NUS Corp., Region 2 FIT, Edison, New Jersey, May 20, 1987.
Three-Mile Vicinity Map based on U.S. Geological Survey Topographic Maps, 7.5 minute series, "Akron, N.Y., 1981; Corfu, N.Y., 1950; Clarence, N.Y., 1965; Wolcottsville, N.Y., 1980; Quadrangle".
New York State Dept. of Health, Division of Environmental Protection, Bureau of Public Water Supply Protection, New York State Atlas of Community Water System Sources, 1982.
Sax, N.I. Dangerous properties of industrial materials, 6th ed. New York, Van Nostrand Reinhold Co., 1984.

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

1. IDENTIFICATION
01 STATE 02 SITE NUMBER
NY 0039115621

II. PERMIT INFORMATION

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

III. SITE DESCRIPTION

01 Storage/Disposal (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE	04 TREATMENT (Check all that apply)	05 OTHER
☐ A. SURFACE IMPOUNDMENT			☒ A. INCINERATION	☒ A. BUILDINGS ON SITE
☐ B. PILES			☐ B. UNDERGROUND INJECTION	
☐ C. DRUMS, ABOVE GROUND			☐ C. CHEMICAL/PHYSICAL	
☐ D. TANK, ABOVE GROUND			☐ D. BIOLOGICAL	
☐ E. TANK, BELOW GROUND			☐ E. WASTE OIL PROCESSING	
☒ F. LANDFILL	2,472	tons	☐ F. SOLVENT RECOVERY	
☐ G. LANDFARM			☐ G. OTHER RECYCLING/RECOVERY	
☐ H. OPEN DUMP			☐ H. OTHER	
☐ I. OTHER (Specify)			(Specify)	06 AREA OF SITE 2 (Acres)

07 COMMENTS

Twenty-thousand gallons per year of oils, coolants, and solvents were disposed of on site from 1956 to 1979. An additional 3 tons per year of year of heat treatment sludge was disposed of on site for the same time span. Conversion to the same units yields 103 tons of waste per year, for 24 years, equals 2,472 tons. During the NUS FIT 2 Site Inspection approximately twenty-five 55-gallon drums were observed on site; however, their contents are unknown.

Combustible solvents and cutting oils from plant operations were disposed of by on-site burying from 1956 to 1979. A 4,000 gallon below-ground holding tank stores spent water-soluble cutting fluids. These fluids are disposed of by Niagara Sanitation.

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, CYLINDERS, BARRIERS, ETC.

The landfill is not known to be lined nor is it completely fenced around its perimeter.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☒ YES ☐ NO

02 COMMENTS

Although five feet of clean fill and a clay cover was used to cover the landfill during a plant expansion, contaminants were detected in soil and sediment samples taken from the site. There is a fence surrounding the plant which serves as a barrier on the front two sides of the landfill. However, the other two sides of the landfill are unfenced, and therefore, the waste is easily accessible.

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

Engineering Investigations at Inactive Hazardous Waste Sites, Phase I Investigation prepared by Engineering and Science in Association with Dames & Moore, dated May 1985.
Field Notebook No. 0068, Houdaille Industries, TDD No. 02-8704-12, Site Inspection, NUS Corp., Region 2 FIT, Edison, New Jersey, May 20, 1987.
Potential Hazardous Waste Site Identification and Preliminary Assessment, U.S. EPA, November 16, 1981.
New York State Department of Environmental Conservation, Site Investigation, December 15, 1981.
Interagency Task Force on Hazardous Wastes, background investigation report.
Industrial Waste Disposal File Report. County of Erie, Dept. of Environment and Planning, Division of Environmental Control.

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

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
NY 0039116621

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY
(Check as applicable)

02 STATUS

03 DISTANCE TO SITE

COMMUNITY	SURFACE	WELL	ENDANGERED	AFFECTED	MONITORED	A.	3	(mi)
NON-COMMUNITY	A. ☒ C. ☐	B. ☐ D. ☒	A. ☐ D. ☐	B. ☐ E. ☐	C. ☐ F. ☐	B.	0.038	(mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☒ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION ☐ D. NOT USED, UNUSEABLE

(Other sources available) (Limited other sources available)

COMMERCIAL,
INDUSTRIAL,
IRRIGATION
(No other water sources available)

02 POPULATION SERVED BY GROUND WATER: 692 03 DISTANCE TO NEAREST DRINKING WATER WELL: 0.038 (mi)

04 DEPTH TO GROUNDWATER approx. 25 (ft) 05 DIRECTION OF GROUNDWATER FLOW North 06 DEPTH TO AQUIFER OF CONCERN approx. 25 (ft) 07 POTENTIAL YIELD OF AQUIFER 50 (gpd) 08 SOLE SOURCE AQUIFER YES ☒ NO

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

Residents to the south of the site use groundwater as a drinking water source. All other homes and commercial buildings around the site use surface water derived from a reservoir 13 miles southeast of the site. Depths of wells in the area are between 25-35 feet.

IO RECHARGE AREA

☒ YES
☐ NO

COMMENTS

This is a moderate recharge area due to the low permeability of the till in the unsaturated zone.

II. DISCHARGE AREA

☒ YES
☐ NO

COMMENTS

No surface water on site.

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
Murder Creek	☐	0.75 (mi)
	☐	(mi)
	☐	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

02 DISTANCE TO NEAREST POPULATION

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE	
A. 2,869	B. 4,925	C. 6,395	0.038 (mi)
NO. OF PERSONS	NO. OF PERSONS	NO. OF PERSONS	

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

04 DISTANCE TO NEAREST OFF-SITE BUILDING

1,296 0.038 (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)

The site is located in a rural area, with the village of Akron less than 1 mile away to the north. There are a few residences located around the site on Clarence Center and Buell Roads.

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

1. IDENTIFICATION
01 STATE 02 SITE NUMBER
NY 0039115621

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

25-35 (ft)

04 DEPTH OF CONTAMINATED SOIL ZONE

6 (ft)

05 SOIL pH

6.5

06 NET PRECIPITATION

7 (in)

07 ONE YEAR 24 HOUR RAINFALL

2.25 (in)

08 SLOPE

SITE SLOPE

1 %

DIRECTION OF SITE SLOPE

North

TERRAIN AVERAGE SLOPE

1.89 %

09 FLOOD POTENTIAL

10

Not Applicable

SITE IS IN 500 YEAR FLOODPLAIN

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

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE

OTHER

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

>1 (mi)

A. >2 (mi)

B. >1 (mi)

ENDANGERED SPECIES: Not Applicable

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL

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

AGRICULTURAL LANDS

PRIME AG LAND

AG LAND

A. 0.60 (mi)

B. 0.038 (Residential area) (mi)

C. 0.1 (mi)

D. 0.1 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

The disposal site is located approximately 100 feet southwest of the plant. The active facility is surrounded by a fence. That fence serves as a fence for two sides of the landfill, the other sides being open. The site is 2 acres in size. The slope of the land is toward the north, and natural drainage ditches on company property flow to the north and eventually empty into Murder Creek. The site is not surrounded by areas of higher elevation.

Most of the disposal area has a clay cover and is overgrown with grass, shrubs, and small trees.

The area to the south and west is farmland. Prime farmland is within 0.1 mile. Akron Falls Park is east and northeast of the site. The village of Akron lies directly north of the plant.

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

Engineering Investigations at Inactive Hazardous Waste Sites, Phase I Investigation prepared by Engineering and Science in Association with Dames & Moore, dated May 1985.
U.S.D.A., Soil Conservation Service, Soil Survey of Erie County, New York, 1986.
Stripplit-Diarco Division Houdaille Industries, Akron, New York. Site No. 915053. Erie County Dept. of Environment and Planning, 1984.
Buehler, E.J., and I.H. Tesmer. Geologic map of Erie County, New York bedrock geology, 1963.
Uncontrolled hazardous waste site ranking system, A user's manual, 40 CFR, Part 300, Appendix A, 1986.
Field Notebook No. 0068, Houdaille Industries, TDD No. 02-8704-12, Site Inspection, NUS Corp., Region 2 AFIT, Edison, New Jersey, May 20, 1987.
Telecon Note: Conversation between Arlene Richardson, Newstead Township, and Joseph Bryan Gebler, NUS Corp., NUS Corp., September 8, 1987.
Erie and Niagara Counties Regional Planning Board, Report 13, Ground Water Problems/Analysis, October 1978.
New York State Department of Environmental Conservation, Division of Fish and Wildlife, Bureau of Wildlife, Significant Habitat Map, Toronto Quad, August 1980, Revised November 6, 1985.
General Sciences Corporation, Graphical Exposure Modeling Systems (GEMS). Landover, Maryland, 1986.
Three-Mile Vicinity Map, based on U.S. Geological Survey Topographic Maps, 7.5 minute series, "Akron, N.Y., 1981; Corfu, N.Y., 1950; Clarence, N.Y., 1965; Wolcottsville, N.Y., 1980; Quadrangles".
Project Note: Note to File, Houdaille Industries, TDD No. 02-8704-12, Re: population using groundwater within 3 miles of site. J.B. Gebler, December 22, 1988.
La Sala, A.M. Jr., Ground-water resources of the Erie-Niagara basin, New York. The New York State Water Resources Commission, Conservation Department, Division of Water Resources, 1968.
Uncontrolled hazardous waste site ranking system, A user's manual, 40 CFR, Part 300, Appendix A, 1986.
New York State Water Resources Commission, Conservation Dept., Division of Water Resources, Surficial Geologic Map of the Erie-Niagara basin, New York, Basin Planning Report ENB 3.
Telecon Note: Conversation between various persons from NYSDEC Region 9, and Joseph Bryan Gebler, NUS Corp., December 30, 1988.
New York State Dept. of Health, Division of Environmental Protection, Bureau of Public Water Supply Protection, New York State Atlas of Community Water System Sources, 1982.
National Flood Insurance Program, Flood Insurance Rate Map. Village of Akron, New York, Erie County. Panel 1 of 1, November 19, 1980.

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

1. IDENTIFICATION
01 STATE 02 SITE NUMBER
NY 0039115621

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER	2	Organic Lab: Southwest Lab of Oklahoma 10926 East 55th Place Tulsa, Oklahoma 74146 Attn: Jack Wright	10/87
SURFACE WATER	1		
WASTE			
AIR			
RUNOFF		Inorganic Lab: Century Laboratories, Inc. 1501 Grand View Avenue Thorofare, New Jersey 08086 Attn: Ken Bond	10/87
SPILL			
SOIL	5		
VEGETATION			
OTHER Sediment	1		

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
HNu (photoionization)	Obtained readings of 0.5 ppm near pipe protruding from side of landfill near soil sample No. 2. Obtained a reading of 3 ppm from soil in southwest corner near soil sample No. 3. Obtained a reading of 1 ppm in soil near soil sample No. 1.
OVA (flame ionization)	Obtained a reading of over 10 ppm near white PVC vent pipe near soil sample No. 2.

IV. PHOTOGRAPHS AND MAPS

01 TYPE	☒ GROUND ☐ AERIAL	02 IN CUSTODY OF	NUS Corporation, Edison N.J. (Name of organization or individual)
03 MAPS	04 LOCATION OF MAPS		
☒ YES ☐ NO	NUS Corporation, Edison, N.J.		

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

Field Logbook Number 0068 dated May 20, 1987.

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

Field Notebook No. 0068, Houdaille Industries, TDD No. 02-8704-12, Site Inspection, NUS Corp., Region 2 FIT, Edison, New Jersey, May 20, 1987.

EPA FORM 2070-13 (7-81)

02-8704-12-SR
Rev. No. 0

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

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
NY 0039115621

II. CURRENT OWNER(S)			PARENT COMPANY (If applicable)		
01 NAME	02 D + B NUMBER	08 NAME	09 D + B NUMBER		
Strippit Division		Houdaille Industries, Inc.			
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD#, etc.)	11 SIC CODE		
12975 Clarence Center Road		12975 Clarence Center Road			
05 CITY	06 STATE	12 CITY	13 STATE	14 ZIP CODE	
Akron	NY	Akron	NY	14001	

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	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	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	12 CITY	13 STATE	14 ZIP CODE	

III. PREVIOUS OWNER(S) (List most recent first)

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

01 NAME	02 D + B NUMBER	01 NAME	02 D + B NUMBER		
Buffalo Arms Company		Not Applicable			
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE		
12975 Clarence Center Road					
05 CITY	06 STATE	05 CITY	06 STATE	07 ZIP CODE	
Akron	NY				

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	05 CITY	06 STATE	07 ZIP CODE	

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

Strippit-Diarco Division Houdaille Industries, Akron, New York. Site No. 915053. Erie County Dept. of Environment and Planning, 1984.

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

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
NY 0039115621

II. CURRENT OPERATOR(S)				OPERATOR'S PARENT COMPANY (If applicable)			
01 NAME	02 D + B Number	10 NAME	11 D + B NUMBER				
Strippit Division		Houdaille Industries, Inc.					
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD#, etc.)	13 SIC CODE				
12975 Clarence Center Road		12975 Clarence Center Road					
05 CITY	06 STATE	14 CITY	15 STATE				
Akron	NY	Akron	NY				
08 YEARS OF OPERATION	09 NAME OF OWNER						
31							

III. PREVIOUS OPERATOR(S) (List most recent first: Provide only if different from owner)				PREVIOUS OPERATOR'S PARENT COMPANIES (If applicable)			
01 NAME	02 D + B Number	10 NAME	11 D + B NUMBER				
Buffalo Arms Company		Not Applicable					
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD#, etc.)	13 SIC CODE				
12975 Clarence Center Road							
05 CITY	06 STATE	14 CITY	15 STATE				
Akron	NY						
08 YEARS OF OPERATION	09 NAME OF OWNER						

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

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

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

Strippit-Diarco Division Houdaille Industries, Akron, New York. Site No. 915053. Erie County Dept. of Erie County Dept of Environment and Planning, 1984.

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

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
NY 9039115621

II ON-SITE GENERATOR

01 NAME 02 D + B NUMBER

Strippitt Division, Houdaille Industries, Inc.
03 STREET ADDRESS (P.O. Box, RFD#, etc.) 04 SIC CODE

12975 Clarence Center Road
05 CITY 06 STATE 07 ZIP CODE
Akron NY 14001

III OFF-SITE GENERATOR(S)

01 NAME 02 D + B NUMBER 01 NAME 02 D + B NUMBER

Not Applicable
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

Not Applicable
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)

Industrial Waste Disposal File Report. County of Erie, Dept. of Environment and Planning, Division of Environmental Control.
Potential Hazardous Waste Site Identification and Preliminary Assessment, U.S. EPA, November 16, 1981.

II. PAST RESPONSE ACTIVITIES

01 A. WATER SUPPLY CLOSED	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
No previous history.		
01 B. TEMPORARY WATER SUPPLY PROVIDED	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
No previous history.		
01 C. PERMANENT WATER SUPPLY PROVIDED	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
No previous history.		
01 D. SPILLED MATERIAL REMOVED	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
No previous history.		
01 E. CONTAMINATED SOIL REMOVED	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
No previous history.		
01 F. WASTE REPACKAGED	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
No previous history.		
01 X G. WASTE DISPOSED ELSEWHERE	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
The spent water-soluble cutting fluids were disposed of by Niagara Sanitation. All waste presently generated is disposed of off site.		
01 X H. ON SITE BURIAL	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
Up to 1979 all waste generated on site was disposed of in the landfill area found behind the plant.		
01 I. IN SITU CHEMICAL TREATMENT	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
No previous history.		
01 J. IN SITU BIOLOGICAL TREATMENT	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
No previous history.		
01 K. IN SITU PHYSICAL TREATMENT	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
No previous history.		
01 L. ENCAPSULATION	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
No previous history.		
01 M. EMERGENCY WASTE TREATMENT	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
No previous history.		
01 N. CUTOFF WALLS	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
No previous history.		
01 O. EMERGENCY DIKING/SURFACE WATER DIVERSION	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
No previous history.		
01 P. CUTOFF TRENCHES/SUMP	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
No previous history.		
01 Q. SUBSURFACE CUTOFF WALL	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
No previous history.		

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

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
NY 3039116621

II. PAST RESPONSE ACTIVITIES

01 R. BARRIER WALLS CONSTRUCTED
04 DESCRIPTION

02 DATE: _____

03 AGENCY: _____

No previous history.

01 X S. CAPPING/COVERING
04 DESCRIPTION

02 DATE: After 1975

03 AGENCY: _____

After 1979, the site was inactive and a clay cover approximately 5 feet in depth was applied during a plant expansion period.

01 T. BULK TANKAGE REPAIRED
04 DESCRIPTION

02 DATE: _____

03 AGENCY: _____

No previous history.

01 U. GROUT CURTAIN CONSTRUCTED
04 DESCRIPTION

02 DATE: _____

03 AGENCY: _____

No previous history.

01 V. BOTTOM SEALED
04 DESCRIPTION

02 DATE: _____

03 AGENCY: _____

No previous history.

01 W. GAS CONTROL
04 DESCRIPTION

02 DATE: _____

03 AGENCY: _____

No previous history.

01 X. FIRE CONTROL
04 DESCRIPTION

02 DATE: _____

03 AGENCY: _____

No previous history.

01 Y. LEACHATE TREATMENT
04 DESCRIPTION

02 DATE: _____

03 AGENCY: _____

No previous history.

01 Z. AREA EVACUATED
04 DESCRIPTION

02 DATE: _____

03 AGENCY: _____

No previous history.

01 1. ACCESS TO SITE RESTRICTED
04 DESCRIPTION

02 DATE: _____

03 AGENCY: _____

No previous history.

01 2. POPULATION RELOCATED
04 DESCRIPTION

02 DATE: _____

03 AGENCY: _____

No previous history.

01 3. OTHER REMEDIAL ACTIVITIES
04 DESCRIPTION

02 DATE: _____

03 AGENCY: _____

No previous history.

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

Engineering Investigations at Inactive Hazardous Waste Sites, Phase I Investigation prepared by Engineering and Science in Association with Dames & Moore dated May 1985.

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

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
NY 0039115621

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☒ NO

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

None known.

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

SECTION 3

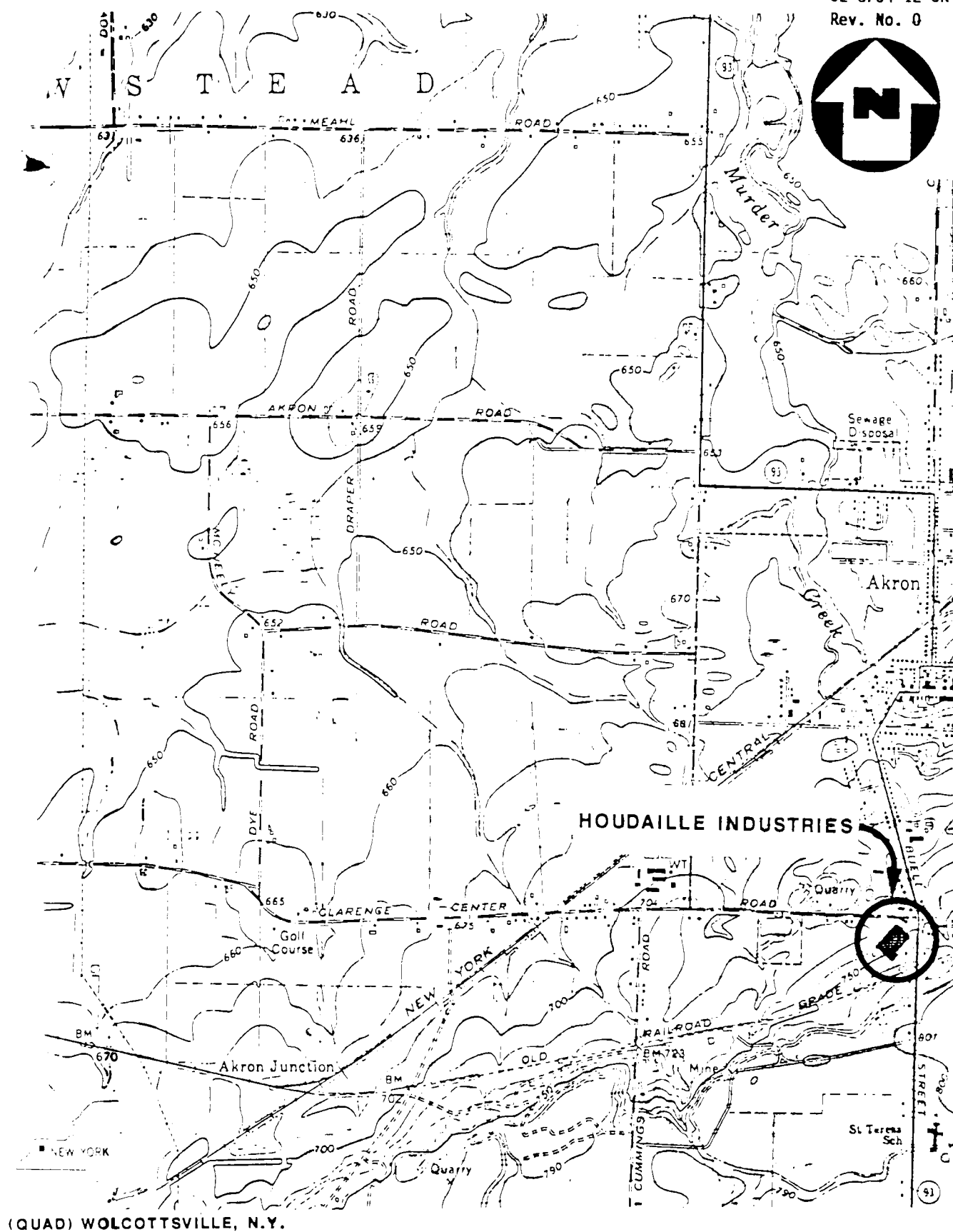
MAPS AND PHOTOGRAPHS

02-8710-12-SR
Rev. No. 0

MAPS AND PHOTOS

HOUDAILLE INDUSTRIES
AKRON, NEW YORK

Figure 1: Site Location Map
Figure 2: Sample Location Map
Exhibit A: Photograph Log



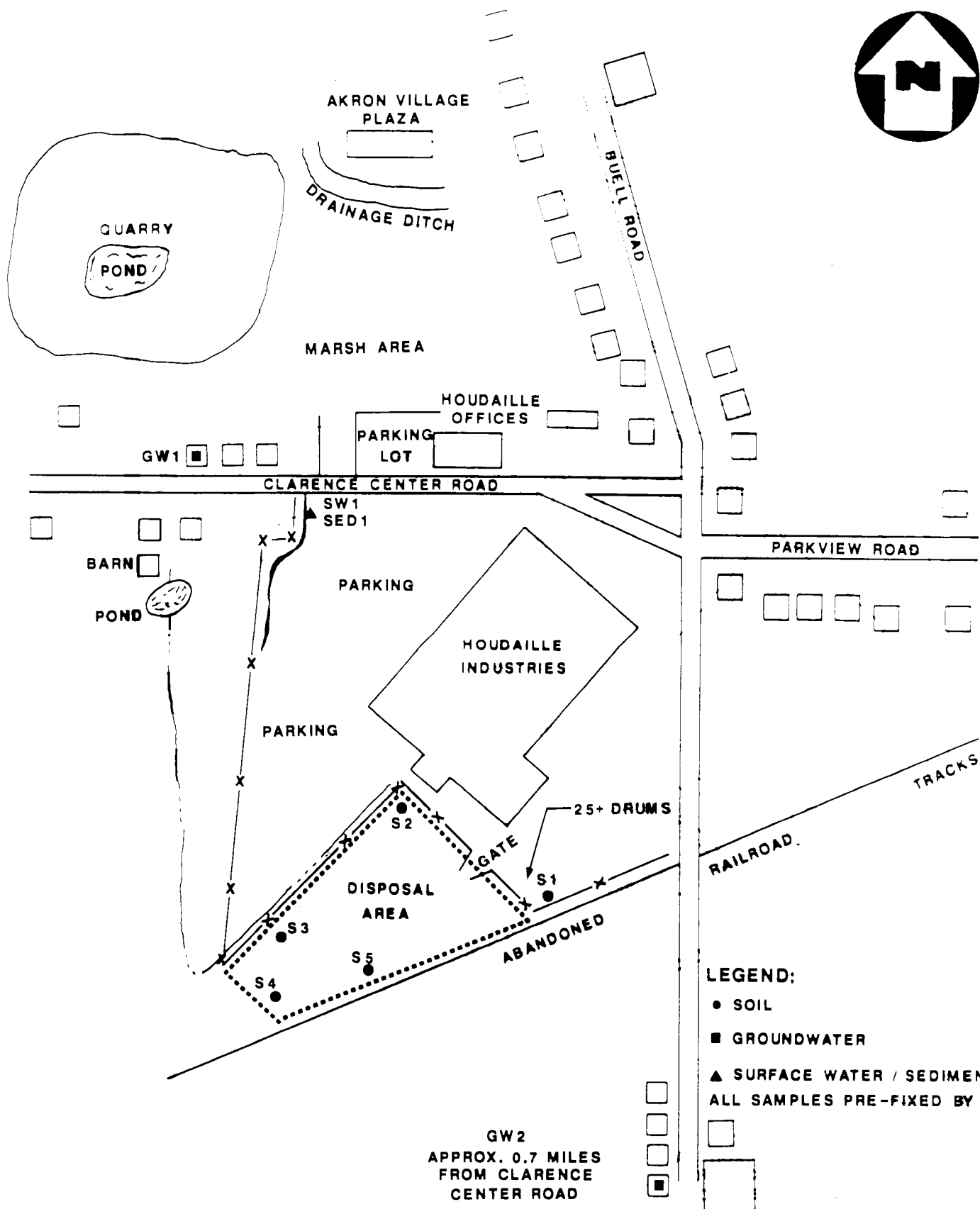
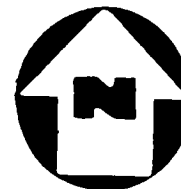
(QUAD) WOLCOTTSVILLE, N.Y.

FIGURE 1

SITE LOCATION MAP
HOUDAILLE INDUSTRIES, AKRON, N.Y.

SCALE: 1" = 2000'





SAMPLE LOCATION MAP
HOUDAILLE INDUSTRIES, AKRON, N.Y.
NOT TO SCALE

EXHIBIT A

HOUDAILLE INDUSTRIES
AKRON, NEW YORK
TDD No. 02-8704-12
MAY 20, 1987

PHOTOGRAPH LOG

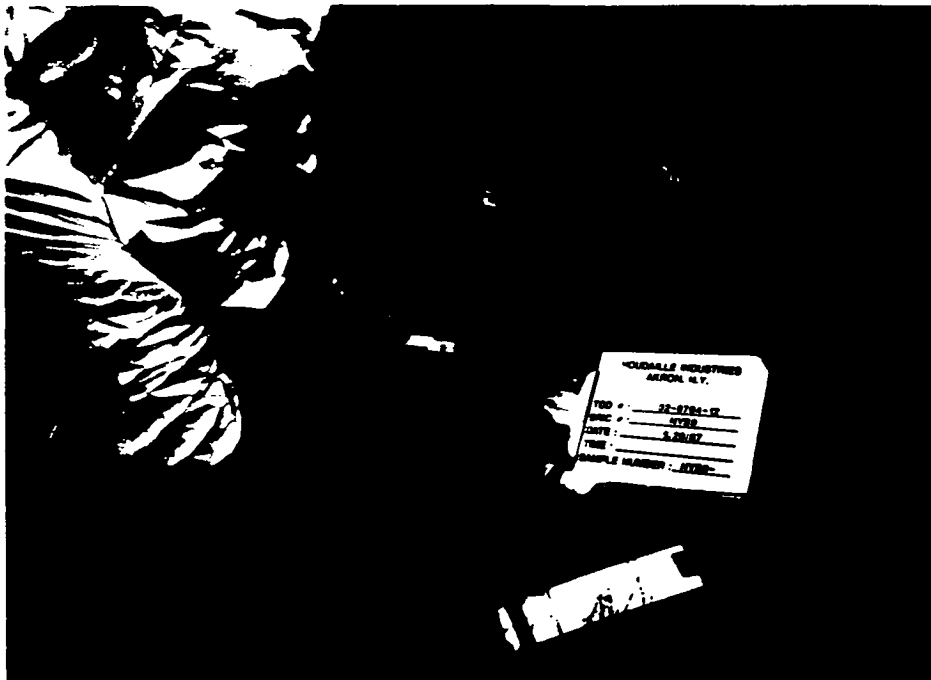
HOUDAILLE INDUSTRIES
AKRON, NEW YORK
TDD NO. 02-8704-12
MAY 20, 1987

PHOTOGRAPH INDEX

<u>Photo Number</u>	<u>Description</u>	<u>Time</u>
1P-1	Sample NYS9-S1 being collected by L. LaForge approximately 10 feet from gravel road and 20 feet from fence. Sample depth is 0-6 inches.	1204
1P-2	Sample NYS9-S2 being collected by L. LaForge 1.5 feet from corner fence post on the southwest side of the building. Sample depth is 0-6 inches.	1214
1P-3	Sample NYS9-SW1 being collected by L. LaForge approximately 12 feet from fence along Clarence Center Road in corner of property.	1258
1P-4	Sample NYS9-SED1 being collected by L. LaForge at the same location as NYS9-SW1.	1315
1P-5	Sample NYS9-S3 being collected by L. LaForge approximately 25 feet from fence on southwest side of landfill. Sample depth is 0-6 inches.	1354
1P-6	Sample NYS9-S4 being collected by L. LaForge approximately 60 feet from NYS9-S3 on southwest side of landfill. Sample depth is 0-6 inches.	1405
1P-7	Sample NYS9-S5 being collected by L. LaForge approximately 100 feet east of the gas well enclosure. This enclosure is found in the middle of the landfill area. Sample depth is 0-6 inches.	1415
1P-8	Sample NYS9-GW1 being collected by G. Gilliland from outside spigot of home at 47 Clarence Center Road.	1225
1P-9	Sample NYS9-GW2 being collected by G. Gilliland at outside spigot of home at 5680 Buell Road.	1355

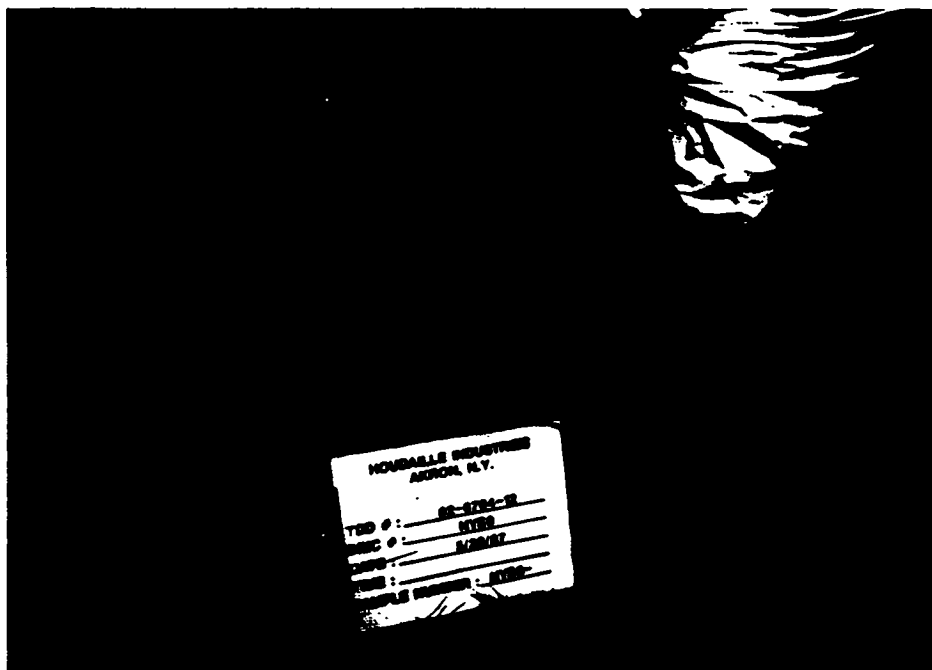
Photographs 1P-1 through 1P-7 taken by Gary Bielen.
Photographs 1P-8 and 1P-9 taken by Alan Cherepon.

HOUDAILLE INDUSTRIES
AKRON, NEW YORK



1P-1

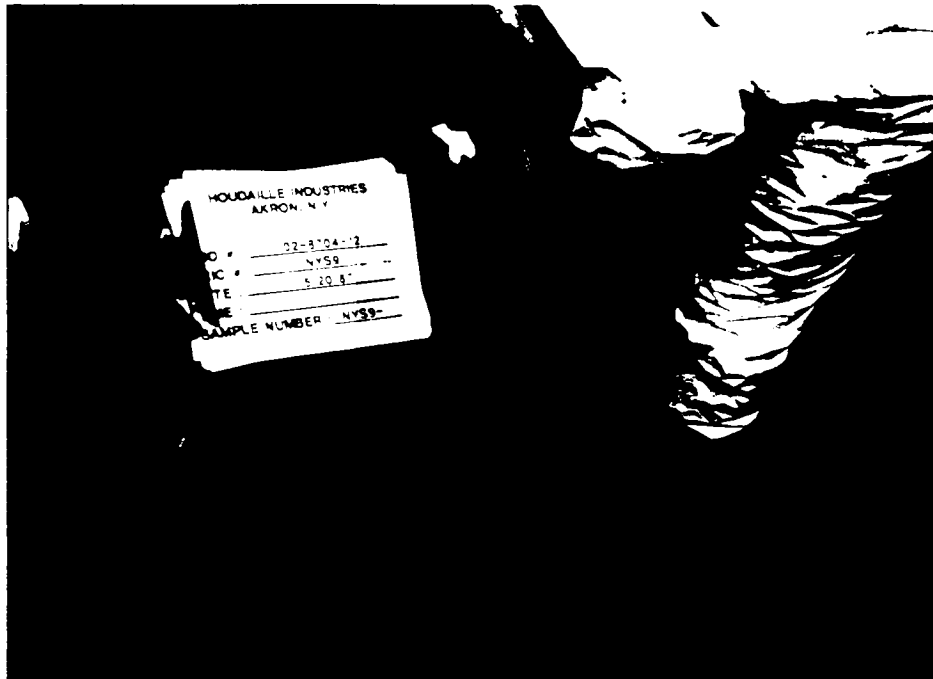
May 20, 1987 1204
Sample NYS9-S1 being collected by L. LaForge approximately
10 feet from gravel road and 20 feet from fence. Sample
depth is 0-6 inches.



1P-2

May 20, 1987 1214
Sample NYS9-S2 being collected by L. LaForge 1.5 feet from
corner fence post on the southwest side of the building.
Sample depth is 0-6 inches.

HOUDAILLE INDUSTRIES
AKRON, NEW YORK

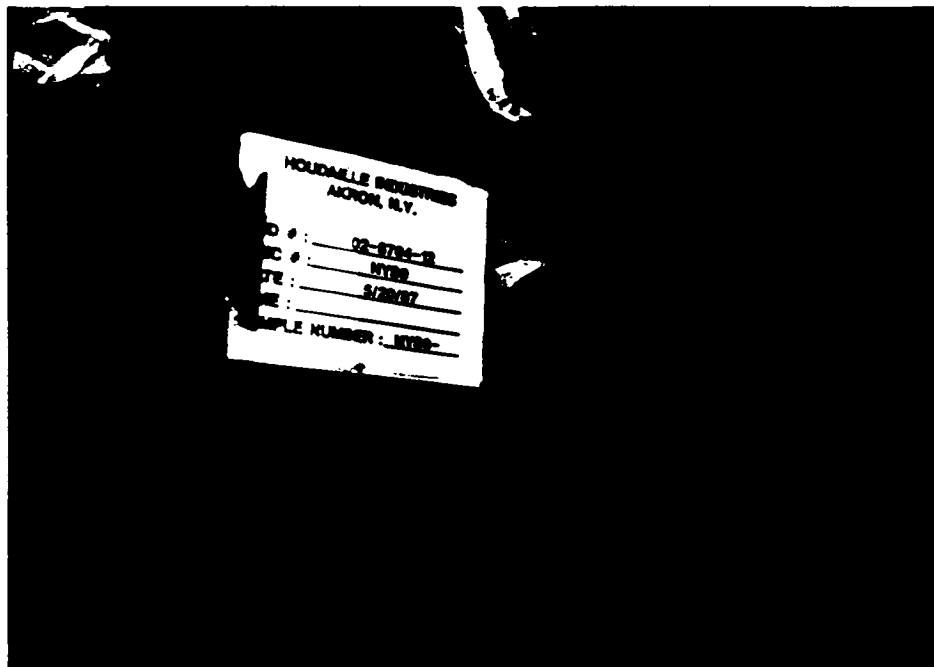


1P-3

May 20, 1987

1258

Sample NYS9-SW1 being collected by L. LaForge approximately 12 feet from fence along Clarence Center Road in corner of property.



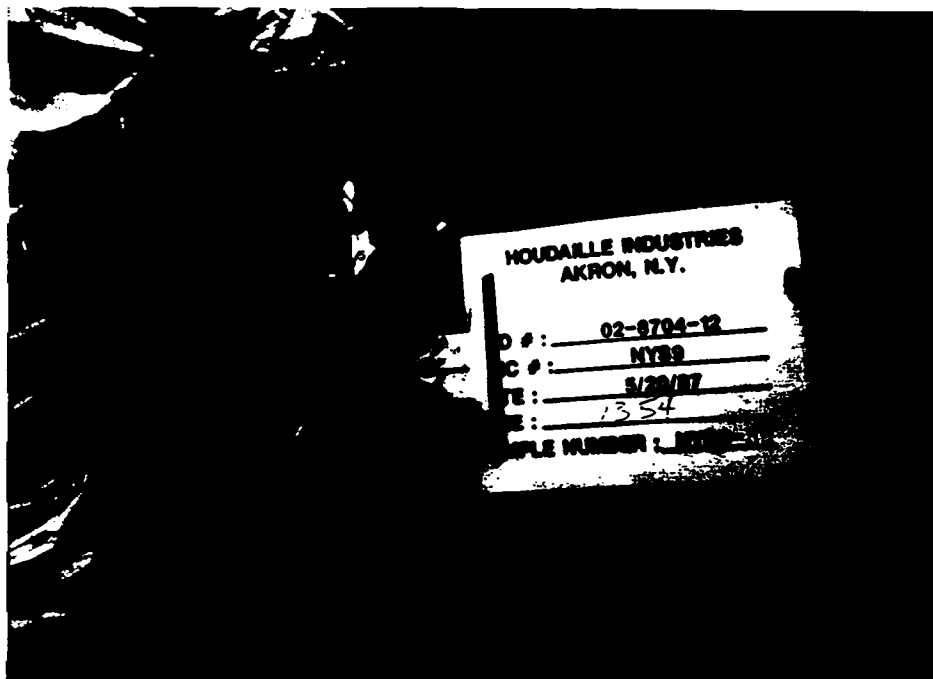
1P-4

May 20, 1987

1315

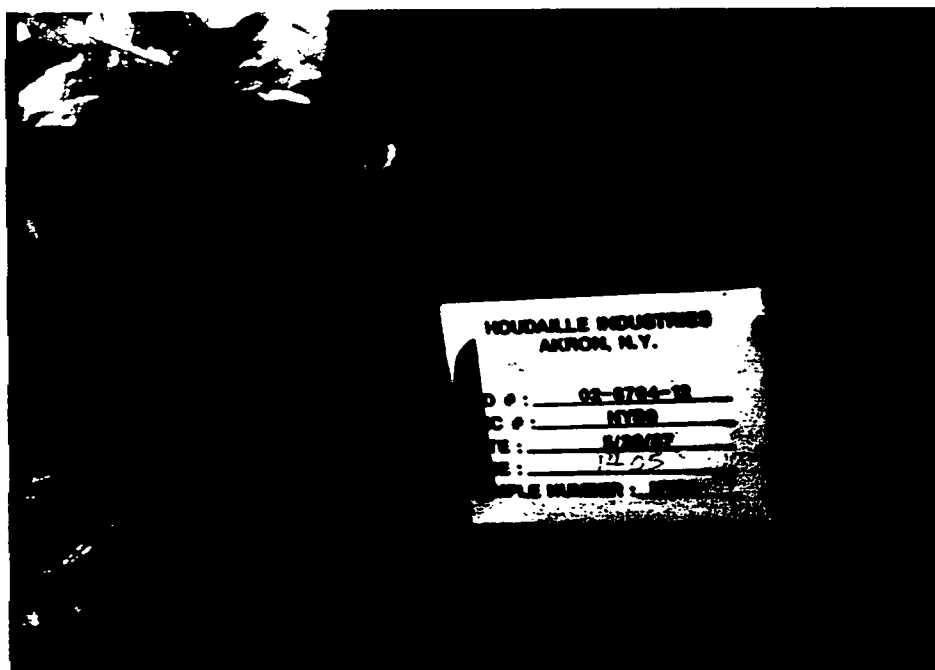
Sample NYS9-SED1 being collected by L. LaForge at the same location as NYS9-SW1.

HOUDAILLE INDUSTRIES
AKRON, NEW YORK



1P-5

May 20, 1987 1354
Sample NYS9-S3 being collected by L. LaForge approximately 25 feet from fence on southwest side of landfill. Sample depth is 0-6 inches.



1P-6

May 20, 1987 1405
Sample NYS9-S4 being collected by L. LaForge approximately 60 feet from NYS9-S3 on southwest side of landfill. Sample depth is 0-6 inches.

HOUDAILLE INDUSTRIES
AKRON, NEW YORK



1P-7

May 20, 1987 1415
Sample NYS9-S5 being collected by L. LaForge approximately 100 feet east of the gas well enclosure. This enclosure is found in the middle of the landfill area. Sample depth is 0-6 inches.



1P-8

May 20, 1987 1225
Sample NYS9-GW1 being collected by G. Gilliland from outside spigot of home at 47 Clarence Center Road.



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HOUDAILLE INDUSTRIES
AKRON, NEW YORK



1P-9

May 20, 1987 1355
Sample NYS9-GW2 being collected by G. Gilliland at outside
spigot of home at 5680 Buell Road.

SECTION 4

BIBLIOGRAPHY OF INFORMATION SOURCES

BIBLIOGRAPHY OF INFORMATION SOURCES

SOURCE	LOCATION
1. La Sala, A.M. Jr., Ground-water resources of the Erie-Niagara basin, New York. The New York State Water Resources Commission, Conservation Department, Division of Water Resources, 1968.	NUS Corporation Edison, New Jersey
2. Buehler, E.J., and I.H. Tesmer. Geologic map of Erie County, New York bedrock geology, 1963.	NUS Corporation Edison, New Jersey
3. Field Notebook No. 0068, Houdaille Industries, TDD No. 02-8704-12, Site Inspection, NUS Corp., Region 2 FIT, Edison, New Jersey, May 20, 1987.	NUS Corporation Edison, New Jersey
4. Telecon Note: Conversation between Arlene Richardson, Newstead Township, and Joseph Bryan Gebler, NUS Corp., September 8, 1987.	NUS Corporation Edison, New Jersey
5. Uncontrolled hazardous waste site ranking system, A user's manual, 40 CFR, Part 300, Appendix A, 1986.	NUS Corporation Edison, New Jersey
6. U.S. Dept. of Agriculture, Soil Conservation Service, Soil Survey of Erie County, New York, 1986.	NUS Corporation Edison, New Jersey
7. New York State Water Resources Commission, Conservation Dept., Division of Water Resources, Surficial Geologic Map of the Erie-Niagara basin, New York, Basin Planning Report ENB 3.	NUS Corporation Edison, New Jersey
8. Strippit-Diarco Division Houdaille Industries, Akron, New York. Site No. 915053. Erie County Dept. of Environment and Planning, 1984.	NUS Corporation Edison, New Jersey
9. Industrial Waste Disposal File Report. County of Erie, Dept. of Environment and Planning, Division of Environmental Control.	NUS Corporation Edison, New Jersey
10. Potential Hazardous Waste Site Identification and Preliminary Assessment, U.S. EPA, November 16, 1981.	NUS Corporation Edison, New Jersey
11. New York State Department of Environmental Conservation, Site Investigation, December 15, 1981.	NUS Corporation Edison, New Jersey
12. Interagency Task Force on Hazardous Wastes, background investigation report.	NUS Corporation Edison, New Jersey

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(CONT'D)**

SOURCE	LOCATION
13. Telecon Note: Conversation between John Witney, Soil Conservation Service, U.S.D.A. and Joseph Bryan Gebler, NUS Corp., Sept. 10, 1987.	NUS Corporation Edison, New Jersey
14. Phase I Engineering Investigations at Inactive Hazardous Waste Sites. Engineering-Science in association with Dames and Moore, New York State Department of Environmental Conservation, May 1985.	NUS Corporation Edison, New Jersey
15. Telecon Note: Conversation between various persons from NYSDEC Region 9, and Joseph Bryan Gebler, NUS Corp., December 30, 1988.	NUS Corporation Edison, New Jersey
16. New York State Dept. of Health, Division of Environmental Protection, Bureau of Public Water Supply Protection, New York State Atlas of Community Water System Sources, 1982.	NUS Corporation Edison, New Jersey
17. New York State Department of Environmental Conservation, Division of Fish and Wildlife, Bureau of Wildlife, Significant Habitat Map, Toronto Quad, August 1980, Revised November 6, 1985.	NUS Corporation Edison, New Jersey
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19. Three, Mile Vicinity Map based on U.S. Geological Survey Topographic Maps, 7.5 minute series, "Akron, N.Y., 1981; Corfu, N.Y., 1950; Clarence, N.Y., 1965; Wolcottsville, N.Y., 1980; Quadrangles".	NUS Corporation Edison, New Jersey
20. Erie and Niagara Counties Regional Planning Board, Report 13, Ground, Water Problems/Analysis, October 1978.	NUS Corporation Edison, New Jersey
21. U.S. EPA Contract Laboratory Program, Century Laboratories, Inc., and Southwest Laboratory of Oklahoma; Case 7312, Laboratory Analysis from NUS Region 2 FIT Site Inspection conducted on June 30, 1987.	NUS Corporation Edison, New Jersey
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23. Sax, N.I. Dangerous properties of industrial materials. 6th ed. New York, Van Nostrand Reinhold Co., 1984.	NUS Corporation Edison, New Jersey
24. National Flood Insurance Program, Flood Insurance Rate Map. Village of Akron , New York, Erie County. Panel 1 of 1, November 19, 1980.	NUS Corporation Edison, New Jersey

SECTION 5

PRESS RELEASE SUMMARY

SUMMARY STATEMENT

Houdaille Industries is located in a rural area approximately three-quarters of a mile due south of the village of Akron, Erie County, New York. This company, which produces metal working machinery, has been owned by Houdaille Industries Strippit Division from 1956 to the present. From 1956 to 1979, approximately 20,000 gallons per year of cutting oils, coolants, and degreasing solvents; 3 tons per year of heat treatment sludge; and 450 cubic yards per year of refuse were disposed of in a 2-acre landfill immediately behind the plant. In 1979, the disposal area was covered with approximately 5 feet of clean fill during a plant expansion.

Since 1979 waste products have been disposed of off site; however, there was a potential for environmental contamination prior to that time. Significant concentrations of arsenic, lead, zinc, chromium, and halogenated organics were detected in soil samples collected outside the landfill. Samples collected on site contained di-n-butyl phthalate, fluoranthene, benzo(a)anthracene, benzo(k)fluoranthene, Aroclor 1254, and numerous other compounds.

Groundwater is used for drinking by approximately 700 residents within a 3-mile radius of the site. The major cause of concern is that the chemicals at the site could reach the groundwater and thereby contaminate this drinking water supply.

SECTION 6

BACKGROUND INFORMATION

REFERENCE 1

Erie-Niagara Basin

Ground-Water Resources

ERIE-NIAGARA BASIN REGIONAL WATER
RESOURCES PLANNING BOARD

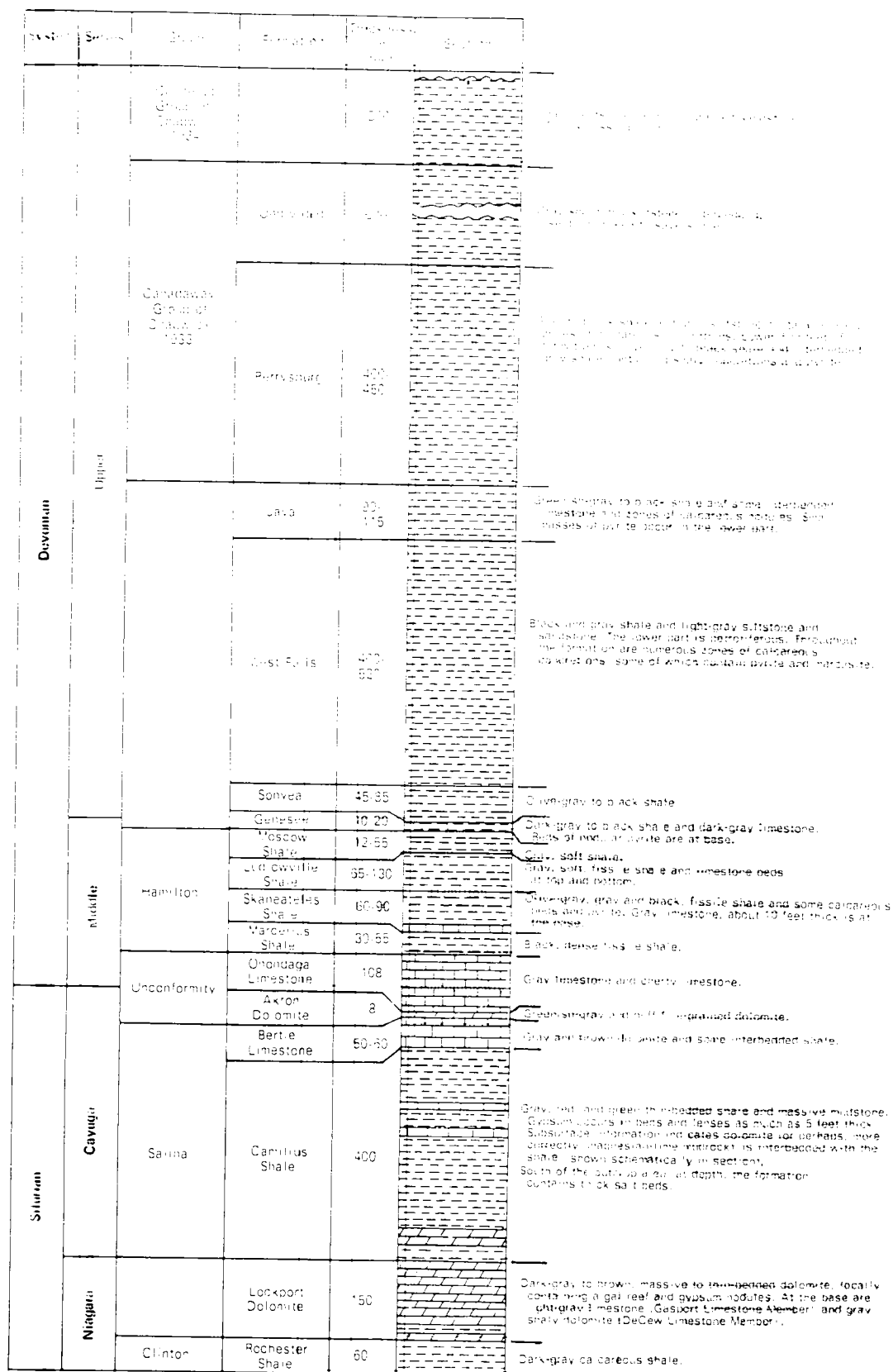


Figure 2.--Bedrock units of the Erie-Niagara basin.

Yields of wells

The Camillus Shale is by far the most productive bedrock aquifer in the area. Except in the vicinity of Buffalo and Tonawanda, where industrial wells produce from 300 to 1,200 gpm, no attempt has been made to obtain large supplies from the formation. However, the inflow of water to gypsum mines near Clarence Center and Akron indicate that large supplies are not necessarily restricted to the Buffalo and the Tonawanda area. Two examples of large flows of water encountered in gypsum mining have already been mentioned. Pumpage from gypsum mines near Clarence Center (including the mine mentioned previously) is substantial. The water pumped is discharged to Got Creek. On July 2, 1963, the creek had a flow of 2.1 mgd (million gallons per day) about half a mile downstream from the mines, that was due almost entirely to the pumpage. Water for industrial use is pumped from a flooded, abandoned gypsum mine at Akron. This pumpage, at a rate of 500 to 700 gpm, has had no appreciable effect on the water level in the mine.

Probably the larger solution openings are most common in discharge areas near Tonawanda Creek and its tributaries and near the Niagara River; the flow of ground water becomes concentrated as it approaches the streams to which it discharges. Other discharge areas, such as low-lying swampy areas and headwaters of small streams that have perennial flow, are likely places to drill wells.

LIMESTONE UNIT

Bedding and lithology

The term "limestone unit" in this report is applied to a sequence of limestone and dolomite overlying the Camillus Shale. The limestone unit includes the Bertie Limestone at the base, the Akron Dolomite, and the Onondaga Limestone at the top. The lithology and thickness of these units are shown in figure 7. The Bertie Limestone and the Akron Dolomite are Silurian in age and are separated from the overlying Onondaga Limestone of Devonian age by an unconformity or erosional contact.

The Bertie Limestone is mainly dolomite and dolomitic limestone but contains interbedded shale particularly in the thin-bedded lower part of the formation. The middle part is brown, massive dolomite, and the upper part is gray dolomite and shale whose beds are of variable thickness. The total thickness of the formation is about 55 feet (Buehler and Tesmer, 1963, p. 30-31).

The Akron Dolomite is composed of greenish-gray and buff dolomite beds varying from a few inches to about a foot in thickness. The upper contact of the Akron is erosional and is often marked by remnants of shallow stream channels. Thin lenses of sandy sediments lie in the bottoms of some channels. The thickness of the formation is generally between 7 and 9 feet (Buehler and Tesmer, 1963, p. 33-34).

REFERENCE 2

Middle Devonian
Hamilton Group

Lodiowine Formation

Tichenor Limestone Member, thin, massive, fossiliferous, resistant limestone occurs at top; Wanakah Shale Member, medium-gray, fossiliferous, calcareous shale with some calcareous concretions; Ledyard Shale Member, dark-gray calcareous shale; Centerfield Limestone Member, thin, massive limestone unit at base.

Dsk

Skaneateles Formation

Levanna Shale Member, dark-gray calcareous shale; Stafford Limestone Member, massive, fossiliferous limestone at base.

Dma

Marcellus Formation

Oatka Creek Shale Member, black calcareous shale with some calcareous concretions.

Do

Onondaga Limestone

Moorehouse Limestone Member, light-gray limestone containing numerous corals and considerable dark-gray chert nodules; Nedrow Member, intermixed light-gray limestone and dark-gray chert; Edgecliff Member, light-gray limestone with some light-gray chert nodules, locally represented by a coral bioherm.

UNCONFORMITY

Sa

Akron Dolostone

Light-gray dolostone

Sb

Bertie Formation

Williamsville Member, light-gray argillaceous limestone; Scajaquada Member, interbedded dark-gray shale and argillaceous limestone; Falkirk Member, light-gray dolostone; Oatka Member, dark-gray shale with argillaceous limestone at base containing eurypterids.

Sc

Camillus Shale

Gray shale containing large amounts of gypsum

Contact

Inferred Contact

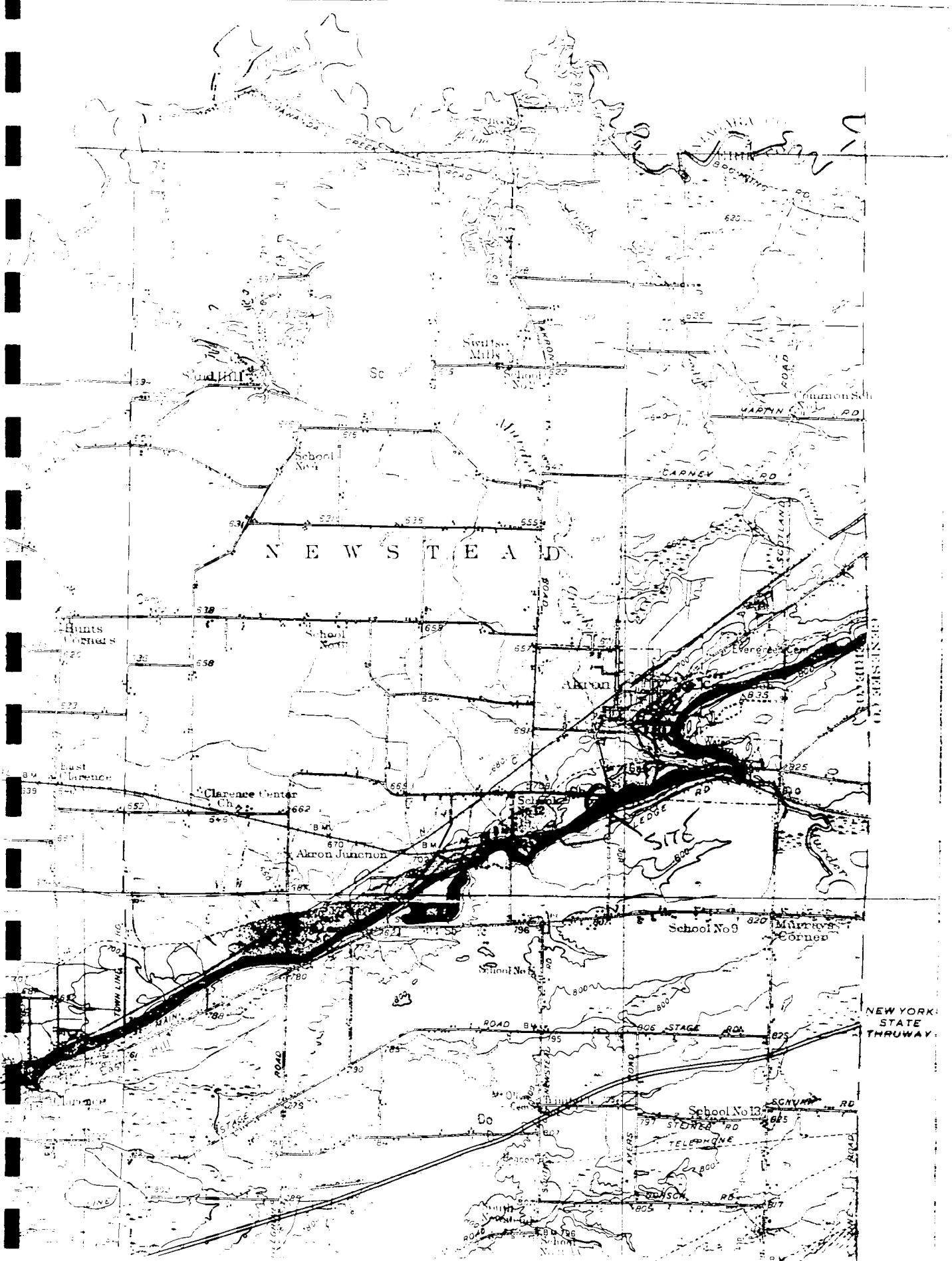
Upper Silurian

SILURIAN

GEOLOGIC MAP OF ERIE COUNTY, NEW YORK BEDROCK GEOLOGY

by Edward J. Buehler and Irving H. Tesmer

1962



REFERENCE 3

0015-F
02-8704-12

NUS CORPORATION

II

0068

5/28/87 Houdaille Industries Q-8708-12 3

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Info

Groundwater Sampling pg. 11
done by A. Chepman
and B. Gilliland
on same day.

Photo Log pg. 12

C. Hartman
5/29/87

Sue Biden
5/28/87

5/20/87

Handville Industries 02-3-5-1-12
Strippit

845 Arrive at Strippit - Handville Industries
Talk to Mike Mercurio
Weather, cloudy, 70°F - 0-5 mph wind

Company produces
automatic punching/Blanking
machines, laser tool machine, etc.
Bob Webster Plant Engineer shows us
areas on site for possible sampling sites
Route to Hospital map was posted on
vehicle.

942 Steve Maybury conducts Health/Safety
meeting. All personnel have
understood and read the Work/Safety
plan

Gary Bielen
Al Cheson
Steve Maybury
Laura LaForge
Roberta Picco
Gerry Gilliland

Gary Bielen
Al Cheson
Steve Maybury
Laura LaForge
Roberta Picco
Gerry Gilliland

mini alert 428604
OVA-L EPA# 469783
HNe-J with M probe (11.7 eV)
camera AE1 428572
AF35mm 428662

EPA#
J-469745
M-469755

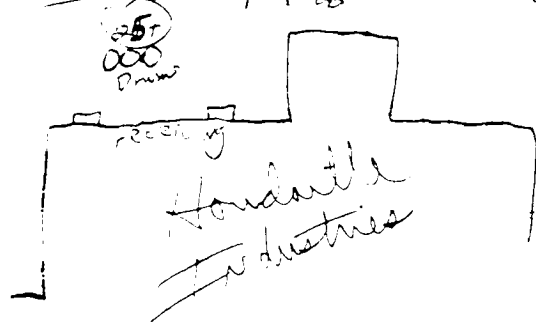
Gerry Gilliland will do recon EPA# on regulator
192069
Laura LaForge will be on rescue 307168

C. Hartman
5/22/87

Gary Bielen
5/20/87

5/20/87 Houdaille Industries 02-87-012 5
Striggt

1000 G. Gilliland on air to do recon of
landfill drum area - paint, flammable & toxic drums
fence ~~from~~ chemical coatings - Sherwin-Williams



400 people work here

25+ drums located
here

1014 west of entrance gate to landfill top
OVA readings on area near
pipe running from landfill (inside the
fenced area)
OVA had 10~~0~~+ pegged on 15 scale

white PVC pipe un capped coming out of
ground gas vent pipe? possibly readings
are methane, NO HNu readings near
white gas pipe.

HNu reading in soil near metal pipe
protruding from landfill.

HNu .5 ppm slight

1032 Moving ahead to back of landfill area
NO OVA + HNu readings

1035 In southwest corner in soil got 3 ppm OVA
HNu fluctuating at 1 ppm possibly had a 3 ppm reading

G. Gilliland off air, changing tanks

C. Hartman 5/22/87

Jay Ojima
5/20/87

5/20/87 Yundville Ind.

02-57-112

6

1045 G. Gilliland on air to person
checking out along railroad

1109 Walked up tracks toward plant
no OVA or HNA readings in soil
or breathing zone.

1111 G. Gilliland off air, taking break
L. Laforge face piece hose end
doesn't connect to regulator.
Will have equipment room manager check out.

1135 G. Gilliland & A. Cheeson left site
to take well samples.

L. Laforge to recon area near sunder
on Southeast side of landfill

185530 EPA regulator #

1155 L. Laforge on air to person.
No OVA or HNA readings in soil
will take sample S-1 now.
5 to 1 ppm on HNA, zero on OVA will take
on air.

1204 G. Laforge taking S-1 ~ 20 feet from
fence ~ 10' from gravel road going
around building.
Picture #1/8 on AE1, #18 on AF35MC
Soil depth 0-6"

C. Hartman
5/29/87

D. Bigelow
5/20/87

5/20/87

02-377-12

7

1208 L. LaForge down sampling S-1

1214 L. LaForge on air take sample S-2
near (1 foot) white gas vent pipe
it extends $1\frac{1}{2}$ feet above ground.
 $1\frac{1}{2}$ feet from corner fence post. Number on post 6B
in stencil.
sample taken in brown clay soil, obvious
runoff area. Small amounts of water
& mud nearby.

picture # 19 on both cameras

Soil depth 0-6 inches

1222 L. LaForge off air down sampling S-2
will take break & then recon area
along fence near Clarence Center Road
where possible surface water
may exist.

1235 Will recon area near Clarence Center Road

1243 L. LaForge on air to recon
No GFA or HVA readings on soil or
water

1255 L. LaForge off air.

1258 Begin sampling SW1/SED1

L. LaForge taking SW1/SED1 12 feet from
fence that runs along Clarence Center Road
or 10 feet from fence that separates plant from
house at 12905 Clarence Center Road. Corner of plant

1315 L. LaForge taking SED1
C. Hartman 5/24/87 Same location as SW1, picture # 21 5/20/87
Larry B. Jelinek

~~128~~

1317 L LaForge done sampling SED 1
No GUA or H Na readings for SW 1 on
SED 1

1326 Return to Decon area take break

1343 Ready to take samples S-2 & S-3

1354 L LaForge taking S-3
No GUA or H Na readings
Sample location ~ 25 feet from
fence. Picture # 22 Soil depth 0-6"
South west side of landfill

1405 L LaForge taking S-4 ~ 60' from S-3
on side of landfill. (Land fill embankment)
Southwest side of landfill
Soil Light Brown
Picture # 23 on both cameras
Pieces of dunnage
Soil depth 0-6"

1409 L LaForge done with S-4

GS

C Hartman
5/29/87

Larry Butler
5/29/87

145 L. La Forge sampling S-5
near a possible pipe opening. may only
be a half submerged pipe? Can't determine.
NO BUA or H₂ readings in soil.

S-5 taken ~ 100 feet east of gas well
enclosure. Soil depth 0-6 inches

1416 Done Sampling S-5

A Cherwon & G. Gilliland back with
GW samples.

Decommissioning samples. Packing away
samples for Federal Express.

1440 Leaving site, going to Federal
Express.

1610 Dropped off samples to Federal
Express.
Returning to hotel.

GB

C. Hartman
5/29/87

Harry Biele
5/20/87

5/23/87

Loudville Industries
Case # 731202-8704-12¹⁰

NY 89

Sample Type	Inorganic Traffic Report #	Organic Traffic Report #
NY 89-S1	MBK 418	BT 868
NY 89-S2	MBK 419	BT 869
NY 89-S3	MBK 420	BT 870
NY 89-S4	MBK 421	BT 871
NY 89-S5	MBK 422	BT 882
NY 89-SW 1	MBK 423	BT 872
NY 89-SW 2	MBK 424	BT 873
NY 89-SW 1	MBK 426	BT 875
NY 89-SED 1	MBK 429	BT 878
NY 89-BLK 1	MBK 432	BT 881

Organic Lab: Southwest Lab of Oklahoma
10926 East 55th Place
Tulsa, Oklahoma 74146

918-665-0680

ATTN: Jack Wright

airbill # 3498026453

Inorganic Lab: Century Laboratories, Inc.
1501 Grand View Ave.
Thorsfare, NJ 08086
609-848-3939

ATTN: Ken Bond

Airbill # 3498026464

GB

C. Hartman
5/29/87

Gary B. B. B.
5/28/87

Carol Peterson
(212) 264-8677

Need owners name, address, well depth
upgradient/downgradient
indicate sample location on map

92-8704-12
NY 89

5/20/87 Handville Industries
Strippit

C. Hartman
5/29/87

05 G. Gilliland + A. Cherepon Find house downgradient
from site that has well we could sample from
top. MR. + MRS. Kenneth E. Greer, 47 clearance
Center Rd. Mrs. Greer home. Letting water run 15 min.
before sampling. Will sample ~ 1220.
They use water from well for pool also, and for lawn.
Mrs. Greer said Strippit has 2 gas wells also, one
is in swampy area near shopping plaza to north of site,
other is on other side of plant. She also mentioned
IRON + SULFUR in well water. Radon test done in house, etc.

G. Gilliland + A. Cherepon checking drainage from site.
Goes into storm drainage ditch behind shopping plaza on well,
and continues to flow northward for a ways.

1225 shut off water, disconnected hose to take
sample. Began sampling - G. Gilliland sampler.
A. Cherepon - photos.

1230 photo 3 (35mm) and 4 (110) GW-1, Greer tap sample
on East side of house. *Jay Bish*

1232 Finished Sampling Gw. 1. gave Mrs. Greer
Carol Petersen's Number AT EPA for sample results.
she said to come back ~ 1430-1500 her husband
will be back and could tell us how deep well is, etc.

1235 MR. GREER came home, gave info about well.
68' TD.
24" water level
6" dia. pipe
iron pipe
seals submersible pump.
~ 1980 put in well, Fry well drilling - Alden

MR. GREER said There is a large underground tank
which ~~are~~ is pumped out by strappit periodically,
and neighbors complained about color of water,
killing grass + plants (near building) and
flushed water into drainage ditch.

DRIVING around looking for other wells on Buell Rd.
Tried all older houses, and old Farm to North.
owner at Farm not home.

1255 Photo 4/5 drainage pipe out Fall behind shopping
plaza, showing runoff from plant into storm drainage
ditch. Photo direction - south
Amy Buhl

335- Found upgradient well
Edward A. MATTIOLI - ATTNY. at law
5680 Buell Rd. AKRON, NY 14001
~~At Law~~ (Town of Newstead)

336 begin evacuating well.
Mr. Mattioli switched off water softener.

26' TD.
submersible pump.
6" casing
(Fry's predecessor)
1956 well drilled.

1352 Finished evacuating well.
Begin sampling.

1355 photo # 5/6, Background - upgradient gll sample,
Tap from MATTIOLI'S house. NY59 - GW2.
Sampler - G. Gilliland

House for GW2 is .7 miles south of plant intersection Rd.
(Parkview Rd.) 8th house to south, on right (west).

1400 Finished sampling GW2, driving back to
site.

C. Hartman
5/22/87

Gay Buhl
5/22/87

C. Hartman
5/22/87

Begin sampling

1355 photo # 5/6 , Background - upgradient glw sample
Tap From Mattioli's house . NY59 - GW2.
Sampler - G. Gilliland

House for GW2 is .7 miles south of plant intersection Rd.
house to south, on right (west.)

EDWARD A. MATTIOLI
ATTORNEY AT LAW
53 MAIN STREET
AKRON, NEW YORK 14001
TELEPHONE 542-4533
RESIDENCE 542-2614
AREA CODE 716

along GW2, driving back to

C. Hartman
5/22/87

Lay Bink
5/22/87

5/29/87 Loudville Industries 02-8704-12
NY\$9

12

Photo #	Time	Photographer	Sample #	Description
1P-1 18	1204	G. Bielen	NY\$9-51	L. LaForge taking sample approx. 20 feet from fence approx. 10 feet from gravel road. Depth 0-6"
1P-2 19	1214	G. Bielen	NY\$9-52	L. LaForge taking sample 1/2 feet from corner fence post. Depth 0-6"
1P-3 20	1258	G. Bielen	NY\$9-52-1 SEPT GB	L. LaForge taking sample approx. 12 feet from fence along Claunehatten Road in corner of plot
1P-4 21	1315	G. Bielen	NY\$9-52-1	Same location as SW 1
1P-5 22	1354	G. Bielen	NY\$9-53	L. LaForge taking sample approx. 25 feet from fence on southwest side of landfill. Depth 0-6"
1P-6 23	1405	G. Bielen	NY\$9-54	L. LaForge taking sample six feet from S-3 on southwest side of landfill. Depth 0-6" Gay Bielen 5/29/87

C. Hartman
5/29/87

5/29/87

Loudville Industrial D-2-5702-12

13

NY 89

<u>Photo #</u>	<u>Time</u>	<u>Photographer</u>	<u>Sample #</u>	<u>Description</u>
1P-7 24	1415	G. Bieren	NY 89-55	L. LaForge taking sample approx. 100 feet east of gas well enclosure. Depth 0-6 inches

Following for photos taken during
Groundwater (tap) sampling.

<u>Photo #</u>	<u>Time</u>	<u>Photographer</u>	<u>Sample #</u>	<u>Description</u>
1P-8 3 and 4	1225	A. Cheson	NY 89-GW1	G. Gilliland taking sample from faucet of home owned by Mrs. Greer 47 Clarence Center Road.

1P-9 5 and 6	1355	A. Cheson	NY 89-GW2	G. Gilliland taking sample from faucet at home of Edward Mattioli, 5680 Buell Road.
--------------	------	-----------	-----------	---

C. Hartman
5/29/87Gay Bieren
5/29/87

REFERENCE 4

CONTROL NO

DATE

9/3/87

TIME

1330

DISTRIBUTION:

BETWEEN

Helene Richardson

OF

Newstead Township

PHONE

(716) 542-4573

AND

J. B. Gebler

NUS

DISCUSSION:

I asked Ms. Richardson about the number of people using ground water wells in the vicinity south of the Village of Akron. She told me that the municipal service doesn't supply the area south of Clarence Center Rd. on Buell St. and therefore that area is on groundwater. She also told me that west of the railroad tracks on Clarence Center Rd. there is no municipal supply, and therefore these people use groundwater also. I next inquired about the depth to water in these wells. She informed me that the depth was approx. 25'-35' in the area I was interested in.

ACTION ITEMS:

REFERENCE 5

Uncontrolled Hazardous Waste Site Ranking System

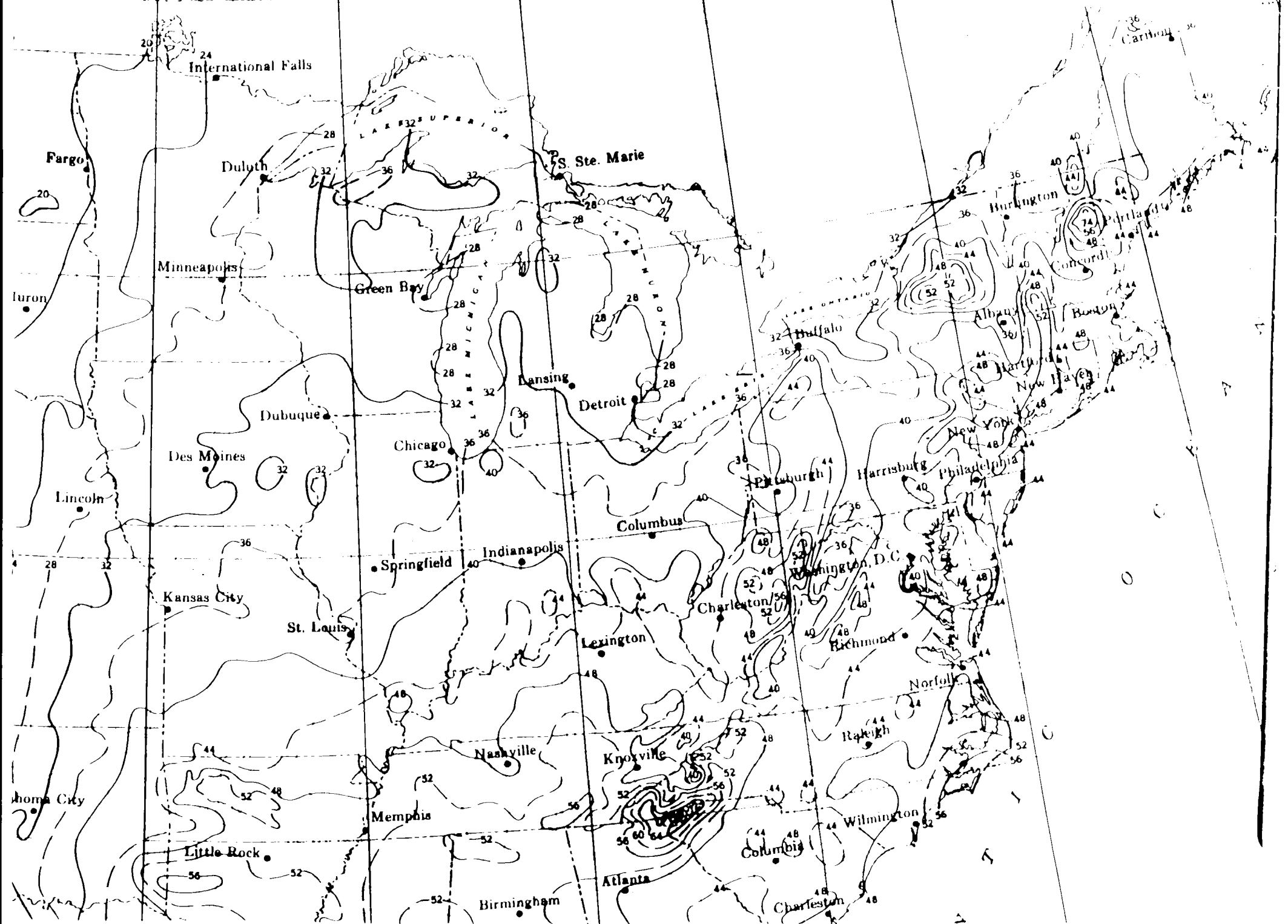
A Users Manual (HW-10)

Originally Published in
the July 16, 1982, *Federal Register*

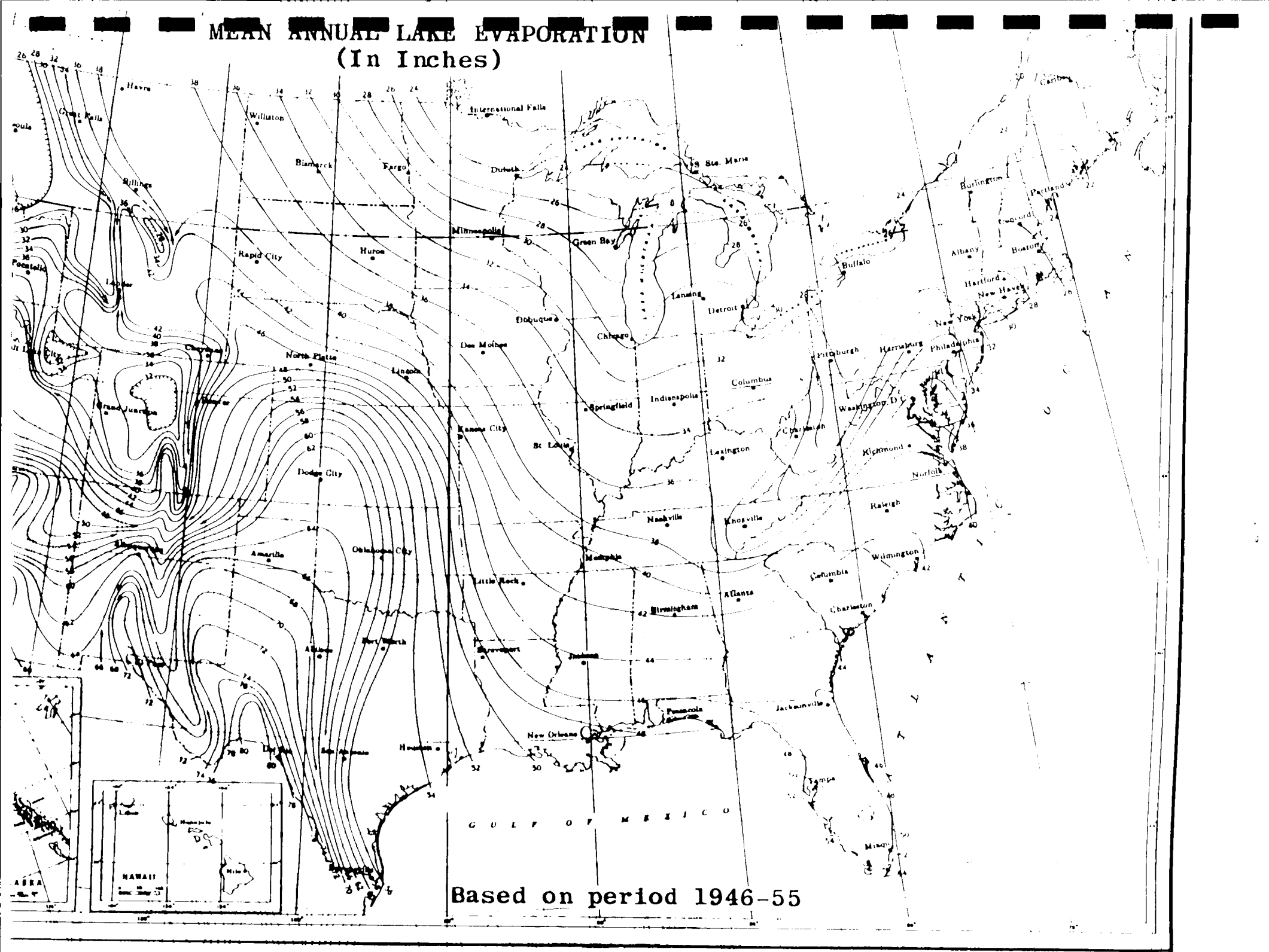
United States
Environmental Protection
Agency

1984

NORMAL ANNUAL TOTAL PRECIPITATION (Inches)



MEAN ANNUAL LAKE EVAPORATION
(In Inches)



MEAN 24-HOUR RAINFALL (inches)

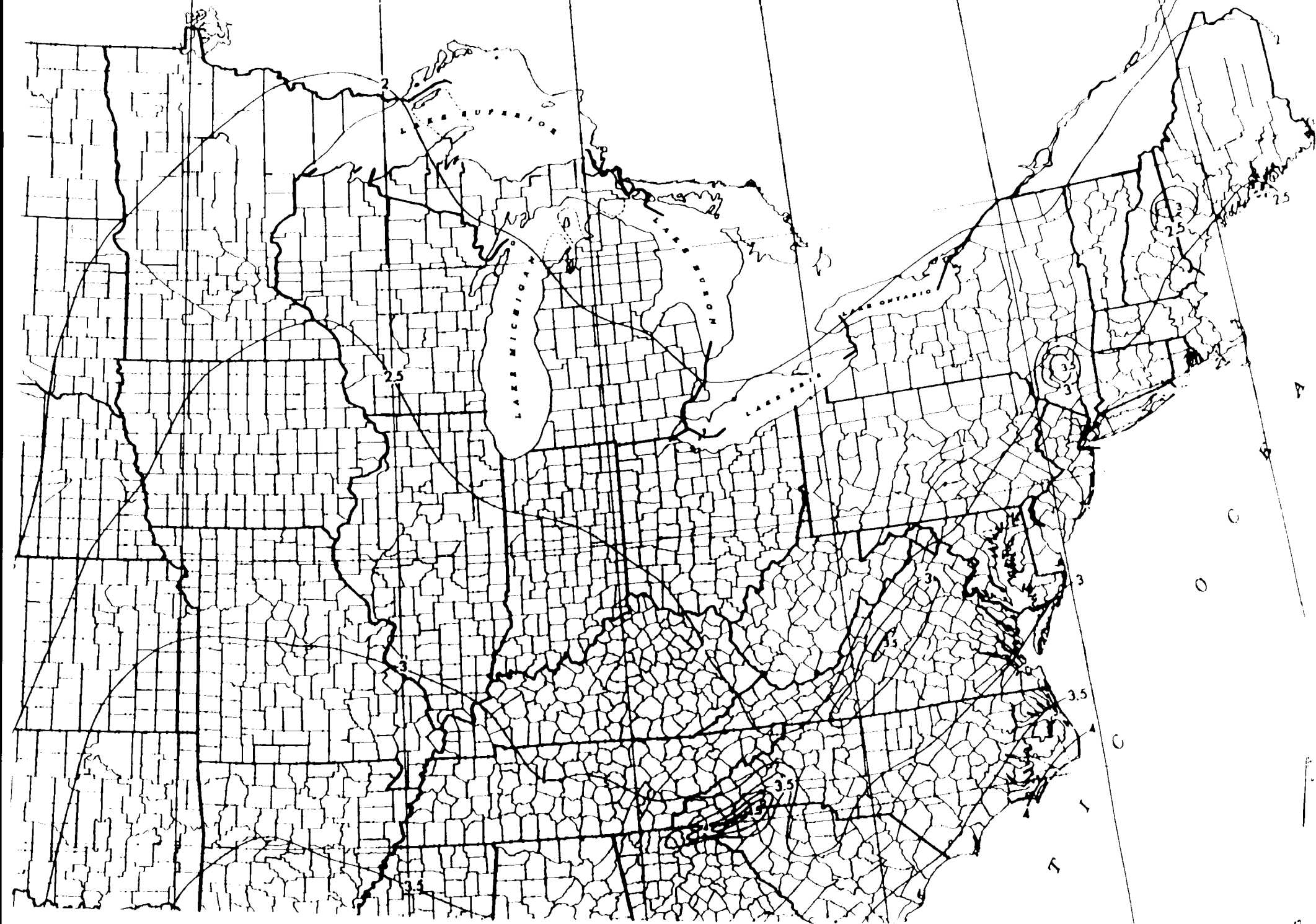


TABLE 2
PERMEABILITY OF GEOLOGIC MATERIALS*

Type of Material	Approximate Range of Hydraulic Conductivity	Assigned Value
Clay, compact till, shale; unfractured metamorphic and igneous rocks	$<10^{-7}$ cm/sec	0
Silt, loess, silty clays, silty loams, clay loams; less permeable limestones, dolomites, and sandstone; moderately permeable till	$10^{-5} - 10^{-7}$ cm/sec	1
Fine sand and silty sand; sandy loams; loamy sands; moderately permeable limestones, dolomites, and sandstone (no karst); moderately fractured igneous and metamorphic rocks, some coarse till	$10^{-3} - 10^{-5}$ cm/sec	2
Gravel, sand; highly fractured igneous and metamorphic rocks; permeable basalt and lavas; karst limestone and dolomite	$>10^{-3}$ cm/sec	3

*Derived from:

Davis, S. N., Porosity and Permeability of Natural Materials in Flow-Through Porous Media, R.J.M. DeWitt ed., Academic Press, New York, 1969

Freeze, R.A. and J.A. Cherry, Groundwater, Prentice-Hall, Inc., New York, 1979

TABLE 3

CONTAINMENT VALUE FOR GROUND WATER ROUTE

Assign containment a value of 0 if: (1) all the hazardous substances at the facility are underlain by an essentially non permeable surface (natural or artificial) and adequate leachate collection systems and diversion systems are present; or (2) there is no ground water in the vicinity. The value "0" does not indicate no risk. Rather, it indicates a significantly lower relative risk when compared with more serious sites on a national level. Otherwise, evaluate the containment for each of the different means of storage or disposal at the facility using the following guidance.

A. Surface Impoundment

	<u>Assigned Value</u>
Sound run-on diversion structure, essentially non permeable liner (natural or artificial) compatible with the waste, and adequate leachate collection system	0
Essentially non permeable compatible liner with no leachate collection system; or inadequate freeboard	1
Potentially unsound run-on diversion structure; or moderately permeable compatible liner	2
Unsound run-on diversion structure; no liner; or incompatible liner	3

B. Containers

	<u>Assigned Value</u>
Containers sealed and in sound condition, adequate liner, and adequate leachate collection system	0
Containers sealed and in sound condition, no liner or moderately permeable liner	1
Containers leaking, moderately permeable liner	2
Containers leaking and no liner or incompatible liner	3

C. Piles

	<u>Assigned Value</u>
Piles uncovered and waste stabilized; or piles covered, waste unstabilized, and essentially non permeable liner	0
Piles uncovered, waste unstabilized, moderately permeable liner, and leachate collection system	1
Piles uncovered, waste unstabilized, moderately permeable liner, and no leachate collection system	2
Piles uncovered, waste unstabilized, and no liner	3

D. Landfill

	<u>Assigned Value</u>
Essentially non permeable liner, liner compatible with waste, and adequate leachate collection system	0
Essentially non permeable compatible liner, no leachate collection system, and landfill surface precludes ponding	1
Moderately permeable, compatible liner, and landfill surface precludes ponding	2
No liner or incompatible liner; moderately permeable compatible liner; landfill surface encourages ponding; no run-on control	3

more specific information is given in Tables 4 and 5.

Toxicity of each hazardous substance being evaluated is given a value using the rating scheme of Sax (Table 6) or the National Fire Protection Association (NFPA) (Table 7) and the following guidance:

<u>Toxicity</u>	<u>Assigned Value</u>
Sax level 0 or NFPA level 0	0
Sax level 1 or NFPA level 1	1
Sax level 2 or NFPA level 2	2
Sax level 3 or NFPA level 3 or 4	3

Table 4 presents values for some common compounds.

Hazardous waste quantity includes all hazardous substances at a facility (as received) except that with a containment value of 0. Do not include amounts of contaminated soil or water; in such cases, the amount of contaminating hazardous substance may be estimated.

On occasion, it may be necessary to convert data to a common unit to combine them. In such cases, 1 ton = 1 cubic yard = 4 drums and for the purposes of converting bulk storage, 1 drum = 50 gallons. Assign a value as follows:

<u>Tons/Cubic Yards</u>	<u>No. of Drums</u>	<u>Assigned Value</u>
0	0	0
1-10	1-40	1
11-62	41-250	2
63-125	251-500	3
126-250	501-1000	4
251-625	1001-2500	5
626-1250	2501-5000	6
1251-2500	5001-10,000	7
>2500	>10,000	8

TABLE 5

PERSISTENCE (BIODEGRADABILITY) OF
SOME ORGANIC COMPOUNDS*

VALUE - 3 HIGHLY PERSISTENT COMPOUNDS	
aldrin	heptachlor
benzopyrene	heptachlor epoxide
benzothiazole	1,2,3,4,5,7,7-heptachloromorpholine
benzothiofene	hexachlorobenzene
benzyl butyl phthalate	hexachloro-1,3-butadiene
bromochlorobenzene	hexachlorocyclohexane
bromofom butanal	hexachloroethane
bromophenyl phenyl ether	methyl benzothiazole
chlordan	pentachlorobiphenyl
chlorohydroxy benzophenone	pentachlorophenol
bis-chloroisopropyl ether	1,1,1,3-tetrachloroacetone
m-chloronitrobenzene	tetrachlorobiphenyl
DDE	thiomethylbenzothiazole
DDT	trichlorobenzene
dibromobenzene	trichlorobiphenyl
dibutyl phthalate	trichlorofluoromethane
1,4-dichlorobenzene	2,4,6-trichlorophenol
dichlorodifluoroethane	triphenyl phosphate
dieldrin	bromedichloromethane
diethyl phthalate	bromofom
di(2-ethylhexyl)phthalate	carbon tetrachloride
dihexyl phthalate	chloroform
di-isobutyl phthalate	chloromethylmethane
dimethyl phthalate	dibromodichloromethane
4,6-dialtre-2-aminophenol	tetrachloroethane
dipropyl phthalate	1,1,2-trichloroethane
endrin	

VALUE - 1 SOMEWHAT PERSISTENT COMPOUNDS	
acetylame dichloride	limonene
benzoic acid, methyl ester	methyl ester of lignoceric acid
benzene	methane
benzene sulfonic acid	2-methyl-3-ethyl-pyridine
butyl benzene	methyl naphthalene
butyl bromide	methyl palmitate
n-caprolactam	methyl phenyl carbinol
carbon-disulfide	methyl stearate
n-cresol	naphthalene
decane	nonane
1,2-dichloroethane	octane
1,2-dimethoxy benzene	octyl chloride
1,3-dimethyl naphthalene	pentane
1,4-dimethyl phenol	phenyl benzoate
dioctyl adipate	phthalic anhydride
n-dodecane	propylbenzene
ethyl benzene	1-terpineol
2-ethyl-n-hexane	toluene
n-ethyltoluene	vinyl benzene
isodecane	xylene
isopropyl benzene	

VALUE - 2 PERSISTENT COMPOUNDS	
acetoephthylene	cis-2-ethyl-4-methyl-1,3-dioxolane
atrazine	trans-2-ethyl-4-methyl-1,3-dioxolane
(diethyl) atrazine	guifacel
barbital	2-hydroxydipentritol
borneol	isobutene
bromobenzene	isobutene
camphor	isobuteneol
chlorobenzene	isopropenyl-r-isopropyl benzene
1,2-bis-chloroethoxy ether	2-methoxy biphenyl
n-chloroethyl methyl ether	methyl biphenyl
chloromethyl ether	methyl chloride
chloromethyl ethyl ether	methylidene
3-chloropyridine	methylone chloride
di-t-butyl-p-benzoquinone	nitroanisole
dichloroethyl ether	nitrobenzene
dihydrocarvone	1,1,2-trichloroethylene
dimethyl sulfide	trimethyl-trione-hexahydro-triazine
2,6-dinitrotoluene	toaster

VALUE - 0 NONPERSISTENT COMPOUNDS	
acetaldehyde	methyl benzoate
acetic acid	3-methyl butanol
acetone	methyl ethyl ketone
acetophenone	2-methylpropanol
benzoic acid	octadecane
di-isobutyl carbinol	pentadecane
decosane	pentanol
elcosane	propanol
ethanol	propylamine
ethylamine	tetradecane
hexadecane	n-tridecane
methanol	n-undecane

TABLE 7

NFPA TOXICITY RATINGS*

-
- | | |
|---|--|
| 0 | Materials which on exposure under fire conditions would offer no health hazard beyond that of ordinary combustible material. |
| 1 | Materials only slightly hazardous to health. It may be desirable to wear self-contained breathing apparatus. |
| 2 | Materials hazardous to health, but areas may be entered freely with self-contained breathing apparatus. |
| 3 | Materials extremely hazardous to health, but areas may be entered with extreme care. Full protective clothing, including self-contained breathing apparatus, rubber gloves, boots and bands around legs, arms and waist should be provided. No skin surface should be exposed. |
| 4 | A few whiffs of the gas or vapor could cause death, or the gas, vapor, or liquid could be fatal on penetrating the fire fighters' normal full protective clothing which is designed for resistance to heat. For most chemicals having a Health 4 rating, the normal full protective clothing available to the average fire department will not provide adequate protection against skin contact with these materials. Only special protective clothing designed to protect against the specific hazard should be worn. |
-

*National Fire Protection Association. National Fire Codes, Vol. 13, No. 49, 1977.

Value for Population Served	Value for Distance to Nearest Well				
	0	1	2	3	4
0	0	0	0	0	0
1	0	4	6	8	10
2	0	8	12	16	20
3	0	12	18	24	30
4	0	16	24	32	35
5	0	20	30	35	40

Distance to nearest well is measured from the hazardous substance (not the facility boundary) to the nearest well that draws water from the aquifer of concern. If the actual distance to the nearest well is unknown, use the distance between the hazardous substance and the nearest occupied building not served by a public water supply (e.g., a farmhouse). If a discontinuity in the aquifer occurs between the hazardous substance and all wells, give this factor a score of 0, except where it can be shown that the contaminant is likely to migrate beyond the discontinuity. Figure 6 illustrates how the distance should be measured. Assign a value using the following guidance:

<u>Distance</u>	<u>Assigned Value</u>
>3 miles	0
2 to 3 miles	1
1 to 2 miles	2
2001 feet to 1 mile	3
< 2000 feet	4

Population served by ground water is an indicator of the population at risk, which includes residents as well as others who would regularly use the water such as workers in factories or offices and students. Include employees in restaurants, motels, or campgrounds but exclude customers and travelers passing through the area in autos, buses, or trains. If aerial photography is used, and residents are known to use ground water, assume each dwelling unit has 3.8 residents. Where ground water is used for irrigation, convert to population by assuming 1.5 persons per acre of irrigated land. The well or wells of concern must be within three miles of the hazardous substances, including the area of known aquifer contamination, but the "population served" need not be. Likewise, people within three miles who do not use water from the aquifer of concern are not to be counted. Assign a value as follows:

<u>Population</u>	<u>Assigned Value</u>
0	0
1-100	1
101-1,000	2
1,001-3,000	3
3,001-10,000	4
>10,000	5

One-year 24-hour rainfall (obtained from Figure 8) indicates the potential for area storms to cause surface water contamination as a result of runoff, erosion, or flow over dikes. Assign a value as follows:

<u>Amount of Rainfall</u> (inches)	<u>Assigned Value</u>
<1.0	0
1.0-2.0	1
2.1-3.0	2
>3.0	3

Distance to the nearest surface water is the shortest distance from the hazardous substance, (not the facility or property boundary) to the nearest downhill body of surface water (e.g., lake or stream) that is on the course that runoff can be expected to follow and that at least occasionally contains water. Do not include man-made ditches which do not connect with other surface water bodies. In areas having less than 20 inches of normal annual precipitation (see Figure 5), consider intermittent streams. This factor indicates the potential for pollutants flowing overland and into surface water bodies. Assign a value as follows:

<u>Distance</u>	<u>Assigned Value</u>
>2 miles	0
1 to 2 miles	1
1000 feet to 1 mile	2
<1000 feet	3

Physical state is assigned a value using the procedures in Section 3.2.

4.3 Containment

Containment is a measure of the means that have been taken to minimize the likelihood of a contaminant entering surface water either at the facility or beyond the facility boundary. Examples of containment are diversion structures and the use of sealed containers. If more than one type of containment is used at a facility, evaluate each separately (Table 9) and assign the highest score.

4.4 Waste Characteristics

Evaluate waste characteristics for the surface water route with the procedures described in Section 3.4 for the ground water route.

4.5 Targets

Surface water use brings into the rating process the use being made of surface water downstream from the facility. The use or uses of interest are those associated with water taken from surface waters within a distance of three miles from the location of the hazardous substance. Assign a value as follows:

<u>Surface Water Use (Fresh or Salt Water)</u>	<u>Assigned Value</u>
Not currently used	0
Commercial or industrial	1
Irrigation, economically important resources (e.g., shellfish), commercial food preparation, or recreation (e.g., fishing, boating, swimming)	2
Drinking Water	3

8.0 DIRECT CONTACT

The direct contact hazard mode refers to the potential for injury by direct contact with hazardous substances at the facility.

8.1 Observed Incident

If there is a confirmed instance in which contact with hazardous substances at a facility has caused injury, illness, or death to humans or domestic or wild animals, enter a value of 45 on line 1 of the work sheet (Figure 12) and proceed to line 4 (toxicity). Document the incident giving the date, location and pertinent details. If no such instance is known, enter "0" on line 1 and proceed to line 2.

8.2 Accessibility

Accessibility to hazardous substance refers to the measures taken to limit access by humans or animals to hazardous substances.

Assign a value using the following guidance:

<u>Barrier</u>	<u>Assigned Value</u>
A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the facility;	0
or	
an artificial or natural barrier (e.g., a fence combined with a cliff), which completely surrounds the facility; and a means to control entry, at all times, through the gates or other entrances to the facility (e.g., an attendant, television monitors, locked entrances, or controlled roadway access to the facility).	

<u>Barrier (continued)</u>	<u>Assigned Value</u>
Security guard, but no barrier	1
A barrier, but no separate means to control entry	2
Barriers do not completely surround the facility	3

8.3 Containment

Containment indicates whether the hazardous substance itself is accessible to direct contact. For example, if the hazardous substance at the facility is in surface impoundments, containers (sealed or unsealed), piles, tanks, or landfills with a cover depth of less than 2 feet, or has been spilled on the ground or other surfaces easily contacted (e.g., the bottom of shallow pond or creek), assign this rating factor a value of 15. Otherwise, assign a value of 0.

8.4 Waste Characteristics

Toxicity. Assign a value as in Section 3.4.

8.5 Targets

Population within one-mile radius is a rough indicator of the population that could be involved in direct contact incidents at an uncontrolled facility. Assign a value as follows:

<u>Population</u>	<u>Assigned Value</u>
0	0
1 - 100	1
101 - 1,000	2
1,001 - 3,000	3
3,001 - 10,000	4
>10,000	5

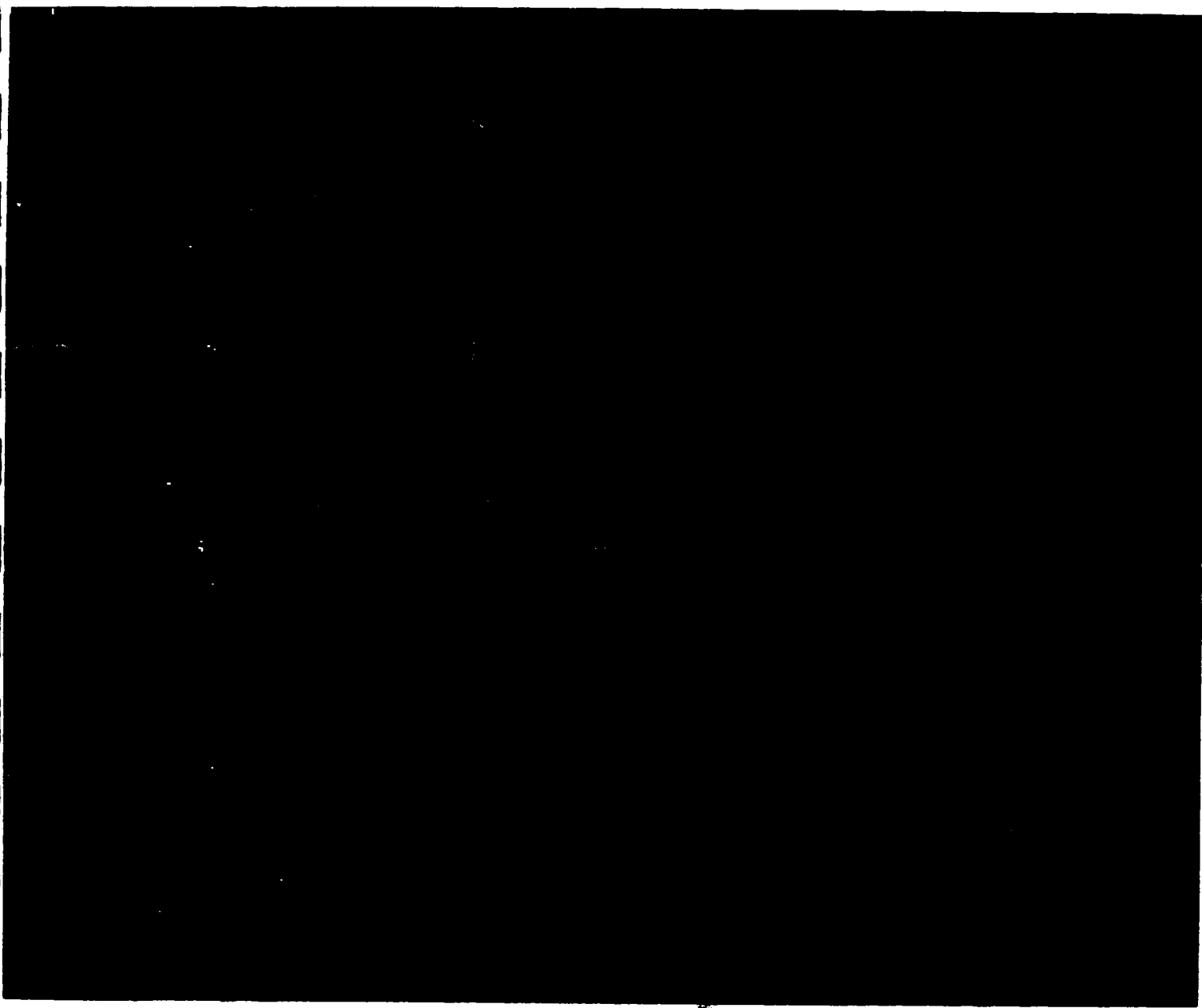
REFERENCE 6

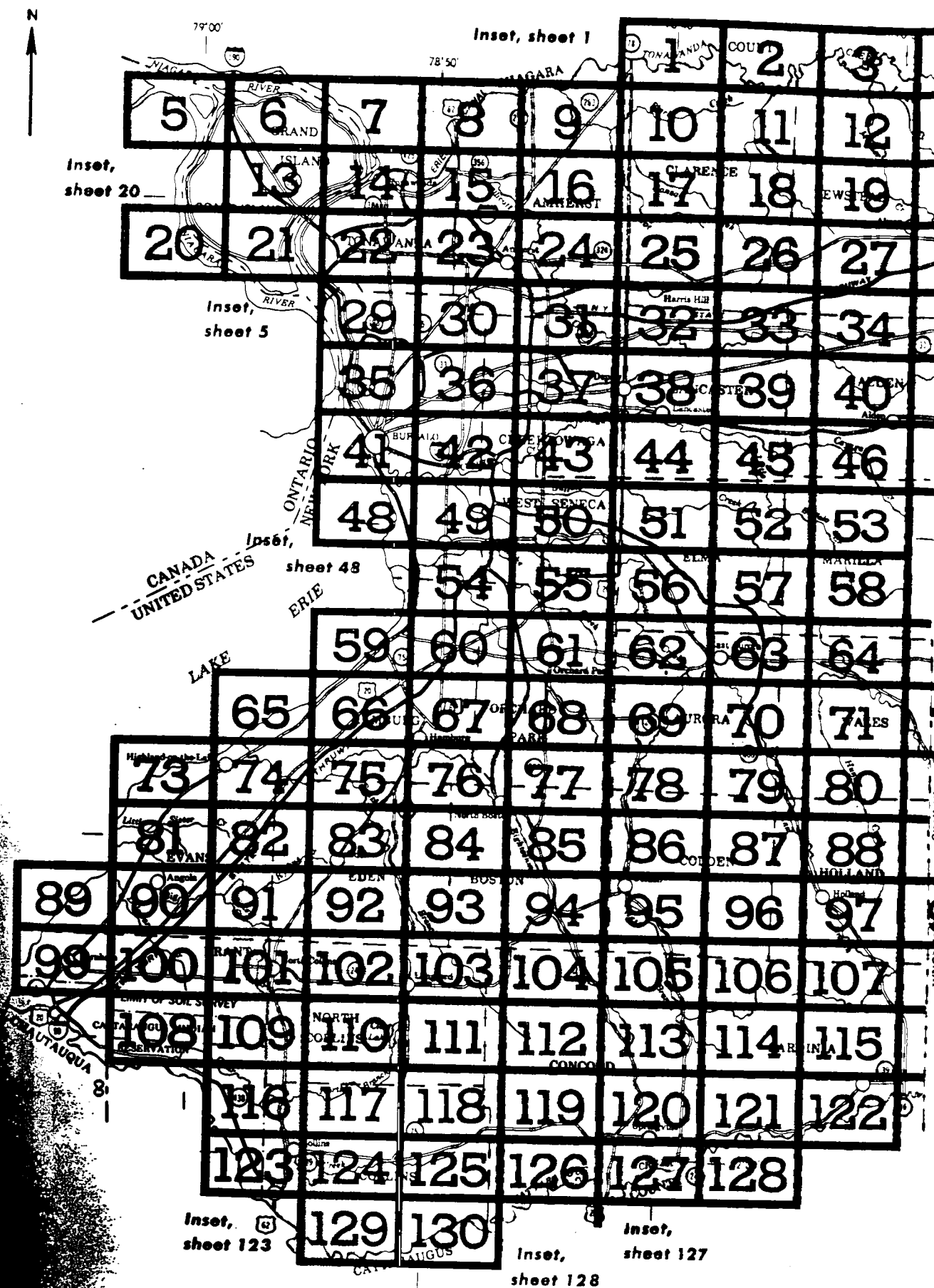
United States
Department of
Agriculture

Soil
Conservation
Service

In Cooperation with
the Cornell University
Agricultural
Experiment Station

Soil Survey of Erie County, New York





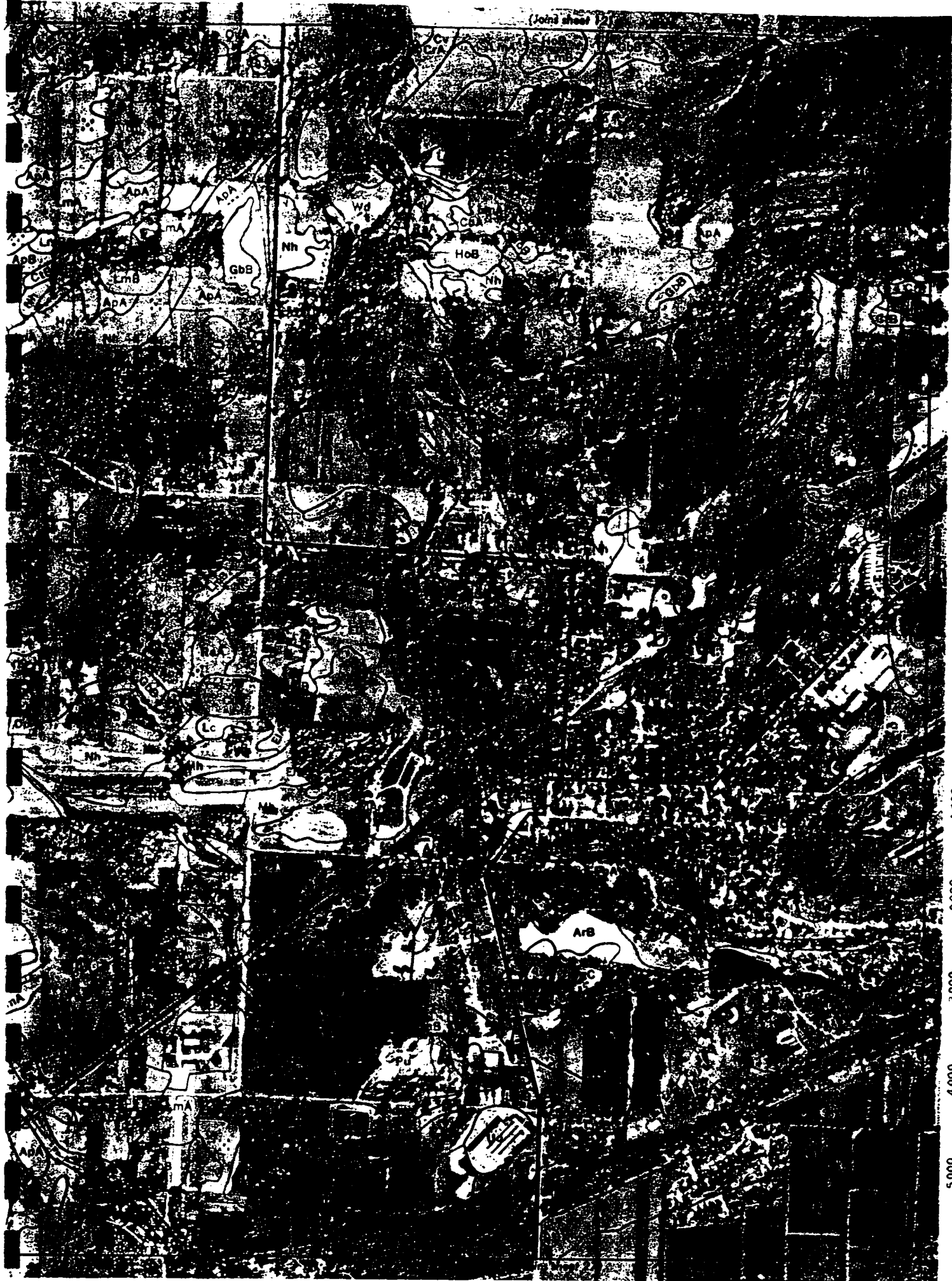
(Join sheet 12)



5000 Feet

1 Kilometer

Scale 1:15840



with some mineral soil material. Color ranges in hue from 10YR to 5Y, has value of 2 or 3, and has chroma of 0 to 2. This organic layer is 1 to 16 inches thick.

In other areas the surface layer is mineral material 1 to 25 inches thick. It has hue of 10YR to 5Y, value of 2 to 4, and chroma of 10R 2. Texture ranges from mucky silt loam to loamy sand or their gravelly analogs.

In some places, the surface layer consists of both organic and mineral soil material.

The subsoil and substratum are neutral in color or have hue of 10YR to 5Y, value of 3 to 6, and chroma of 0 to 3. Mottles are commonly present. Texture ranges from silty clay loam to loamy sand or their gravelly or very gravelly analogs. The subsoil is 1 to 10 inches thick or some pedons have none.

Honeoye series

The Honeoye series consists of deep, well drained soils on convex knolls, hills, and ridges on till plains. These soils formed in glacial till deposits derived mostly from limestone and alkaline shale. Slope ranges from 0 to 8 percent but is dominantly 3 to 8 percent.

The Honeoye soils formed in the same kind of parent material as the associated Lima and Appleton soils but are better drained than these soils. The Honeoye soils are near the Cazenovia and Ovid soils but have less clay in the subsoil than either of these soils.

Typical pedon of Honeoye loam, 3 to 8 percent slopes, in the town of Newstead, 2 miles east of the village of Clarence, near Haven Road, about 500 feet south of New York Highway 5:

Ap—0 to 10 inches; dark grayish brown (10YR 4/2) loam; moderate fine and medium granular structure; friable; many fine roots; 10 percent coarse fragments; slightly acid; abrupt smooth boundary.

A2—10 to 12 inches; light brownish gray (10YR 6/2) loam; weak medium platy structure; friable; many fine roots; many fine pores; 10 percent coarse fragments; common skeletans; slightly acid; abrupt irregular boundary.

B&A—12 to 14 inches; brown (7.5YR 4/4) loam with fingers of light brownish gray (10YR 6/2) A2 material along vertical ped faces and surrounding some peds, decreasing in thickness with depth; moderate fine and medium subangular blocky structure; firm; common fine roots; common fine pores, pores in ped interiors have clay films; 10 percent coarse fragments; neutral; gradual wavy boundary.

B2t—14 to 25 inches; reddish brown (5YR 4/4) loam; moderate medium subangular blocky structure; firm; common fine roots; common fine pores; dark reddish gray (5YR 4/2) clay films on ped faces and lining all pores; 10 percent coarse fragments; neutral; clear wavy boundary.

C—25 to 60 inches; brown (7.5YR 5/2) gravelly moderate medium and thick platy structure; roots; few pores; streaks of pinkish gray lime segregated on plate faces; 20 percent fragments; calcareous, moderately alkaline.

The thickness of the solum ranges from 1 to 15 inches and corresponds to depth to carbonaceous bedrock is more than 5 feet. Coarse fragments range from 5 to 15 percent in the A horizon, 5 to 30 percent in the B horizon, and 20 to 65 percent in the C horizon.

The Ap horizon ranges in hue from 7.5YR to 10YR and in value from 3 through 5. Color is more when the soil is dry. Texture ranges from silt loam to fine sandy loam, but loam textures are common. Consistence is friable or very friable. Reaction is acid or slightly acid. The A2 horizon has hue from 10YR to 5Y, value of 5 or 6, and chroma of 2 to 3. Texture is silt loam or loam or the gravelly analogs of these textures. There may not be an A2 horizon in some pedons where the soil is deeply plowed. Reaction ranges from medium acid to neutral.

The B&A horizon has A2-like material as thin as 2 millimeters thick on vertical faces of B-like horizons. Texture is silt loam to clay loam or the gravelly analogs of these textures.

The Bt horizon ranges from 10YR to 5YR in hue, 5 in value, and 3 to 4 in chroma. It is loam to clay loam, averaging between 18 to 28 percent clay. It can contain gravelly analogs of those textures. Structure is weak to moderate, fine to coarse subangular blocky. Consistence is friable or firm. Reaction ranges from medium acid to mildly alkaline.

The C horizon has hue of 10YR to 5YR in hue, 5 or 6 in value, and 3 to 4 in chroma. It is fine sandy loam, loam, or silt loam or very gravelly, or cobbly analogs of those textures. Consistence is firm or very firm, and structure is very thick platy. Reaction is mildly alkaline to moderately alkaline.

Hornell series

The Hornell series consists of moderately to somewhat poorly drained soils on bedrock or glacial till plains in the upland plateau. These soils formed in clayey, glacial till derived from soft shale bedrock. Slope ranges from 0 to 15 percent but is dominantly 3 to 8 percent.

The Hornell soils are similar to the associated Lima and Appleton soils but have more clay in the subsoil. They are associated with the Chippewa, Erie, Volusia, and Schuyler soils. The Hornell soils are better drained than the Chippewa soils, do not have the fragipan of the Erie and Volusia soils, and are finer textured than the Schuyler soils.

Typical pedon of Hornell silt loam, 3 to 8 percent slopes, in the town of Orchard Park, at the

firm, and reaction ranges from medium acid to moderately alkaline.

Lima series

The Lima series consists of deep, moderately well drained soils on glacial till plains. These soils formed in glacial till deposits derived mostly from gray limestone and gray alkaline shale. Slope ranges from 0 to 8 percent but is dominantly 0 to 3 percent.

The Lima soils formed in the same kind of parent material as the associated well drained Honeoye soils and somewhat poorly drained Appleton soils. They are also associated with the Wassaic and Cazenovia soils. The Lima soils are deeper to bedrock than the Wassaic soils, and they have a lower clay content than the Cazenovia soils and are not as red.

Typical pedon of Lima loam, 0 to 3 percent slopes, in the town of Newstead, 1.8 miles east of the village of Clarence near Millgrove Road and 0.5 mile south of New York Highway 5:

- Ap**—0 to 9 inches; very dark grayish brown (10YR 3/2) loam, weak fine and medium granular structure; friable; many fine roots; 12 percent coarse fragments; slightly acid; abrupt smooth boundary.
- A2**—9 to 11 inches; light brownish gray (10YR 6/2) loam; few medium faint brown (10YR 5/3) mottles; very weak medium platy structure; friable; many fine roots and pores; 10 percent coarse fragments; slightly acid; clear irregular boundary.
- B&A**—11 to 15 inches; brown (7.5YR 4/4) silt loam; moderate medium and fine subangular blocky structure; friable; grayish brown (10YR 5/2) fingers of A2 material extend into this horizon along vertical ped faces and surrounding some peds; few medium faint yellowish brown (10YR 5/4) mottles in ped interiors; common fine roots; common fine pores, some pores on the interiors of peds lined with clay films; 10 percent coarse fragments; slightly acid; gradual wavy boundary.
- B21t**—15 to 20 inches; brown (7.5YR 4/4) silt loam; few medium faint yellowish brown (10YR 5/4) mottles; moderate medium subangular blocky structure; friable; common fine roots; few fine pores; common medium brown (10YR 4/3) clay films on ped faces and in pores; 10 percent coarse fragments; neutral; gradual wavy boundary.
- B22t**—20 to 26 inches; brown (7.5YR 4/4) silt loam; common medium distinct strong brown (7.5YR 5/6) mottles; moderate medium subangular blocky structure; firm; few roots; few fine pores; dark reddish gray (5YR 4/2) clay films on many ped faces and in pores; 10 percent coarse fragments; mildly alkaline; clear wavy boundary.

C—26 to 60 inches; brown (7.5YR 5/2) gravelly loam; few medium faint brown (7.5YR 5/4) weak medium and coarse platy structure; fine pores; pinkish gray (7.5YR 7/2) streaks segregated on plate faces; 20 percent coarse fragments; calcareous; moderately alkaline.

The thickness of the solum and depth to bedrock range from 18 to 30 inches. Depth to bedrock is less than 5 feet. Coarse fragments increase as depth increases and range from 5 to 15 percent by volume in the Ap horizon, from 5 to 35 percent in the A2 horizon, and from 15 to 50 percent in the C horizon. Coarse fragments are mainly limestone, shale, and sandstone.

The Ap horizon has value of 3 to 5 and chroma of 3. When crushed and dry, value is lighter than 3. Texture is loam, silt loam, or fine sandy loam. Structure is weak or moderate granular. Reaction ranges from medium acid to mildly alkaline. The A2 horizon, when present, has hue of 7.5YR to 2.5Y, value of 6 to 8, and chroma of 2 to 5. This horizon is fine sandy loam or silt loam or the gravelly analogs of those textures. Structure is platy or blocky. Reaction ranges from medium acid to mildly alkaline.

The Bt horizon has hue of 5YR to 2.5Y, value of 4 to 5, and chroma of 3 or 4. It is loam or silt loam or the gravelly analogs of those textures and averaged 10 to 15 percent clay. Structure is weak to moderate, medium subangular blocky, and consistence is firm. Reaction ranges from medium acid to mildly alkaline. The lower part of the B horizon is calcareous in some pedons.

The C horizon is 5YR to 2.5Y in hue and value. It is firm or very firm in consistence. It is sandy loam, loam, or silt loam or the gravelly analogs of those textures. Reaction ranges from mildly alkaline or moderately alkaline.

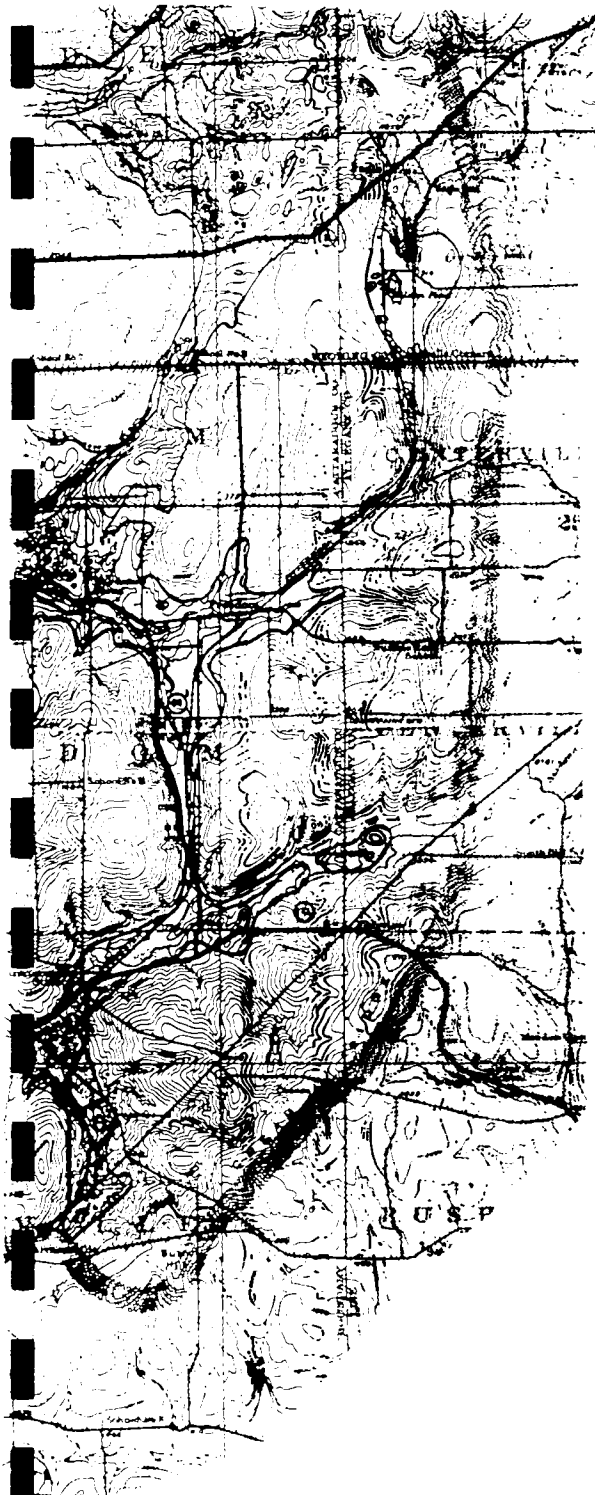
Lyons series

The Lyons series consists of deep, poorly drained soils on flats or in concave depressions on till plains. These soils formed in till deposits derived from limestone, calcareous shale, and sandstone. In some places, local colluvium is present in the till deposits. Slope ranges from 0 to 3 percent.

The Lyons soils formed in the same kind of parent material as the nearby somewhat poorly drained Appleton soils and the moderately well drained Appleton soils. The Lyons soils are also associated with the Appleton and Derby soils but do not have the fragipan of the Appleton soils and are not as well drained or as acid as the Appleton soils.

Typical pedon of Lyons silt loam in the town of Lyons, 0.4 mile west of the Genesee County line and 0.5 mile south of New York Highway 33:

REFERENCE 7

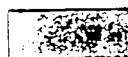


EXPLANATION



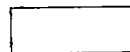
Alluvium

Deposits of present-day streams, composed of silt, sand, and gravel, where extensive. Along Cattaraugus Creek they are mainly sand and gravel, as much as 15 feet thick, and provide a few small water supplies. Along Tonawanda Creek downstream from Attica, they are mainly silt. A minor water-bearing unit.



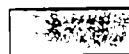
Outwash Deposits

Interbedded sand and gravel deposits laid down by glacial streams. They were the last deposits to be formed in a particular valley. As a result, most deposits are thin and over the lake deposits. They have a high permeability but will yield large supplies only where thick. At Batavia they exceed 70 feet in thickness and yield 500 to 1,200 gpm to properly constructed individual wells.



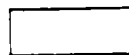
Lake Deposits

Interbedded clay, silt, and fine sand deposited in glacial lakes. Sand parts of the deposits may yield small supplies, but otherwise the unit is not water yielding.



Ice-Contact Deposits

Interbedded sand and gravel deposited by glacial streams. Most ground-water supplies developed for municipalities are either exposed at the surface or buried beneath lake and outwash deposits. Yield about 500 gpm to properly constructed wells.



Till

Non-sorted rock material deposited from glacial ice, generally forming a thin mantle over the bedrock. Has a low permeability and will yield only small supplies (sufficient for a household) from large-diameter wells.

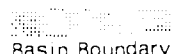


Bedrock Exposures

Exposures observed incidental to field studies.



Geologic Contact

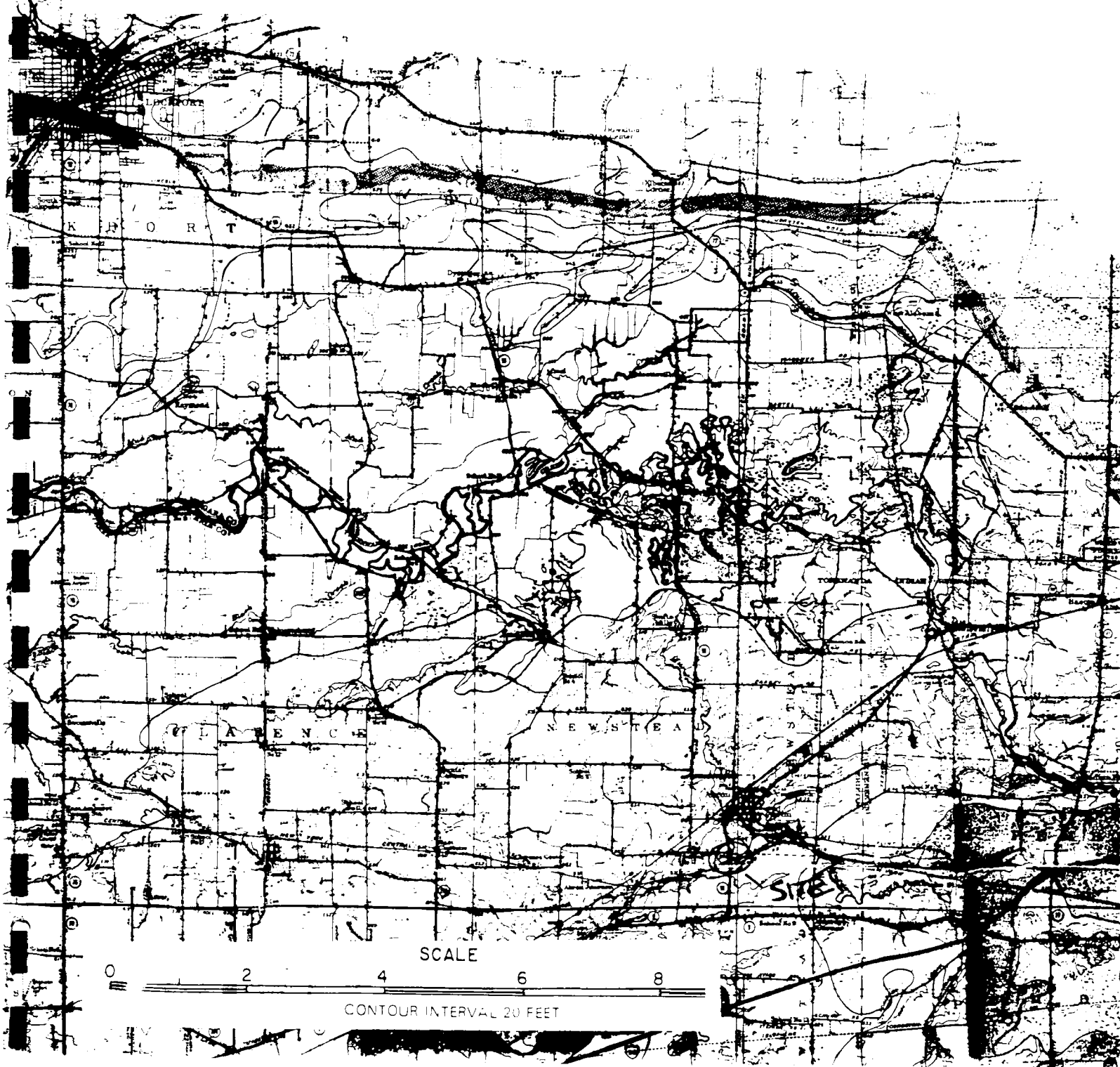


Basin Boundary

BASIN PLANNING REPORT ENB 3 PLATE 3

Published by NEW YORK STATE WATER RESOURCES COMMISSION
CONSERVATION DEPARTMENT, DIVISION OF WATER RESOURCES

SURFICIAL GEOLOGIC MAP OF THE ERIE - NIAGARA BASIN, NEW YORK



REFERENCE 8

STRIPPIT-DIARCO DIVISION

HOUDAILLE INDUSTRIES

AKRON, NEW YORK

SITE # 915053

Prepared by:

Erie County Department of
Environment and Planning

December 1984

DISCLAIMER

The information contained in this document is presented to show environmental conditions, comparisons to ambient environmental standards and criteria and compliance status relative to applicable environmental regulations.

Any use of this information to assess the risks to personal or public health, identify potential personal or public liability or to estimate the costs of remedial activity should only be done after consultation with appropriate government agencies or private consultants.

BACKGROUND

The plant was operated by the Buffalo Arms Company during the 40's and early 50's. The Strippit Corporation purchased the plant in 1956 and used the disposal site until about 1975.

Strippit personnel reported that the Buffalo Arms Company used the site to dispose of spent cartridges, scrap lead and steel.

Prior inspection reports and ECDEP files indicate that the Strippit Corporation disposed of steel and iron fines, carbon dust, paint solids and heat treating sludge at this site.

After 1975, the site was inactive except for some clay cover over the site during a plant expansion period.

LOCATION

The plant is located at 12975 Clarence Center Road in the Town of Newstead. The disposal site is located immediately southwest of the plant fenced-in area. The disposal area is not fenced in and is accessible to foot traffic. The site is approximately 200 ft. square.

AERIAL PHOTOGRAPHY

Available photos show the site was still active in 1972. Photos prior to 1972 were not available at the time this report was prepared.

FIELD INSPECTION

Most of the disposal area has a clay cover and is overgrown with grass, shrubs and some small trees. The section nearest the plant is clay covered and has sparse vegetation. The company is storing some metal shelves and ladders in this area. Tire tracks across the site indicate that a three wheeled ATV had recently been driven in the area.

ENVIRONMENTAL DATA

Soil is silty and clayey with pH greater than 6.5. Composition is 30% to 50% sand with slow permeability.

Bedrock is jointed shale at a depth greater than 4 feet.

Water - The natural water table is perched 2 feet to 4 feet below the surface.

The area has a municipal water supply system to the east, west and north. The area immediately south of the disposal area would be served by individual wells. The slope of the land is toward the north. Natural drainage ditches on company property flow to the north and eventually empty into Murder Creek.

LAND USE

The area to the south and west is farmland. To the east and northeast is a park. The village of Akron lies directly north of the plant.

SAMPLING

On December 15, 1981 the NYSDEC collected five soil samples and three water samples on Strippit Corporation property. The analysis report on these samples and a map showing sampling sites is attached.

SAMPLING RESULTS

Sample analyses indicate high levels of arsenic, chromium, lead and chlorinated inorganics in one or more of the soil samples. High arsenic levels are also found in all three water samples.

The sample data does not show any analysis for barium. However, barium salts were a major component of the heat treating sludge that was disposed of at this site.

CONCLUSION

Groundwater effects are not known. Further test borings, samples should be taken to obtain additional groundwater quality data and properly classify the site. The site also needs to be delineated by the sampling program. The owner should be contacted to perform an acceptable testing program and site remediation.

TABLE 1

HOUDAILLES INDUSTRIES - STRIPPIT DIVISION

Soil Analyses

<u>COMPOUND</u>	<u>UNITS</u>	<u>#1</u>	<u>#2</u>	<u>#3</u>	<u>#4</u>	<u>#5</u>
Antimony	ug/g dry	10	< 40	< 5	< 7	< 6
Arsenic	ug/g dry	5.5	190	2.4	14	8.2
Beryllium	ug/g dry	< 0.3	< 2	< 0.3	< 0.4	< 0.3
Cadmium	ug/g dry	0.39	< 9	< 0.1	0.44	1.2
Chromium	ug/g dry	11	18	5.7	8.8	31
Copper	ug/g dry	14	40	36	15	59
Lead	ug/g dry	19	140	21	19	100
Mercury	ug/g dry	< 0.3	< 2	< 0.2	< 0.3	0.68
Nickel	ug/g dry	15	35	12	23	29
Selenium	ug/g dry	< 0.6	< 3	0.35	< 0.2	0.7
Silver	ug/g dry	< 0.3	< 2	< 0.3	< 0.4	< 0.3
Thallium	ug/g dry	< 3	< 20	< 3	< 4	< 3
Zinc	ug/g dry	110	360	21	91	1,000
Dry Weight	%	88	16	66	82	41
Halogenated Organic Scan	ug/g dry as Cl ₂ , Lindane Std.	< 0.5	< 0.5	9.5	< 0.5	26

SAMPLES COLLECTED BY NYSDEC 12/15/81

TABLE 2

TRACE
Element Analyses

COMPOUND	UNITS	SAMPLE LOCATIONS - Station #		
		#2	#3	#5
Antimony	mg/l	< 0.2	< 0.2	< 0.2
Arsenic	ug/l	42	23	24
Beryllium	mg/l	< 0.01	< 0.01	< 0.01
Cadmium	mg/l	< 0.005	< 0.005	< 0.005
Chromium	mg/l	< 0.005	< 0.005	< 0.005
Copper	mg/l	< 0.006	< 0.006	< 0.006
Lead	mg/l	< 0.04	< 0.04	< 0.04
Mercury	ug/l	< 3	< 3	< 3
Nickel	mg/l	< 0.02	0.07	< 0.02
Selenium	ug/l	8.9	10	< 5
Silver	mg/l	< 0.01	< 0.01	< 0.01
Thallium	mg/l	< 0.1	< 0.1	< 0.1
Zinc	mg/l	0.039	0.063	0.167
Halogenated Organic Scan	ug/l as Cl ₂ Lindane Std.	< 0.3	< 0.3	< 0.3

SAMPLES COLLECTED BY NYSDEC 12/15/81

FIGURE 1

STIPIT DIV. - HOUDAILLE IND.

- 15-81 LOCATION OF SAMPLE POINTS IN TABLES 1 & 2

STATION #1 - soil sample in field east side of filled AREA

STATION #2 - WATER & silt sample from ditch paralleling Rail Road bed along south side of landfill - off south east Cr.

STATION #3 - WATER & silt sample from ditch paralleling Rail Road bed along south side of landfill - off South west Cr. of filled area

STATION #4 - Soil sample at south end of parking lot

STATION #5 - WATER & silt sample from ditch draining North side of fill AREA AND parking lot

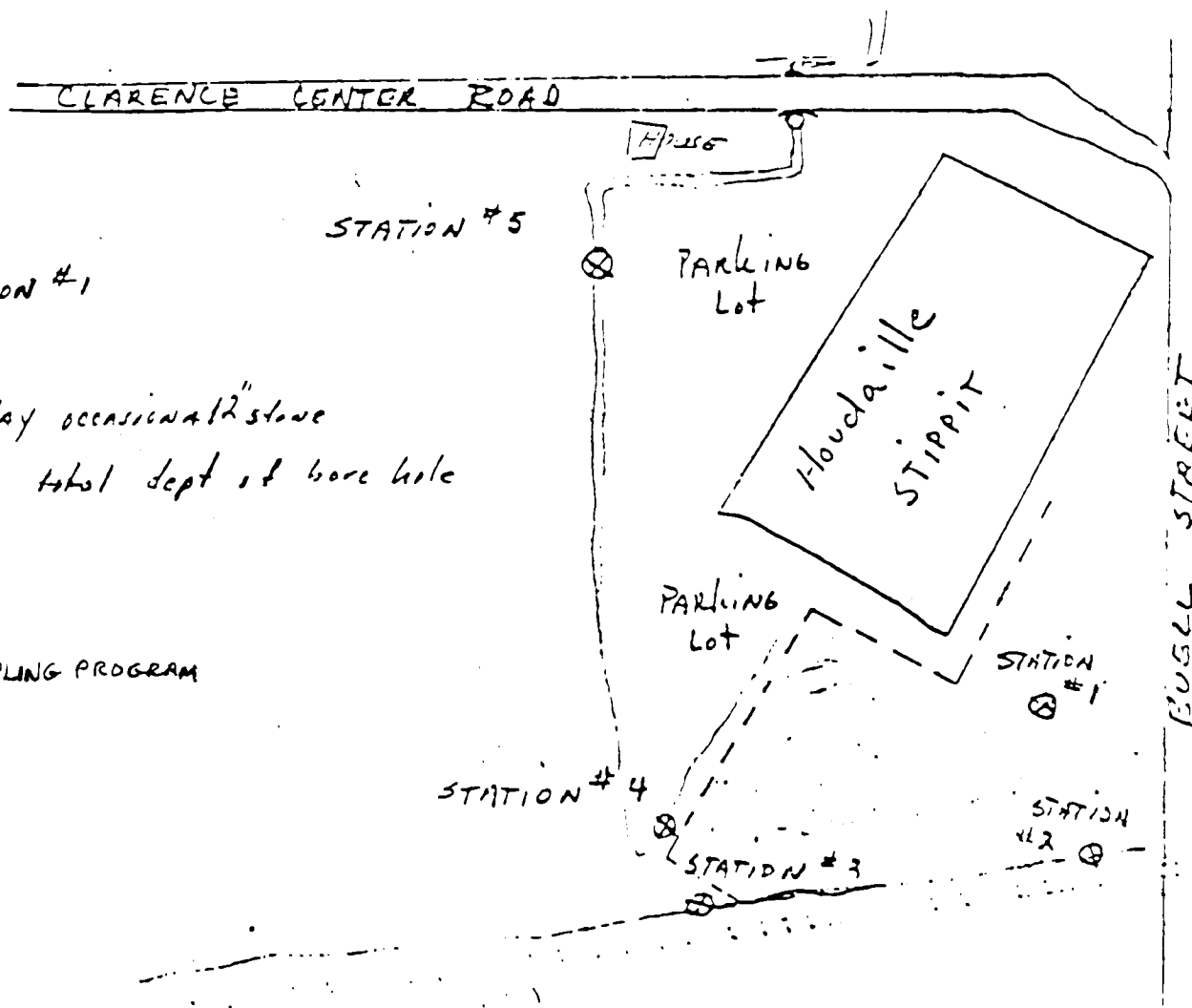
Bore Hole #1 STATION #1

9" Top soil

4'3" silty Clay occasional 2" stone

@ 5' obstruction total dept of bore hole

NYSDEC SAMPLING PROGRAM



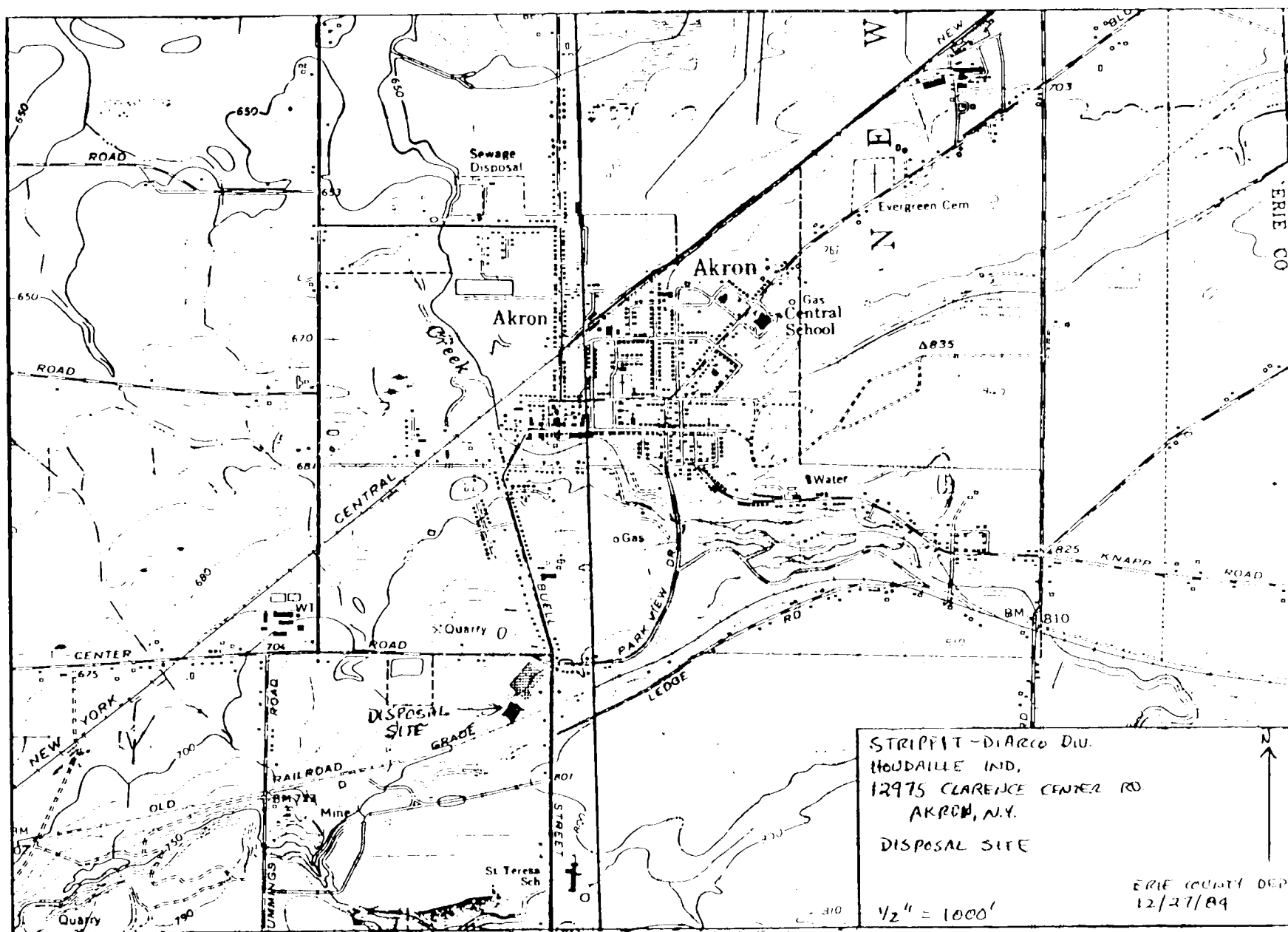
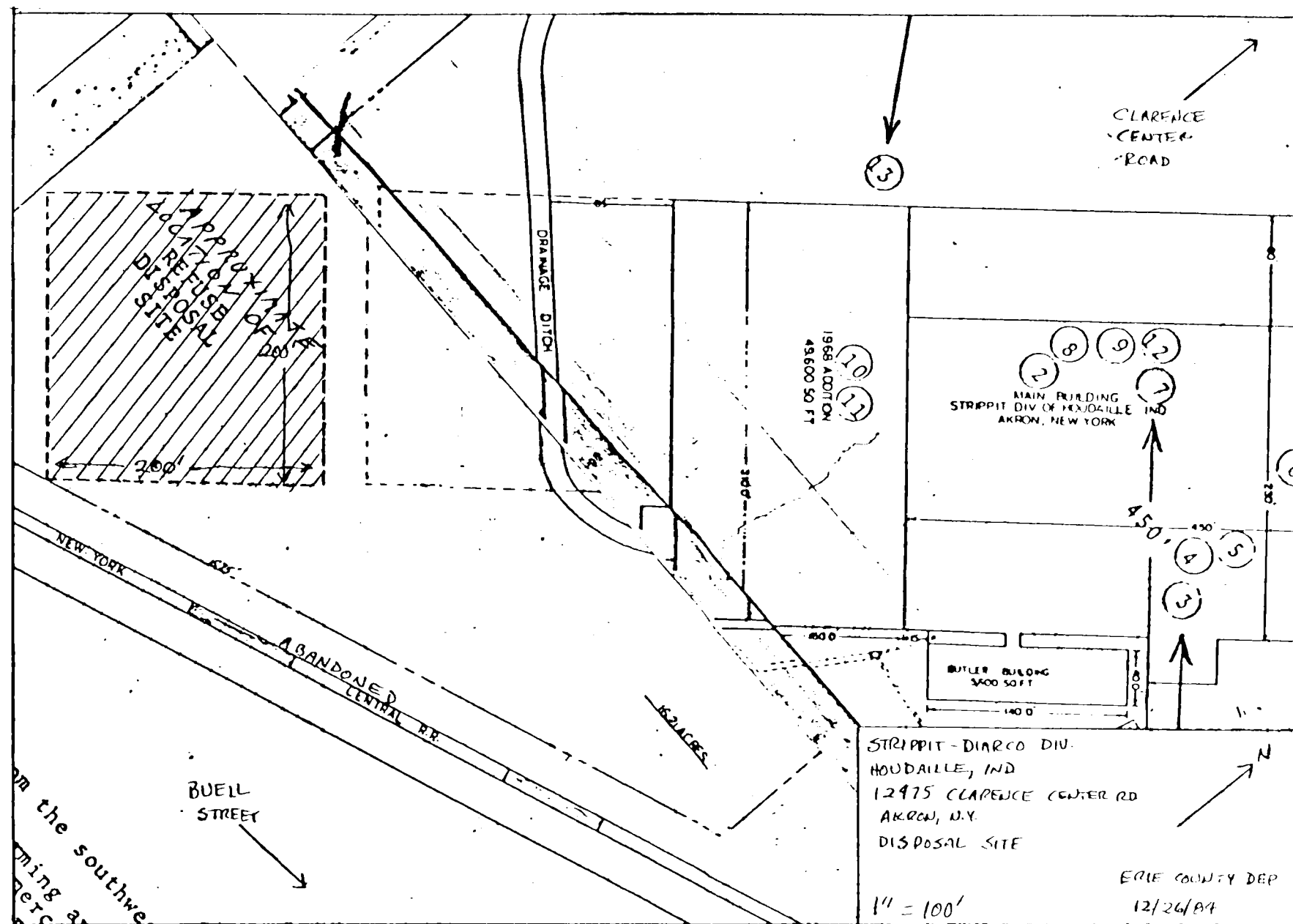


FIGURE 2



W
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S

REFERENCE 9

COUNTY OF ERIE
DEPARTMENT OF ENVIRONMENT AND PLANNING
DIVISION OF ENVIRONMENTAL CONTROL
RATH BUILDING, ROOM 927
95 FRANKLIN STREET
BUFFALO, NEW YORK 14202

Ronald D. Koczaja

FILE

Industrial Waste Disposal

Strippit Division, Houdaille Industries
Akron, New York 14001

December 1, 1978

RECEIVED
DEC 1 1978

REGIONAL OFFICE
REGIONAL OFFICE

The solid waste disposal site at the Strippit Division was inspected November 28, 1978 by the writer accompanied by Mr. K. Bartha. During the period from approximately 1957 to 1975, the Strippit Division actively used the site. From 1975 to the present, waste was disposed of via a trash compactor and Niagara Sanitation. Currently the Strippit Division is negotiating with Frontier Chemical Process, Chem-Trol Pollution Service and Newco for the disposal of waste formerly deposited in the dump site. Prior to Houdaille's purchase of the site, it was reported by Mr. Bartha that the Buffalo Arms Company used the same disposal area, possibly for spent cartridges, lead, and steel.

During the active use periods, Mr. Bartha estimated 12 drums/year of heat treatment sludge was disposed of (approximately 216 drums). The heat treating process utilized molten Ba Cl₂, Na, NO₃ salts. The solidified sludges are not pure salts. Samples of the material is currently being analyzed by Newco Incorporated to determine a composition. The Strippit Division has been requested to forward this information when it becomes available. The recent installation of new heat treating devices has reduced the amount of the waste sludge generated.

Spent waste oils are removed by Buffalo Waste Oil for reclamation.

The Strippit Division also maintains a 4000 gallon holding tank which stores spent water soluble cutting fluids prior to disposal. This fluid amounts to 20,000 gallons/year of a 50% water/fluid mix. The fluid contains phenol and goes under the trade name of Trem-sol. Up to the present, this fluid was hauled by Niagara Sanitation possibly to the Lancaster Landfill. Houdaille is negotiating with Frontier Chemical Process, Chem-Trol Pollution Service and Newco for the future disposal of this waste.

Scrap metal and shavings are sold for salvage and used solvents are sold to a number of concerns for reclamation.

The dump site is properly closed and graded. Recently the Strippit Division drilled a natural gas well at the site. Barium chloride is contained on the DEC's list of hazardous substances as toxic and sodium nitrate is listed as flammable. These compounds may not be contained in the solidified sludge and an evaluation of the hazard potential should be made following receipt of a chemical analysis. Details regarding the soil structure and ground water level at the site along with leachate potential of the waste is unknown.

RDK:jk

cc: Mr. Voell, Mr. Tamol, Mr. Banaszak, NYSDEC

Speed Letter

To

R. H. K. J.

Houdaille Indust. - Steppert Div.

MESSAGE

Prior to recommending H+ the Dec officially close the site the waste analysis should be evaluated to determine if monitoring wells and soils determination is warranted.

Date 12-1-78

Signed

R. H. K. J.

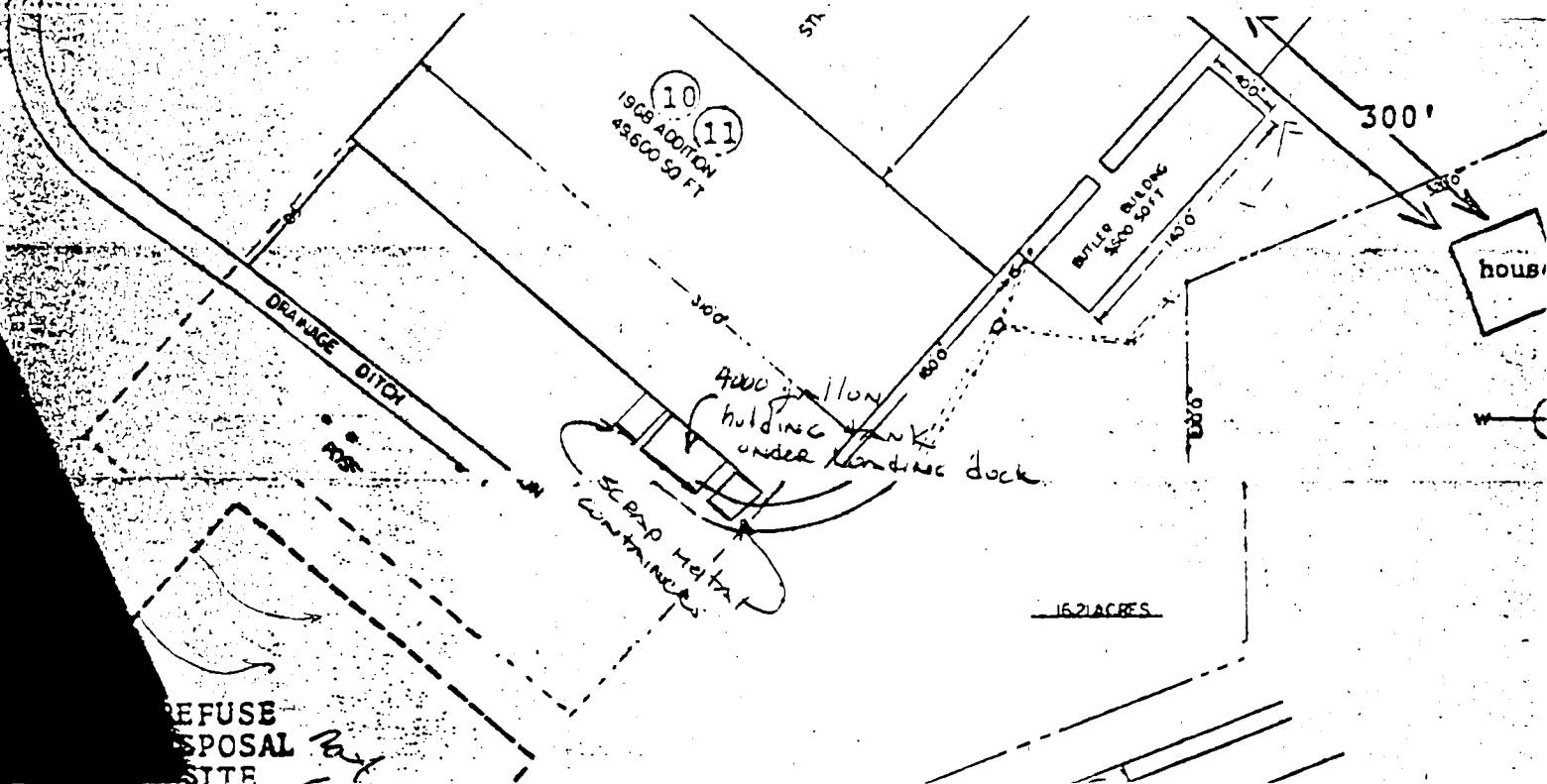
REPLY CC ATU, J. B. MASZAK, DEC

Date

Signed

Wilson Jones Company
STANDARD FORM 64-002 3-PART
© 1978 - PRINTED IN U.S.A.

RECIPIENT—RETAIN WHITE COPY, RETURN PINK COPY,
TURN OVER FOR USE WITH WINDOW ENVELOPE.



REFERENCE 10



POTENTIAL HAZARDOUS WASTE SITE
IDENTIFICATION AND PRELIMINARY ASSESSMENT

REGION 2 SITE NUMBER 1056-000-
signed by HQ NY0000003590

NOTE: This form is completed for each potential hazardous waste site to help set priorities for site inspection. The information submitted on this form is based on available records and may be updated on subsequent forms as a result of additional inquiries and on-site inspections.

GENERAL INSTRUCTIONS: Complete Sections I and III through X as completely as possible before Section II (Preliminary Assessment). File this form in the Regional Hazardous Waste Log File and submit a copy to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Task Force (EN-335); 401 M St., SW; Washington, DC 20460.

I. SITE IDENTIFICATION

A. SITE NAME HOUDAILLES INDUST.		B. STREET (or other identifier) 12975 CLARENCE CTR. RD.	
C. CITY AKRON	D. STATE NY	E. ZIP CODE 14001	F. COUNTY NAME ERIE
G. OWNER/OPERATOR (if known) 1. NAME HOUDAILLES IND.		2. TELEPHONE NUMBER	
H. TYPE OF OWNERSHIP ☐ 1. FEDERAL ☐ 2. STATE ☐ 3. COUNTY ☐ 4. MUNICIPAL ☒ 5. PRIVATE ☐ 6. UNKNOWN			
I. SITE DESCRIPTION STRIPPIT DRY SOLID WASTE DISPOSAL SITE USED 1957 TO 1975 FOR DISPOSAL OF ABOUT 216 DRUMS OF HEAT TREATMENT SLUDGE			
J. HOW IDENTIFIED (i.e., citizen's complaints, OSHA citations, etc.) NYS DEC		K. DATE IDENTIFIED (mo., day, & yr.) 4/15/80	
L. PRINCIPAL STATE CONTACT 1. NAME PETER BUECHI		2. TELEPHONE NUMBER 716-882-5826	

II. PRELIMINARY ASSESSMENT (complete this section last)

A. APPARENT SERIOUSNESS OF PROBLEM ☐ 1. HIGH ☐ 2. MEDIUM ☒ 3. LOW ☐ 4. NONE ☐ 5. UNKNOWN	
B. RECOMMENDATION ☐ 1. NO ACTION NEEDED (no hazard) ☐ 2. IMMEDIATE SITE INSPECTION NEEDED a. TENTATIVELY SCHEDULED FOR: b. WILL BE PERFORMED BY: ☒ 3. SITE INSPECTION NEEDED a. TENTATIVELY SCHEDULED FOR: b. WILL BE PERFORMED BY: ☒ 4. SITE INSPECTION NEEDED (low priority)	

C. PREPARER INFORMATION 1. NAME KARL MANGELS		2. TELEPHONE NUMBER 264-1573	3. DATE (mo., day, & yr.) 11-16-81
--	--	---------------------------------	---------------------------------------

III. SITE INFORMATION

A. SITE STATUS ☐ 1. ACTIVE (Those industrial or municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if infrequently.) ☒ 2. INACTIVE (Those sites which no longer receive wastes.) ☐ 3. OTHER (specify):	
B. IS GENERATOR ON SITE? ☐ 1. NO ☒ 2. YES (specify generator's four-digit SIC Code):	
C. AREA OF SITE (in acres) UNKNOWN	D. IF APPARENT SERIOUSNESS OF SITE IS HIGH, SPECIFY COORDINATES 1. LATITUDE (deg.-min.-sec.) 2. LONGITUDE (deg.-min.-sec.)
E. ARE THERE BUILDINGS ON THE SITE? ☐ 1. NO ☒ 2. YES (specify): PLANT	

V. WASTE RELATED INFORMATION (continued)

3. LIST SUBSTANCES OF GREATEST CONCERN WHICH MAY BE ON THE SITE (place in descending order of hazard).

HEAT TREATMENT SLUDGE FROM STRIPPIT DIV
 SPENT CARTRIDGES, LEAD AND STEEL FROM BUFFALO ARMS COMPANY FORMER OWNER

4. ADDITIONAL COMMENTS OR NARRATIVE DESCRIPTION OF SITUATION KNOWN OR REPORTED TO EXIST AT THE SITE.

DUMP SITE IS CLOSED AND GRADED

VI. HAZARD DESCRIPTION

A. TYPE OF HAZARD	B. POTENTIAL HAZARD (mark 'X')	C. ALLEGED INCIDENT (mark 'X')	D. DATE OF INCIDENT (mo., day, yr.)	E. REMARKS
1. NO HAZARD				
2. HUMAN HEALTH				
3. NON-WORKER INJURY/EXPOSURE				
4. WORKER INJURY				
5. CONTAMINATION OF WATER SUPPLY	X			
6. CONTAMINATION OF FOOD CHAIN				
7. CONTAMINATION OF GROUND WATER	X			
8. CONTAMINATION OF SURFACE WATER				
9. DAMAGE TO FLORA/FAUNA				
10. FISH KILL				
11. CONTAMINATION OF AIR				
12. NOTICEABLE ODORS				
13. CONTAMINATION OF SOIL	X			
14. PROPERTY DAMAGE				
15. FIRE OR EXPLOSION	X			
16. SPILLS/LEAKING CONTAINERS/ RUNOFF/STANDING LIQUIDS				
17. SEWER, STORM DRAIN PROBLEMS				
18. EROSION PROBLEMS				
19. INADEQUATE SECURITY				
20. INCOMPATIBLE WASTES				
21. MIDNIGHT DUMPING				
22. OTHER (specify):				

REFERENCE 11

NAME OF LANDFILL: Houdailles Industries - Stripit Division

LOCATION: 12975 Clarence Road, Akron, Erie County

CURRENT OWNER: Houdaille Industries - Stripit Division

HISTORY

This was ~~was~~ used prior to 1955 to 1975 by the Stripit Division of Houdaille Industries and Buffalo Arms. The following has been deposited: cutting oils, solvents, paint (20,000 gal/yr); heat treatment sludge (3 ton/yr); and coolants (20,000 gal/yr). The site is approximately 2 acres in size.

INVESTIGATION

An investigation was conducted at this site on December 15, 1981 by Messrs. Tygert, Christoffel, and Wozniak. Samples were taken from five locations. The first location was in a field behind the plant. A hole was augered to a depth of 5 feet and a soil sample was obtained from the soil on the drill bit. The second and third locations were from a drainage ditch along the south side of the landfill. Silt and water samples were obtained at both sites. The fourth location was in the southwest corner of a parking lot behind the plant. A soil sample was taken there. The fifth location was from a drainage ditch on the western edge of the plant property. Water and silt were taken from this station.

Site sketch showing the sampling locations is attached.

SOILS AND GEOLOGICAL INFORMATION

This site is located on an Ontario-Hilton soil association. It is an association of well and moderately well drained, medium textured, medium to high lime soils developed in glacial till. The dominant series are the well drained Ontario (35%) the moderately well drained Hilton (25%) the somewhat poorly drained Appleton (10%) and the poorly drained Lyons (10%).

The site is located on an Akron-Doldstone formation. The beds vary from a few inches to over a foot in thickness. In texture, the rock is fine grained but rugged and roughweathering. The approximate depth to bedrock in this vicinity is 35 feet.

SAMPLE ANALYSES

The soil and water samples were analyzed for heavy metals and halogenated organics. The results of the analyses are attached.

The soil sample for Station #2 contained high concentrations of arsenic, lead and zinc. For Station #5, the sample contained high concentrations lead, zinc and halogenated organics. All three water samples contained moderate amounts of arsenic and detectable amounts of zinc.

DISCUSSION OF RESULTS

Facility representatives stated that they observed leachate in the area of Station #4. No leachate was observed at this station during this inspection. The disposal of water contaminated with paint would account for the high concentration of lead in the soil sample at Station #2. There was a high concentration of arsenic in the soil sample at Station #2, and moderate concentrations in all three water samples. According to documents submitted by the facility to the interagency task force, arsenic is not used in any of their processes. It is possible that it was deposited by the previous owner - Buffalo Arms.

The company drilled a gas well through the landfill area. They stated that no problem was encountered either in the drilling or the bulldozing of this site.

This site is above the 100 year flood level. It has been classified as code "A" meaning further field inspection, preliminary hydrogeological information and/or additional information on chemicals present is needed.

RECOMMENDATION

It is possible that this landfill could contaminate groundwater in the area. Therefore, it is recommended that the site be covered with clay and graded to discourage leachate generation.

Handwritten notes:
Area of site to be covered with clay
and graded to discourage leachate generation
See attached map for location of site

HOUDAILLES INDUSTRIES - STRIPPIT DIVISION

Soil Analyses

<u>COMPOUND</u>	<u>UNITS</u>	<u>#1</u>	<u>#2</u>	<u>#3</u>	<u>#4</u>	<u>#5</u>
Antimony	ug/g dry	10	< 40	< 5	< 7	< 6
Arsenic	ug/g dry	5.5	190	2.4	14	8.2
Beryllium	ug/g dry	< 0.3	< 2	< 0.3	< 0.4	< 0.3
Cadmium	ug/g dry	0.39	< 9	< 0.1	0.44	1.2
Chromium	ug/g dry	11	18	5.7	8.8	31
Copper	ug/g dry	14	40	36	15	59
Lead	ug/g dry	19	140	21	19	100
Mercury	ug/g dry	< 0.3	< 2	< 0.2	< 0.3	0.68
Nickel	ug/g dry	15	35	12	23	29
Selenium	ug/g dry	< 0.6	< 3	0.35	< 0.2	0.7
Silver	ug/g dry	< 0.3	< 2	< 0.3	< 0.4	< 0.3
Thallium	ug/g dry	< 3	< 20	< 3	< 4	< 3
Zinc	ug/g dry	110	360	21	91	1,000
Dry Weight	%	88	16	66	82	41
Halogenated Organic Scan	ug/g dry as Cl ₂ , Lindane Std.	< 0.5	< 0.5	9.5	< 0.5	26

Water Analyses

<u>COMPOUND</u>	<u>UNITS</u>	<u>SAMPLE LOCATIONS - Station #</u>		
		<u>#2</u>	<u>#3</u>	<u>#5</u>
Antimony	mg/l	< 0.2	< 0.2	< 0.2
Arsenic	ug/l	42	23	24
Beryllium	mg/l	< 0.01	< 0.01	< 0.01
Cadmium	mg/l	< 0.005	< 0.005	< 0.005
Chromium	mg/l	< 0.005	< 0.005	< 0.005
Copper	mg/l	< 0.006	< 0.006	< 0.006
Lead	mg/l	< 0.04	< 0.04	< 0.04
Mercury	ug/l	< 3	< 3	< 3
Nickel	mg/l	< 0.02	0.07	< 0.02
Selenium	ug/l	8.9	10	< 5
Silver	mg/l	< 0.01	< 0.01	< 0.01
Thallium	mg/l	< 0.1	< 0.1	< 0.1
Zinc	mg/l	0.039	0.063	0.167
Halogenated Organic Scan	ug/l as Cl ₂ Lindane Std.	< 0.3	< 0.3	< 0.3

STIPIT DIV. - HOUDAILLE IND.

12-15-81

STATION #1 - soil sample in cut field east side of filled AREA

STATION #2 - WATER & silt sample from ditch paralleling Rail Road bed along south side of track - off south east cor.

STATION #3 - WATER & silt sample from ditch paralleling Rail Road bed along south side of track - off south west cor. of filled area

STATION #4 - Soil sample at south west cor. of parking lot

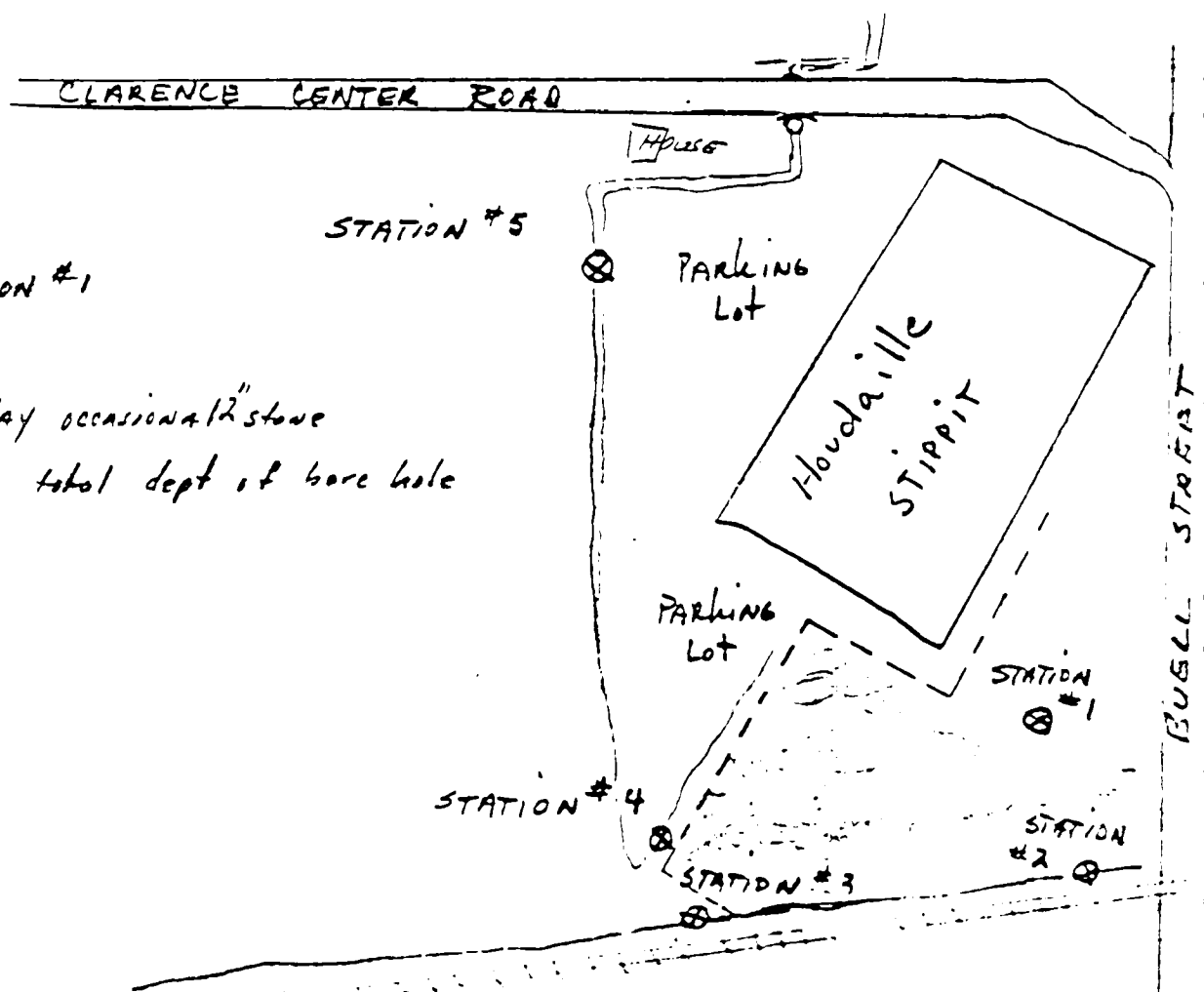
STATION #5 - WATER & silt sample from ditch draining north side of fill AREA AND parking lot

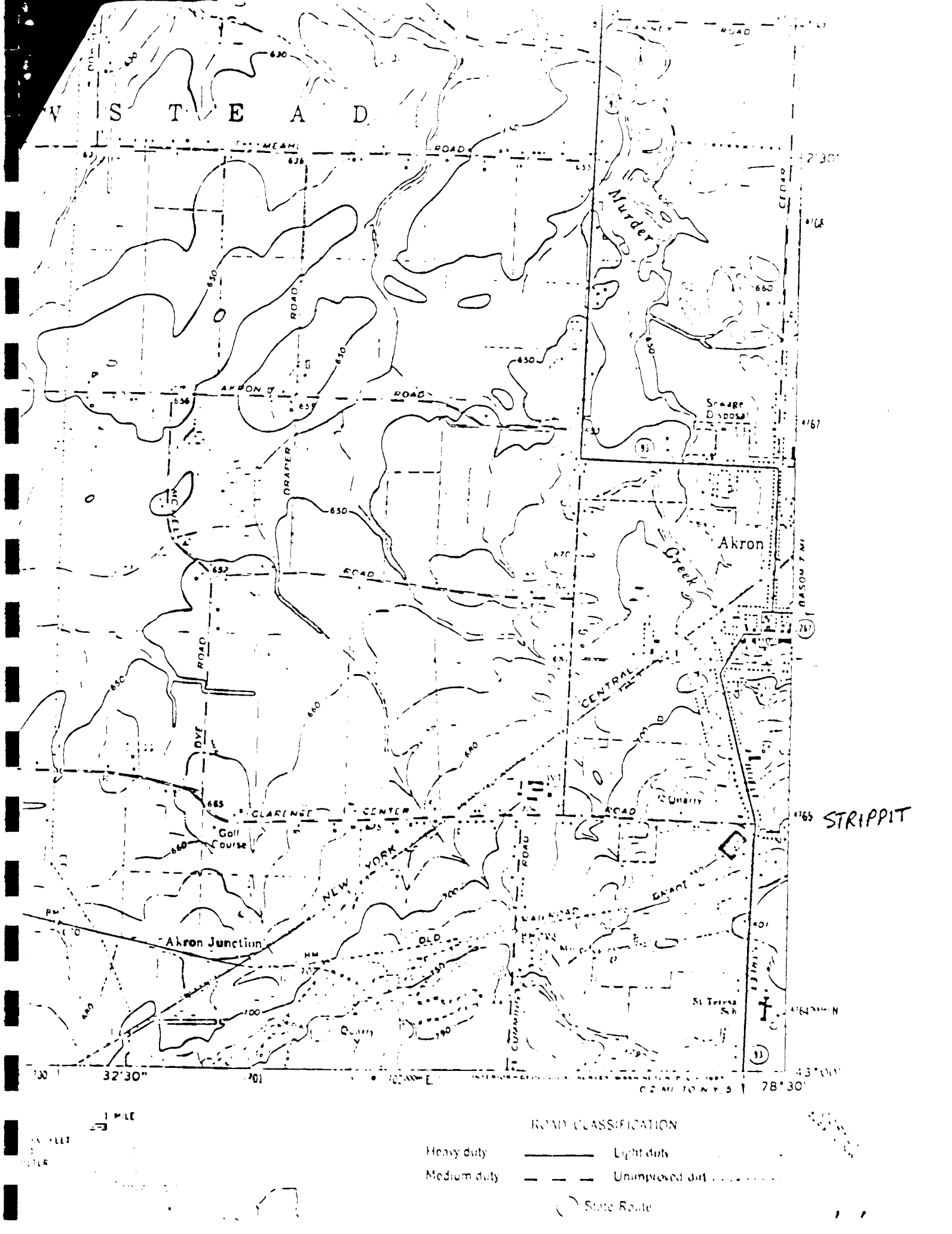
BORE Hole #1 STATION #1

9" Top soil

4'3" silty Clay occasional 12" stone

@ 5' obstruction total dept of bore hole





REFERENCE 12

INTERAGENCY TASK FORCE ON HAZARDOUS WASTES
M.P.O. Box 561
Niagara Falls, New York 14302
(716) 285-3057

NOV 07 1978

I. General Information

1. Company Name STRIPPIT, Division of Houdaille Ind., Inc.

Mailing Address 12975 Clarence Center Rd., Akron, New York 14001
Street City State Zip

Present Plant Location ☒ Same as Above

Street City State Zip

2. If Subsidiary or Division, Name of Parent Company Houdaille Industries, Inc.

3. Person Responsible for Present Plant Operations Mr. Kenneth L. Slawson
Name
President 542-4511
Title Telephone

4. Person Answering this Questionnaire Kenneth Bartha
Name
Method's Engineer 741-3772
Title Telephone

II. Company History

1. Date Company Founded December 16, 1925
Date and State of Incorporation December 16, 1925 New York
Date Company Began Operations in Erie or Niagara County December 16, 1925

2. Other Company Names since 1930 (specify time periods)
Buffalo Alarm Clock Casing Co. 1925-35
Wales Stripit Corporation 1935-56
Stripit Corporation 1956-Present

3. Other Plant Locations in Erie or Niagara County since 1930 (specify locations and time periods)
Niagara Street, Buffalo, N.Y. 1935-42
North Tonawanda, New York 1942-56

4. Names of Companies Acquired which have Operated Plants in Erie or Niagara County since 1930 (specify name of company, date of acquisition, location of plant, and periods of operation).
Houdaille Electronics
11200 Main Street, Clarence, N.Y. 1965-Present

III. Company Personnel

1. Identify all plant managers from 1930 to present. Indicate years of service in that position, last known address and telephone number.
2. Identify all plant purchasing agents from 1930 to present. Indicate years of service in that position, last known address and telephone number.
3. Identify all plant personnel with supervisory responsibility for treatment or disposal of industrial wastes from 1930 to present. Indicate years of service, last known address and telephone number.

IV. Industrial Waste Production, Treatment and Disposal1. Processes Used at Plant (1930-1975)Dates

- | | |
|---|-----------------------|
| a. <u>Heat Treat Tool Steels</u> | a. <u>1956 - 1975</u> |
| b. <u>Coolants & Cutting Oils for Machining</u> | b. <u>1956 - 1975</u> |
| c. <u>Degreasing Parts</u> | c. <u>1956 - 1975</u> |
| d. <u>Boiler Treatment Solutions</u> | d. <u>1956 - 1975</u> |
| e. <u>Painting of Machines & Parts</u> | e. <u>1956 - 1975</u> |

2. Products (1930-1975)

- | | |
|--|-----------------------|
| a. <u>Heat Treat Sludge</u> | a. <u>1956 - 1975</u> |
| <u>Cutting Oil Compounds and</u> | |
| b. <u>Cutting Coolants Water Soluble</u> | b. <u>1956 - 1975</u> |
| c. <u>Chlorinated Solvents</u> | c. <u>1956 - 1975</u> |
| d. <u>Alkaline Cleaners</u> | d. <u>1956 - 1975</u> |
| e. <u>Paint Thinners</u> | e. <u>1956 - 1975</u> |

3. On Site Waste Treatment (1930-1975)

- | | |
|---|-----------------------|
| a. <u>Incinerate all combustibles</u> | a. <u>1956 - 1970</u> |
| <u>Buried all non-combustibles on</u> | |
| b. <u>refuse disposal site.</u> | b. <u>1956 - 1975</u> |
| <u>Diluted alkaline cleaners and</u> | |
| c. <u>disposed of in sanitary sewer.</u> | c. <u>1956 - 1974</u> |
| d. <u>Coolant dumped on refuse disposal site.</u> | d. <u>1956 - 1975</u> |
| <u>Oil compounds collected in holding tank.</u> | e. <u>1968 - 1975</u> |

4. List all Waste Haulers since 1930 Including Your Company

Name Strippit, Division of Houdaille Industries, Inc.

Address 12975 Clarence Center Road Akron, New York

Street City State

Telephone 542-4511

Name Buffalo Waste Oil Service

Address 76 Robinson Street, North Tonawanda, New York

Street City State

Telephone 693-0861

5. Identify all Treatment or Disposal Sites in Erie or Niagara County used since 1930 (use separate sheet for each site).

a. Name of Site Lancaster Sanitary Landfill

b. Location Lancaster, New York

c. Owner or Operator Mr. Thomas Shipston

d. Time Period Site was Used _____

e. Describe Waste Types Treated or Disposed at this Site

	Physical State	Total Quantity	Type of Container, If Any
(1) <u>Garbage</u>	<u>Solid</u>	<u>450 cu.yds (1 Year)</u>	<u>Bulk Compactor</u>
(2) <u>Heat Treat Sludge</u>	<u>Solid</u>	<u>3 ton/yr.</u>	<u>10-15 drums 55 gal. drums</u>
(3) <u>Coolant</u>	<u>Liquid</u>	<u>20,000 gals. (1 Year)</u>	<u>Bulk</u>
(4) _____	_____	_____	_____
(5) _____	_____	_____	_____

f. Wastes Were ☒ land disposed ☐ incinerated ☐ reclaimed
☐ treated ☐ other (specify) _____

g. Names of waste haulers including your company transporting such wastes to this site, if a disposal site.

Strippit (See address on Page 1) 542-4511
Rural Sanitation 759-8391
 Name Telephone

5040 Hillcrest Drive Clarence New York
 Street City State

Time Periods such Hauler Transported to this Site 1975 - 1978

Niagara Sanitation 693-5185
 Name Telephone

262 Woodward Avenue, Kenmore, New York
 Street City State

Time Periods such Hauler Transported to this Site 1975 - 1978

h. List Names and Addresses of other Companies using this Site, if a disposal site.

NONE
 Name of Company

Street City State

Time Periods such Other Company Used this Site _____

V. Sources of Information

Please indicate the sources of all information set forth in response to Questions IV. 4 and IV. 5 above. (Specify names of individuals and sources).

Robert Webster, Maintenance Supervisor

George MacFadyen, Director of Purchasing

REFERENCE 13

0022-C

02-8704-12

NUS CORPORATION

TELECON NOTE

CONTROL NO:

02-8704-12

DATE:

Sept. 10, 1987

TIME:

11:48

DISTRIBUTION:

Houdaille Industries
(Communications)

BETWEEN:

John Whitney

OF:

SCS, U.S.D.A., E. Aurora
Office, N.Y.

PHONE:

(716) 652-8480

AND:

Joseph Bryan Gebler

(NUS)

DISCUSSION:

I introduced myself and inquired about irrigation in and around the area of interest. Mr. Whitney informed me that he doesn't believe there is any irrigation within the 3-mile radius focused about Clarence Center Road and Buell Street (Route 93).

ACTION ITEMS:

REFERENCE 14

ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES

PHASE I INVESTIGATION

Houdaille Industries-Strippit Division
Village of Akron

Site No. 915053
Erie County

Date: May 1985



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

HOUDAILLE INDUSTRIES STRIPPIT DIVISION
NYS SITE NUMBER 915053
TOWN OF AKRON
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

Prepared By

ENGINEERING-SCIENCE
290 ELWOOD DAVIS ROAD
LIVERPOOL, NEW YORK 13088

In Association With

DAMES & MOORE
2996 BELGIUM ROAD
BALDWINVILLE, NEW YORK 13027

DATE OF SUBMITTAL
MAY 1985

SECTION I

EXECUTIVE SUMMARY

HOUDAILLE INDUSTRIES STRIPPIT DIVISION

This report, prepared for the New York State Department of Environmental Conservation (NYSDEC), presents the results of the Phase I investigation of the Houdaille Industries Strippit Division site (NYS Number Site 915053, EPA Site Number D039115621) located in Akron, Erie County, New York (see Figure I-1).

SITE BACKGROUND

This site was owned by Wales Strippit Corporation from 1935 to 1956 and by Houdaille Industries Strippit Division from 1956 to present. From 1956 to 1979, approximately 20,000 gals/yr of cutting oils, coolants and degreasing solvents, 3 tons/yr of heat treatment sludge, and 450 cubic yards/yr of refuse were disposed of in a two-acre area on-site. Combustible solvents and cutting oils from plant operations were disposed of by on-site burning during this period. However, residues of trichloroethylene solvents and non-combustible phenolic-based (prior to mid 1960's) coolants are suspected to be present in the disposal area (NYSDEC, 1978). In 1979, the disposal area was covered with approximately 5 feet of clean fill from on-site during the expansion of the Houdaille plant. A NYSDEC Hazardous Waste Investigation found significant concentrations of arsenic, lead, zinc, chromium, and halogenated organics in soil samples, however, the samples were collected outside of the landfill and may not be indicative of constituents in the fill. Analysis of surface water samples collected from the drainage ditch along the western and northern perimeter of the landfill found no evidence of surface water contamination.

ASSESSMENT

The preliminary HRS score was:

$S_M = 14.62$

$S_A = 0$

$S_{GW} = 24.87$

$S_{FE} = 0$

$S_{SW} = 4.62$

$S_{DC} = 0$

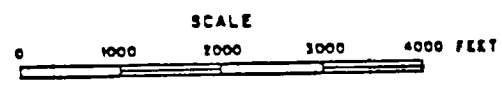
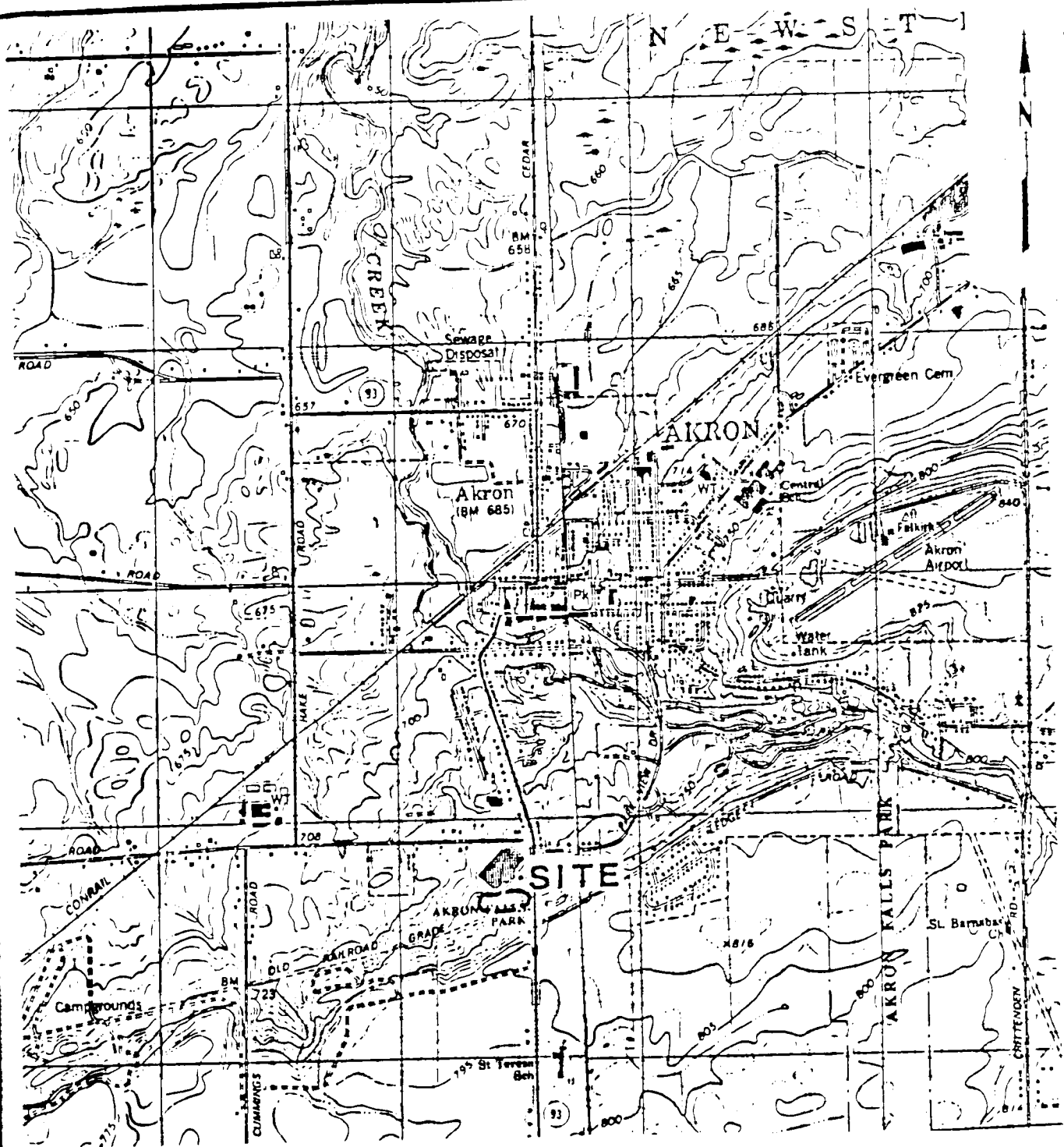
These scores are based on both shallow soil and deep bedrock aquifers. The groundwater migration score reflects the toxic nature of the landfill waste; the surface water migration score reflects the observed release of contaminants in the on-site stream.

RECOMMENDATIONS

The following recommendations are made for completion of Phase II:

- o Geophysical study consisting of electrical resistivity survey.
- o Groundwater monitoring system consisting of one upgradient and two downgradient wells.
- o Surface water and sediment monitoring system consisting of two monitoring stations.
- o Sample analyses to include priority pollutants.

The estimated man-hour requirements to complete Phase II are 746, while the estimated cost is \$49,606.



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

NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION
PHASE I REPORT

SITE LOCATION MAP
HOUDAILLE INDUSTRIES
(STRIPIIT DIV.)

REFERENCE 15

CONTROL NO

DATE

TIME

12-30-88

~1430

DISTRIBUTION

Houdaille Industries

02-8704-12

BETWEEN

various persons
(see below)

OF:

NYSDEC

PHONE

S. Mooradian

(716) 372-8676

AND:

J. B. Gebler

VUS.

DISCUSSION:

Info. on S.W. use of Murder Cr.

1.) Dan Judd, division of surface water: possible use by farmers to fill farm ponds; Class D stream not used for drinking or food processing; possibly natural aesthetic; good water quality; possibly kids use for swimming; esthetic uses because flows thru park; not stocked w/ fish; trib. of Tonawanda Creek; Tonawanda Cr. is part of Barge Canal → boat usage

2.) Mark Candel (Wildlife Bio.): no endangered or threatened spp.; beaver & ducks (possibly duck hunting); trapping for muskrat does occur

3.) ~~Angling Use~~ ^{12/30/88} J.B.G. Mike Wilkerson (847-4550) (fisheries biologist)
- very little known since minor trib.; - figures must see some angling use; - v. good chance of salmonids in spring & fall since trib. to trib. of Great Lakes

ACTION ITEMS:

4.) Steve Mooradian (Regional Fisheries Manager); little known trib. - last survey was in Aug. 1928; trib 1 of 11 to Tonawanda Cr.; 1928 survey found some smallmouth bass; - Steve M. thought possibly some bass & maybe northern pike since trib to Tonawanda Creek.

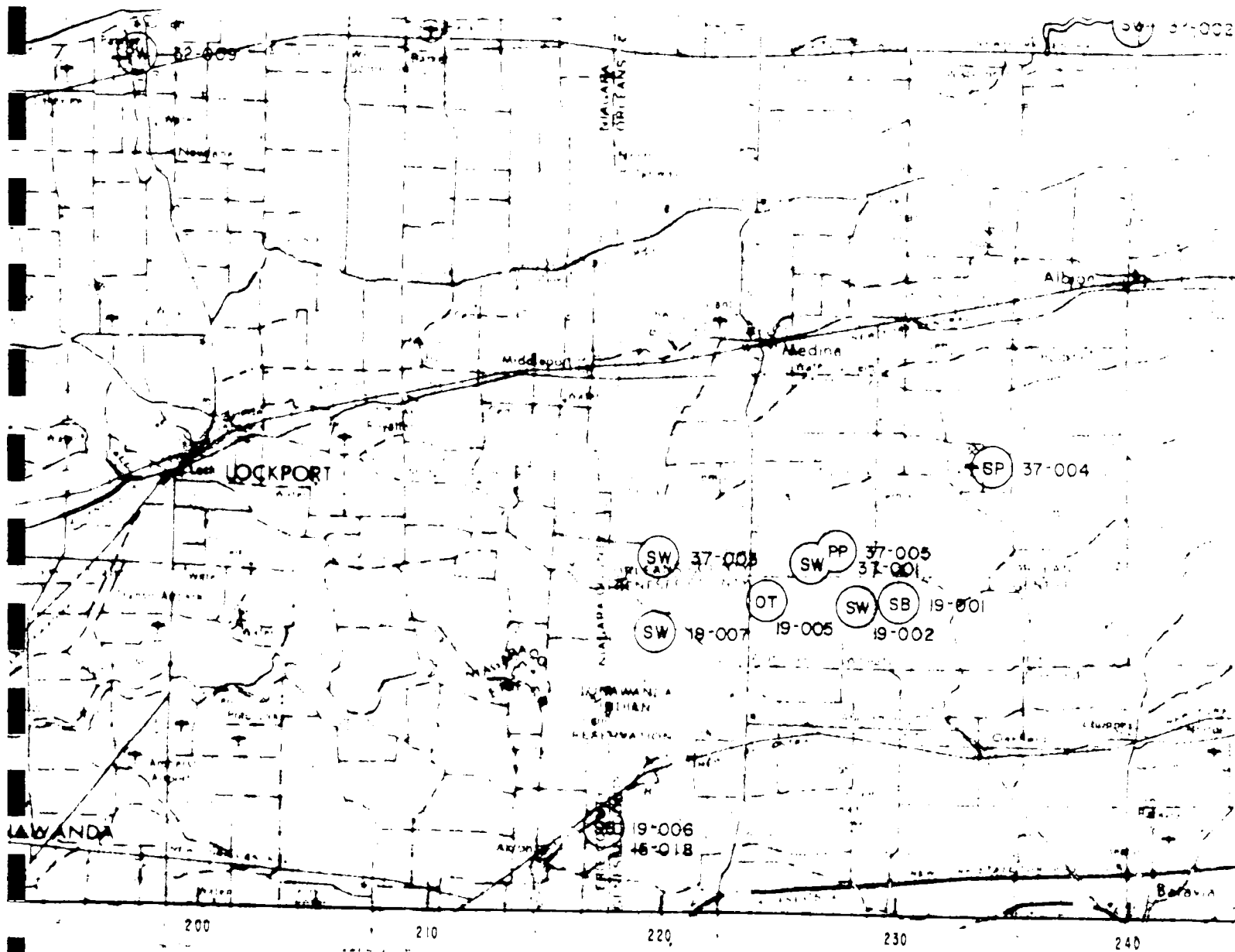
REFERENCE 16



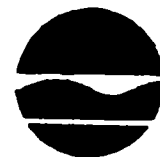
New York State Atlas of Community Water System Sources 1982

**NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL PROTECTION
BUREAU OF PUBLIC WATER SUPPLY PROTECTION**

REFERENCE 17



SIGNIFICANT HABITAT OVERLAY NO. 1 OF 2
 NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
 DIVISION OF FISH AND WILDLIFE
 BUREAU OF WILDLIFE



PREPARED FOR: SIGNIFICANT HABITAT UNIT
 WILDLIFE RESOURCES CENTER
 DELMAR, NEW YORK 12034
 (518) 457-5782

PREPARED BY: HABITAT INVENTORY UNIT

QUAD: TORONTO

SCALE: 1:250,000

AUG. ST. 1980

REVISED: 11/6/85

REFERENCE 18

Houdaille Industries

Lat: 43°00'45"N

Long: 78°31'00"W

Data List of Dataset: NYS9

Number of Records = 6

REC #	POP	HOUSE	DISTANCE	SECTOR
1	0	0	0.400000	1
2	0	0	0.810000	1
3	0	0	1.600000	1
4	5323	1910	3.200000	1
5	1848	576	4.800000	1
6	939	309	6.400000	1

GEMS INCORRECT : House Count w/i 1 mile
equals 755, thus

$$755 \times 3.8 (\text{persons/house}) = \underline{\underline{2869}}$$

- House Count w/i 2 miles = 1296 total house,

$$\therefore \text{pop.} = 4925$$

- House Count w/i 3 miles = 1683 total houses,

$$\text{thus pop} = 6395$$

REFERENCE 19

NUS CORPORATION
SUPERFUND DIVISION

PROJECT NOTES

TO: MOBILE INDUSTRIES REPORT-52 DATE: 1/11/89
TODD NO. 02-8704-12

FROM: E. LEONARD COPIES:

SUBJECT: THREE-MILE VICINITY MAP

REFERENCE: LOCATION

The Three-Mile Vicinity Map is located in
the back of the report.

Leonard 1/11/89

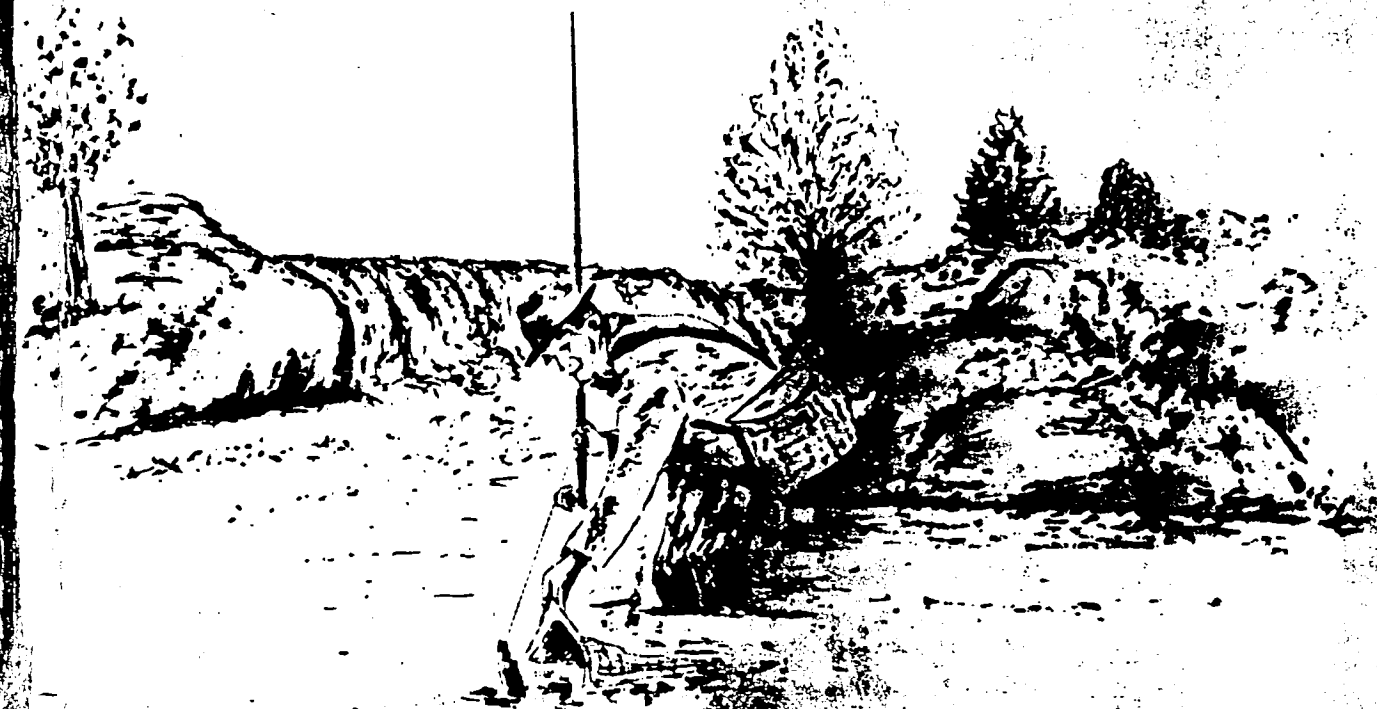
REFERENCE 20



208 WATER QUALITY MANAGEMENT PROGRAM

Report 13

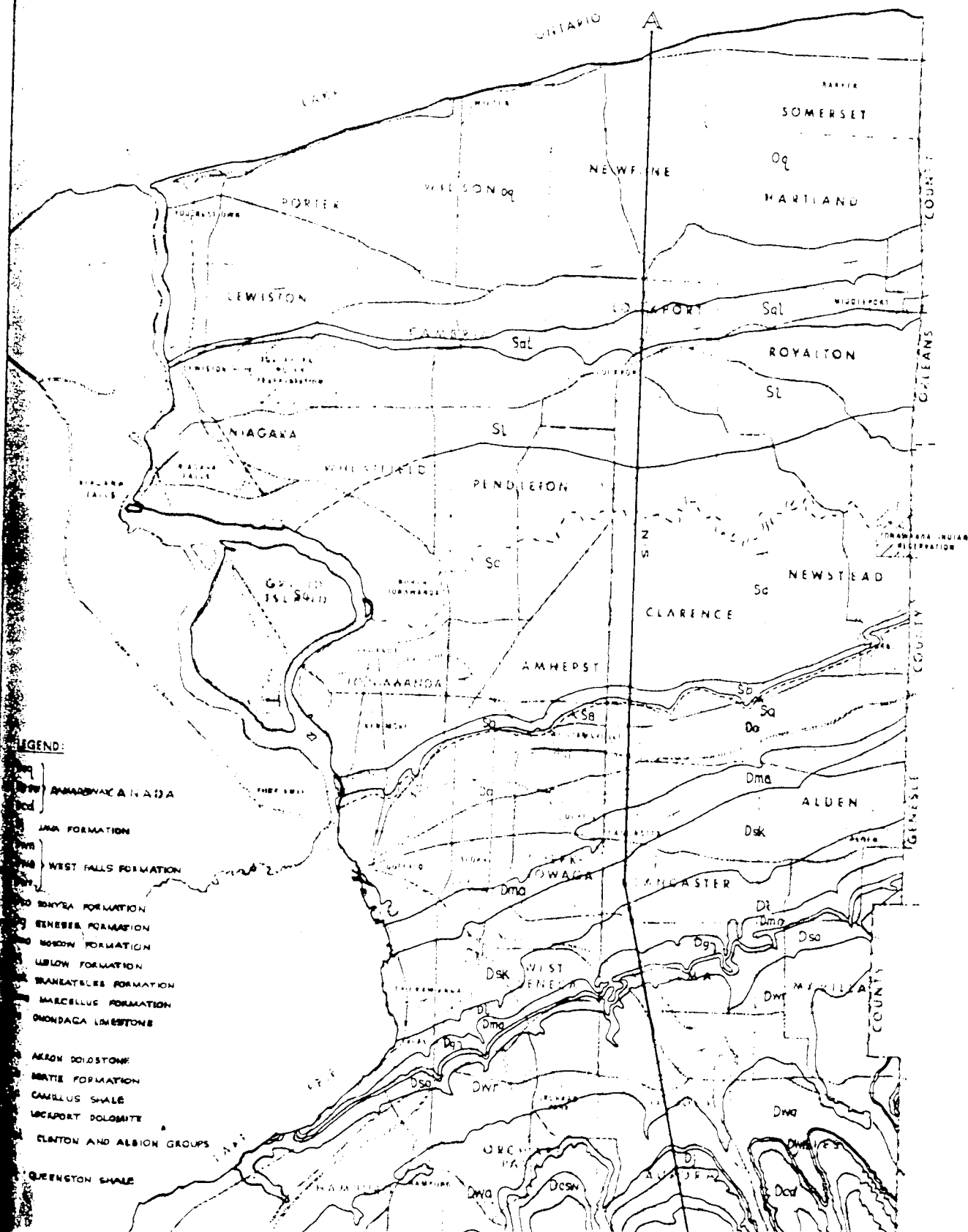
GROUND WATER PROBLEMS / ANALYSIS



ERIE AND NIAGARA COUNTIES REGIONAL PLANNING BOARD

OCTOBER 1978

GENERALIZED GEOLOGIC MAP



This formation is hydrologically unique among the shale units in the region. Normally, because of its fine grain size and compact nature, shale does not yield much water to wells (typically less than 5 gpm). The Camillus Shale, however, is a significant water-bearing unit in this area due to the large amounts of gypsum contained in the formation. Because of its highly soluble nature, gypsum is easily removed by percolating ground waters, resulting in solution openings which are capable of storing large amounts of water.

This means, of course, that, like the Lockport Dolomite, water is found in localized zones within the unit rather than throughout the entire extent and thickness of the formation. Some of the thicker beds of gypsum may be expected to have a lateral extent of 3 to 4 miles.

Water reaches these zones by percolation through vertical fractures. The situation is therefore similar to the Lockport Dolomite, in which the primary function of vertical fractures is for recharge. Yields of successful wells tapping the Camillus Shale range from 300 gpm to 1,200 gpm. These large yields are due to the large amounts of water which are contained in the solution openings of the formation.

Ground water flow through the aquifer is toward Tonawanda Creek which is the major discharge point for this formation (Figure 13-5). Because of pumping effects, induced infiltration is occurring from Sawyer Creek along localized reaches.

Normal transmissibility values (T), range from 40,000 to 70,000 gpd/ft. In some areas, T is as low as 7,000 gpd/ft. This wide range in values is not dependent upon geographic location, but rather is a function of whether a given well intersects significant water-bearing openings. Low T-values can be expected where openings are not intersected.

D. LIMESTONE UNIT

For hydrologic purposes, the Bertie, Akron, and Onondaga Formations can be collectively considered as a single aquifer, herein referred to as the Limestone Unit.

The total thickness of this southward dipping unit is roughly 174 feet, but variations occur locally. The composition, from the base to the top, consists of dolomite, dolomitic limestone with interbedded shale, greenish-grey and buff dolomite, limestone and cherty limestone.

The water-bearing characteristics are similar to the Lockport Dolomite. The greater solubility of this unit, however, has resulted in a more pronounced solution widening of the fractures. Principal zones of discharge are at the base of the unit where it contacts the Camillus shale, and a shaly zone about 20 feet above the base.

Information for the yield to wells of this aquifer is limited, but generally they can be expected to be larger than the Lockport Dolomite. Yields of 300 gpm and more have been reported.

Transmissibility values (t) may be as low as 300 gpd/ft in areas where water-bearing joints are few. More commonly, however, T-values range from 4,000 gpd/ft to 25,000 gpd/ft.

REFERENCE 21

ANALYTICAL DATA

NAME: HURDAILLE INDUSTRIES

SAMPLING DATE: 5/20/87

CASE NUMBER: 7312

VOLATILES

SAMPLE NUMBER	NYS9-S1	NYS9-S2	NYS9-S3	NYS9-S4	NYS9-S5	NYS9-GW1	NYS9-GW2	NYS9-SW1	NYS9-SED1	NYS9-R1
TRAFFIC REPORT NUMBER	RJ 868	RJ 869	RJ 870	RJ 871	RJ 882	RJ 872	RJ 873	RJ 875	RJ 878	RJ 881
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	WATER	WATER	WATER	SOIL	WATER
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/L	UG/L	UG/L	UG/KG	UG/L
Chloroethane										
Bromoethane										
Vinyl Chloride										
Chloroethane										
Methylene Chloride	9	143	5	26	J	58	52	66	12	
Acetone		0				0	0		0	0
Carbon Disulfide										
1,1-Dichloroethene										
1,1-Dichloroethane										
Trans-1,2-Dichloroethene										
Chloroform								38		
1,2-Dichloroethane										
2-Butanone										
1,1,1-Trichloroethane						0		33		
Carbon Tetrachloride										
Vinyl Acetate										
Bromodichloromethane								6		
1,1,2,2-Tetrachloroethane										
1,2-Dichloropropane										
Trans-1,3-Dichloropropene										
Trichloroethene					J					
Dibromochloromethane										
1,1,2-Trichloroethane										
Benzene										
Cis-1,3-Dichloropropene										
2-Chloroethylvinylether										
Bromoform										
2-Hexanone										
4-Methyl-2-Pentanone										
Tetrachloroethene					J					
Toluene		7		7	J	J	J	J	9	
Chlorobenzene										
Ethylbenzene										
Styrene										
Total Xylenes										

NOTES TO ORGANICS DATA:

Blank space - compound analyzed for but not detected

0 - analysis did not pass EPA OA/OC requirements

J - compound present below specified detection limits,
value is an estimateR - compound found in laboratory blank as well as the sample,
and indicates possible/probable blank contamination

NR - analysis not required

ANALYTICAL DATA

NAME: HOUDAILLE INDUSTRIES

SAMPLING DATE: 5/20/87

CASE NUMBER: 7312

SEMI-VOLATILES

SAMPLE NUMBER	NYS9-S1	NYS9-S2	NYS9-S3	NYS9-S4	NYS9-S5	NYS9-GW 1	NYS9-GW 2	NYS9-SW	NYS9-SED	NYS9-BL
TRAFFIC REPORT NUMBER	BJ 868	BJ 869	BJ 870	BJ 871	BJ 882	BJ 872	BJ 873	BJ 875	BJ 878	BJ 881
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	WATER	WATER	WATER	SOIL	WATER
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/L	UG/L	UG/L	UG/KG	UG/L
Phenol										
Bis(2-Chloroethyl)Ether										
2-Chlorophenol										
1,3-Dichlorobenzene										
1,4-Dichlorobenzene										
Benzyl Alcohol										
1,2-Dichlorobenzene										
2-Methylphenol										
Bis(2-Chloroisopropyl)Ether										
4-Methylphenol										
N-Nitroso-Di-n-Propylamine										
Hexachloroethane										
Nitrobenzene										
Isophorone										
2-Nitrophenol										
2,4-Dimethylphenol										
Benzoic Acid										
Bis(2-Chloroethoxy)Methane										
2,4-Dichlorophenol										
1,2,4-Trichlorobenzene										
Naphthalene					961					
4-Chloroaniline										
Hexachlorobutadiene										
4-Chloro-3-Methylphenol										
2-Methylnaphthalene					1396					
Hexachlorocyclopentadiene										
2,4,6-Trichlorophenol										
2,4,5-Trichlorophenol										
2-Chloronaphthalene										
2-Nitroaniline										
Dimethyl Phthalate										
Acenaphthylene									J	
3-Nitroaniline										
Acenaphthene		536							J	
2,4-Dinitrophenol										
4-Nitrophenol										
Dibenzofuran										
2,4-Dinitrotoluene										
2,6-Dinitrotoluene										
Diethylphthalate										
4-Chlorophenylophenyl ether										
Fluorene	J	494							J	
4-Nitroaniline										
4,6-Dinitro-2-Methylphenol										
N-Nitrosodiphenylamine										
4-Bromophenylophenyl ether										
Hexachlorobenzene										
Pentachlorophenol										
Phenanthrene	2620	6158			871				1653	
Anthracene	475	1185							J	

ANALYTICAL DATA

NAME: HOUDAILLE INDUSTRIES

SAMPLING DATE: 5/20/87

CASE NUMBER: 7312

SEMI VOLATILES

SAMPLE NUMBER	NYS9-S1	NYS9-S2	NYS9-S3	NYS9-S4	NYS9-S5	NYS9-GW	NYS9-GW	NYS9-GW	NYS9-GW	NYS9-GW	NYS9-BL
TRAFFIC REPORT NUMBER	BJ868	BJ 869	BJ 870	BJ 871	BJ 882	BJ 872	BJ 873	BJ 875	BJ 878	BJ 881	
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	WATER	WATER	WATER	SOIL	WATER	
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/L	UG/L	UG/L	UG/KG	UG/L	
Di-n-Butylphthalate		3310		J							
Fluoranthene	3549	9491			944				2980		
Pyrene	2748	6818			754				1645		
Butylbenzylphthalate					0				0		
3,3'-Dichlorobenzidine											
Benzo(a)Anthracene		3495			535				1023		
Is(2-Ethylhexyl)Phthalate	0	0		0	0		J		0		
Chrysene	1277	2978			592				389		
Di-n-Detyl Phthalate		0		0	0				0		
Benzo(b)Fluoranthene	855				890				1514		
Benzo(k)Fluoranthene		4072									
Benzo(a)Pyrene	946	2326			1890				876		
Indeno(1,2,3-cd)Pyrene	749	1519			7				808		
Dibenzo(a,h)Anthracene		350							J		
Benzo(ghi)Perylene	747	1542							800		

NOTES TO ORGANICS DATA:

Blank space - compound analyzed for but not detected

0 - analysis did not pass EPA QA/QC requirements

J - compound present below specified detection limits,
value is an estimateB - compound found in laboratory blank as well as the sample,
and indicates possible/probable blank contamination

NR - analysis not required

ANALYTICAL DATA
NAME: HOUDAILLE INDUSTRIES
SAMPLING DATE: 5/20/87
CASE NUMBER: 7312

PESTICIDES/PCBs

SAMPLE NUMBER	NYS9-S1	NYS9-S2	NYS9-S3	NYS9-S4	NYS9-S5	NYS9-S6	11NYS9-S6	21NYS9-S6	11NYS9-S6D	11NYS9-S6L	11
TRAFFIC REPORT NUMBER	BJ868	BJ 869	BJ 870	BJ 871	BJ 882	BJ 872	BJ 873	BJ 875	BJ 878	BJ 881	
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	WATER	WATER	WATER	SOIL	WATER	
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/L	UG/L	UG/L	UG/KG	UG/L	
Alpha-BHC											
Beta-BHC											
Delta-BHC											
Gamma-BHC (Lindane)											
Heptachlor											
Aldrin											
Heptachlor Epoxide											
Endosulfan I											
Dieldrin											
4,4'-DDE											
Endrin											
Endosulfan II											
4,4'-DDD											
Endosulfan sulfate											
Endrin Aldehyde											
4,4'-DDT											
Methoxychlor											
Endrin Ketone											
Chlordane											
Toxaphene											
Aroclor-1016											
Aroclor-1221											
Aroclor-1232											
Aroclor-1242											
Aroclor-1248											
Aroclor-1254			244.0	2770							
Aroclor-1260											

NOTES TO ORGANICS DATA:

Blank space - compound analyzed for but not detected
Q - analysis did not pass EPA QA/QC requirements
J - compound present below specified detection limits,
value is an estimate
B - compound found in laboratory blank as well as the sample,
and indicates possible/probable blank contamination
NR - analysis not required

ANALYTICAL DATA
 NAME: HERDRAILLE INDUSTRIES
 SAMPLING DATE: 5/20/87
 CASE NUMBER: 7312

INORGANICS

SAMPLE NUMBER	MYS9-S1	MYS9-S2	MYS9-S3	MYS9-S4	MYS9-S5	MYS9-GW 1	MYS9-GW 2	MYS9-GW 3	MYS9-SED1	MYS9-BL 1
TRAFFIC REPORT NUMBER	MBK418	MBK419	MBK420	MBK421	MBK422	MBK423	MBK424	MBK425	MBK429	MBK432
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	WATER	WATER	WATER	SOIL	WATER
UNITS	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	UG/L	UG/L	UG/L	MG/KG	UG/L
Aluminum	4680E	9670E	7140E	8100E	2920E	142	1180	356	6940	
Antimony							173			
Arsenic		12.31	5.4E	3.6E	28E				15.51	
Barium	136	2940	1050	863	300			1941	1980	
Beryllium										
Cadmium							18			
Calcium	85900	59400	92700	27100	17000	399000	14151	20400	224000	11061
Chromium	0	0	0	0	0		35		0	
Cobalt		15.21		16.21	16.11		127			
Copper	52E	23E	16E	405E	31E		30	1241	127E	
Iron	32500	17200	11900	44600	24700	5550		411	12100	1631
Lead	51	85	27	60	35		141		19E	
Magnesium	20100E	15800E	6720E	12300E	1790E	57300		6240	14200E	
Manganese	470	920	410	575	418	0		0	480	57
Mercury						0	0	0		0
Nickel	19E	19E		45E	19E		46			
Potassium	11020	2590	11020	1840	15531	117301	110001	113701	113001	
Selenium										
Silver				2.4E			44			
Sodium		12051	11251	15041	12571	8600		13200		
Thallium				0.22						
Vanadium	19.81	18	111	24	1141		1341			
Zinc	136	294	98	259	42				946	

NOTES TO INORGANICS DATA:

Blank space - compound analyzed for but not detected

0 - analysis did not pass EPA QA/QC requirements

11 - compound present below specified detection limits,
 value is an estimate

B - compound found in laboratory blank as well as the sample and
 indicates possible/probable blank contamination

E - value estimated due to laboratory interference

NR - analysis not required

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

Date 6-26-87

COVER PAGE
INORGANIC ANALYSES DATA PACKAGE

Lab Name CENTURY LABORATORIES

Case No. 7312

SOW No. 715

Q.C. Report No. 036

Sample Numbers

EPA No.	Lab ID No.	EPA No.	Lab ID No.
<u>MBK-432</u>	<u>0035-01</u>	<u>MBK-423</u>	<u>0035-09</u>
<u>MBK-418</u>	<u>-05</u>	<u>MBK-424</u>	<u>-10</u>
<u>MBK-419</u>	<u>-03</u>		
<u>MBK-426</u>	<u>-04</u>		
<u>MBK-429</u>	<u>-05</u>		
<u>MBK-420</u>	<u>-06</u>		
<u>MBK-441</u>	<u>-07</u>		
<u>MBK-422</u>	<u>-08</u>		

Comments:

ICP interelement and background corrections applied? Yes ☒ No ☐.

If yes, corrections applied before ☒ or after ☐ generation of raw data.

Footnotes:

NR - Not required by contract at this time

Form 1:

Value - If the result is a value greater than or equal to the instrument detection limit but less than the contract-required detection limit, report the value in brackets (i.e., [10]). Indicate the analytical method used with P (for ICP), A (for Flame AA) or F (for Furnace AA).

U - Indicates element was analyzed for but not detected. Report with the instrument detection limit value (e.g., 10U).

E - Indicates a value estimated or not reported due to the presence of interference. Explanatory note included on cover page.

S - Indicates value determined by Method of Standard Addition.

N - Indicates spike sample recovery is not within control limits.

* - Indicates duplicate analysis is not within control limits.

+ - Indicates the correlation coefficient for method of standard addition is less than 0.995

M - Indicates duplicate injection results exceeded control limits.

Indicate method used: P for ICP; A for Flame AA and F for Furnace.

U.S. EPA Contract Laboratory Program
 Sample Management Office
 P.O. Box 616 - Alexandria, VA 22313
 703/557-2490 FTS: 6-557-2490

EPA Sample No.

MBK-417

Date 6-24-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME - CENTURY LABORATORIESCASE NO. 7312SOW NO. 212Lab Receipt Date 05-24-87LAB SAMPLE ID. NO. 0034-07QC REPORT NO. 036

Elements Identified and Measured

Concentration:

Low ☒Medium ☐Matrix: Water ☐Soil ☒Sludge ☐Other ☐ug/L or mg/kg dry weight (Circle One)

1. Aluminum	4610 P J	13. Magnesium	20,100 P J
2. Antimony	134 P J	14. Manganese	470 P
3. Arsenic	1.14 F S J	15. Mercury	0.14
4. Barium	126 P	16. Nickel	19 P J
5. Beryllium	1.1 P U J	17. Potassium	[1020] P
6. Cadmium	1.14 P J	18. Selenium	0.434 F J
7. Calcium	85,900 P	19. Silver	2.10 P J
8. Chromium	22 P	20. Sodium	1074 P
9. Cobalt	2.14 P	21. Thallium	0.214 F
10. Copper	52 P J	22. Vanadium	[9.6] P
11. Iron	32,900 P	23. Zinc	136 P
12. Lead	51 F	Percent Solids (%)	92.69
Cyanide	NA		

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments:

disk fail

Lab Manager

Kenneth Bond

U.S. EPA Contract Laboratory Program
 Sample Management Office
 P.O. Box 816 - Alexandria, VA 22313
 703/557-2490 FTS: 6-557-2490

EPA Sample No.

MBK-49

Date 6-26-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME CENTURY LABORATORIES

CASE NO. 7312

SOW NO. 70

Lab Receipt Date 05-24-87

LAB SAMPLE ID. NO. 0035-03

QC REPORT NO. 036

Elements Identified and Measured

Concentration: Low ☒ Medium ☐
 Matrix: Water ☐ Soil ☒ Sludge ☐ Other ☐

ug/L or mg/kg dry weight (Circle One)

1. Aluminum	9670P J	13. Magnesium	15200P J
2. Antimony	174P J	14. Manganese	920P
3. Arsenic	[2.77]F5 J	15. Mercury	0.1M
4. Barium	2940P	16. Nickel	19P J
5. Beryllium	1.44P J	17. Potassium	2590P
6. Cadmium	1.44P J	18. Selenium	0.524F J
7. Calcium	59400P	19. Silver	2.94P J
8. Chromium	30P	20. Sodium	[205]P
9. Cobalt	[5.2]P J	21. Thallium	0.244F
10. Copper	23P J	22. Vanadium	14P
11. Iron	17200P	23. Zinc	294P
12. Lead	85F	Percent Solids (%)	105.29
Cyanide	NA		

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: dark soil

Lab Manager

Kenneth Bond

U.S. EPA Contract Laboratory Program
 Sample Management Office
 P.O. Box 616 - Alexandria, VA 22313
 703/557-2490 FTS: 6-557-2490

EPA Sample No.

MBK-420

Date 6-26-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME CENTURY LABORATORIESCASE NO. 7312SOW NO. 704Lab Receipt Date 05-24-87LAB SAMPLE ID. NO. 0055-06QC REPORT NO. 036

Elements Identified and Measured

Concentration: Low ☒ Medium ☐
 Matrix: Water ☐ Soil ☒ Sludge ☐ Other ☐

ug/L or ug/kg dry weight (Circle One)

1. Aluminum	7140P	J	13. Magnesium	6720P	J
2. Antimony	154P	J	14. Manganese	410P	
3. Arsenic	5.4F	J	15. Mercury	0.1M	
4. Barium	1050P		16. Nickel	5.04P	
5. Beryllium	1.24P	J	17. Potassium	[1070]P	
6. Cadmium	1.24P	J	18. Selenium	0.474F	J
7. Calcium	92700P		19. Silver	2.54P	J
8. Chromium	43P		20. Sodium	[125]P	
9. Cobalt	2.54P		21. Thallium	0.244F	
10. Copper	16P	J	22. Vanadium	[11]P	
11. Iron	11900P		23. Zinc	98P	
12. Lead	27FS		Percent Solids (%)	71.49	
Cyanide	NA				

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: dark soil

Lab Manager

[Signature]

Form I

U.S. EPA Contract Laboratory Program
 Sample Management Office
 P.O. Box 616 - Alexandria, VA 22313
 703/557-2490 FTS: 6-557-2490

EPA Sample No.

MBK-421

Date 6-26-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME CENTURY LABORATORIESCASE NO. 7312SOW NO. 78Lab Receipt Date 05-24-87LAB SAMPLE ID. NO. 0035-07QC REPORT NO. 036

Elements Identified and Measured

Concentration: Low ☒ Medium ☐
 Matrix: Water ☐ Soil ☒ Sludge ☐ Other ☐

ug/L or ng/kg dry weight (Circle One)

1. Aluminum	8100P J	13. Magnesium	12300P J
2. Antimony	144P J	14. Manganese	575P
3. Arsenic	3.6F5 J	15. Mercury	0.1M
4. Barium	863P	16. Nickel	45P J
5. Beryllium	1.24P J	17. Potassium	1440P
6. Cadmium	1.24P J	18. Selenium	2.04F J
7. Calcium	27,100P	19. Silver	2.4P J
8. Chromium	756P	20. Sodium	15047P
9. Cobalt	262JP J	21. Thallium	0.22
10. Copper	405P J	22. Vanadium	24P
11. Iron	44600P	23. Zinc	259P
12. Lead	60F	Percent Solids (%)	85.17
Cyanide	NA		

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: dark soil

Lab Manager

Kenneth Bond

U.S. EPA Contract Laboratory Program
 Sample Management Office
 P.O. Box 616 - Alexandria, VA 22313
 703/557-2490 FTS: 8-557-2490

EPA Sample No.

MBL-422

Date 6-26-17

INORGANIC ANALYSIS DATA SHEET

LAB NAME CENTURY LABORATORIES

CASE NO. 7312

SOW NO. 7H

Lab Receipt Date 05-24-17

LAB SAMPLE ID. NO. 0035-05

QC REPORT NO. 036

Elements Identified and Measured

Concentration: Low ☒ Medium ☐
 Matrix: Water ☐ Soil ☒ Sludge ☐ Other ☐

ug/L or mg/kg dry weight (Circle One)

1. Aluminum	2920 P J	13. Magnesium	1790 P J
2. Antimony	204 P J	14. Manganese	414 P
3. Arsenic	25 F+ J	15. Mercury	0.14
4. Barium	300 P	16. Nickel	19 P J
5. Beryllium	1.74 P J	17. Potassium	[553] P
6. Cadmium	1.74 P J	18. Selenium	0.634 F J
7. Calcium	17000 P	19. Silver	3.44 P J
8. Chromium	10 P	20. Sodium	[257] P
9. Cobalt [6.1] [6.1] P J		21. Thallium	0.324 F
10. Copper	31 P J	22. Vanadium	[14] P
11. Iron	24700 P	23. Zinc	42 P
12. Lead	35 F	Percent Solids (%)	59.69
Cyanide	NA		

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments:

dark soil

Lab Manager

Kerrie Bond

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 816 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No.

116K-423

Date 11-24-17

INORGANIC ANALYSIS DATA SHEET

LAB NAME CENTEX LABORATORIES

CASE NO. 7512

SOW NO. 7H

Lab Receipt Date 05-24-17

LAB SAMPLE ID. NO. 0035-09

QC REPORT NO. 036

Elements Identified and Measured

Concentration: Low ☒ Medium ☐
Matrix: Water ☒ Soil ☐ Sludge ☐ Other ☐

ug/L or mg/kg dry weight (Circle One)

1. Aluminum	<u>42TP</u>	13. Magnesium	<u>57300P</u>
2. Antimony	<u>60UP</u>	14. Manganese	<u>96P</u>
3. Arsenic	<u>5.0UF</u>	15. Mercury	<u>0.3P</u>
4. Barium	<u>20UP</u>	16. Nickel	<u>20UP</u>
5. Beryllium	<u>5.0UP</u>	17. Potassium	<u>1730TP</u>
6. Cadmium	<u>5.0UP</u>	18. Selenium	<u>2.0UF</u> J
7. Calcium	<u>399000P</u>	19. Silver	<u>10UP</u>
8. Chromium	<u>10UP</u>	20. Sodium	<u>2600P</u>
9. Cobalt	<u>10UP</u>	21. Thallium	<u>1.0UP</u>
10. Copper	<u>10UP</u>	22. Vanadium	<u>10UP</u>
11. Iron	<u>5550P</u>	23. Zinc	<u>10UP</u>
12. Lead	<u>1.0UF</u>	Percent Solids (%)	<u>NA</u>
Cyanide	<u>NA</u>		

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments:

Clear Liquid

Lab Manager

Kenneth Bond

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. box 616 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No.

MSK-424

Date 6-26-17

INORGANIC ANALYSIS DATA SHEET

LAB NAME CENEX LABORATORIES

CASE NO. 7512

SOW NO. 75

Lab Receipt Date 05-24-17

LAB SAMPLE ID. NO. 0035-10

QC REPORT NO. 036

Elements Identified and Measured

Concentration: Low ☒ Medium ☐
Matrix: Water ☒ Soil ☐ Sludge ☐ Other ☐

ug/L or mg/kg dry weight (Circle One)

1. Aluminum <u>1100P</u>	13. Magnesium <u>100UP</u>
2. Antimony <u>173P</u>	14. Manganese <u>5.0UP</u>
3. Arsenic <u>5.0UP</u>	15. Mercury <u>2.2UP</u>
4. Barium <u>20UP</u>	16. Nickel <u>46P</u>
5. Beryllium <u>5.0UP</u>	17. Potassium <u>1000TP</u>
6. Cadmium <u>1UP</u>	18. Selenium <u>2.0UP</u>
7. Calcium <u>415TP</u>	19. Silver <u>44P</u>
8. Chromium <u>35P</u>	20. Sodium <u>500UP</u>
9. Cobalt <u>127TP</u>	21. Thallium <u>1.0UP</u>
10. Copper <u>30P</u>	22. Vanadium <u>34TP</u>
11. Iron <u>60UP</u>	23. Zinc <u>10UP</u>
12. Lead <u>4.07E</u>	Percent Solids (%) <u>NA</u>
Cyanide <u>NA</u>	

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Clear liquid

Lab Manager

Kenneth Bond

U.S. EPA Contract Laboratory Program
 Sample Management Office
 P.O. Box 616 - Alexandria, VA 22313
 703/557-2490 FTS: 6-557-2490

EPA Sample No.

MBK-426

Date 6-26-17

INORGANIC ANALYSIS DATA SHEET

LAB NAME CENTEX LABORATORIESCASE NO. 7312SOW NO. 72Lab Receipt Date 05-24-17LAB SAMPLE ID. NO. 0035-04QC REPORT NO. 036

Elements Identified and Measured

Concentration: Low ✓ Medium
 Matrix: Water ✓ Soil Sludge Other

(u/L or mg/kg dry weight (Circle One))

1. Aluminum	356P	13. Magnesium	6260P
2. Antimony	604P	14. Manganese	54P
3. Arsenic	5.04F	15. Mercury	0.24
4. Barium	[947]P	16. Nickel	204P
5. Beryllium	5.04P	17. Potassium	[1,370]P
6. Cadmium	5.04P	18. Selenium	2.204FJ
7. Calcium	20400P	19. Silver	104P
8. Chromium	104P	20. Sodium	13200P
9. Cobalt	104P	21. Thallium	1.04F
10. Copper	[24]P	22. Vanadium	104P
11. Iron	411P	23. Zinc	104P
12. Lead	1.04F	Percent Solids (%)	NA

Cyanide NA

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments:

Clear liquid

Lab Manager

Kenneth Bond

U.S. EPA Contract Laboratory Program
 Sample Management Office
 P.O. Box 81b - Alexandria, VA 22313
 703/557-2490 FTS: 6-557-2490

EPA Sample No.

MBK-429

Date 6-26-17

INORGANIC ANALYSIS DATA SHEET

LAB NAME CENTURY LABORATORIES

CASE NO. 7312

SOW NO. 78

Lab Receipt Date 05-24-17

LAB SAMPLE ID. NO. 0035-05

QC REPORT NO. 036

Elements Identified and Measured

Concentration:

Low ☒Medium ☐Matrix: Water ☐Soil ☒Sludge ☐Other ☐ug/L or mg/kg dry weight (Circle One)

1. Aluminum	6940P	13. Magnesium	14200P J
2. Antimony	46UP T	14. Manganese	430P
3. Arsenic	23.57F	15. Mercury	0.14
4. Barium	1940P	16. Nickel	15UP
5. Beryllium	3.8UP	17. Potassium	213007P
6. Cadmium	3.8UP	18. Selenium	1.45U J
7. Calcium	224000P	19. Silver	7.6UP J
8. Chromium	37P	20. Sodium	382UP
9. Cobalt	7.6UP	21. Thallium	0.68UF
10. Copper	127P J	22. Vanadium	7.6UP
11. Iron	12100P	23. Zinc	946P
12. Lead	192F	Percent Solids (%)	24.72

Cyanide

NA

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments:

dark soil

Lab Manager

Kerrie Bond

U.S. EPA Contract Laboratory Program
 Sample Management Office
 P.O. Box 818 - Alexandria, VA 22313
 703/557-2490 FTS: 6-557-2490

EPA Sample No.

MRK-45✓

Date 6-26-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME CENTURY LABORATORIESCASE NO. 7312SOW NO. 78Lab Receipt Date 05-24-87LAB SAMPLE ID. NO. 0035-01QC REPORT NO. 036

Elements Identified and Measured

Concentration: Low ☒ Medium ☐
 Matrix: Water ☒ Soil ☐ Sludge ☐ Other ☐

(ug/L or mg/kg dry weight (Circle One))

1. Aluminum	20UP	13. Magnesium	100UP
2. Antimony	60UP	14. Manganese	57P
3. Arsenic	5.0UP	15. Mercury	0.2UP
4. Barium	20UP	16. Nickel	20UP
5. Beryllium	5.0UP	17. Potassium	500UP
6. Cadmium	5.0UP	18. Selenium	2.0UP-3
7. Calcium	[106]P	19. Silver	10UP
8. Chromium	10UP	20. Sodium	500UP
9. Cobalt	10UP	21. Thallium	1.0UP
10. Copper	10UP	22. Vanadium	-10UP
11. Iron	[63]P	23. Zinc	10UP
12. Lead	1.0UP	Percent Solids (%)	NA
Cyanide	NA		

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments:

Clear liquid

Lab Manager

Kenneth Bond

Organics Analysis Data Sheet
(Page 1)

Laboratory Name SOUTHWEST LABORATORY OF OKLA. Case No: 7312
Lab Sample ID No 2127/12287 OC Report No: _____
Sample Matrix SOIL Contract No: 68-01-7168/1A 68-01-7168/2A
Data Release Authorized By: Jayant Shringarpure Date Sample Received 05-21-87

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared N/A
Date Analyzed 05-22-87
Conc/Dil Factor: 1 pH 7.6
Percent Moisture (Not Decanted) 7.6

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	10 U
74-83-9	Bromomethane	10 U
75-01-4	Vinyl Chloride	10 U
75-00-3	Chloroethane	10 U
75-09-2	Methylene Chloride	7 5 U
64-1	Acetone	10 U
75-15-0	Carbon Disulfide	5 U
75-35-4	1, 1-Dichloroethane	5 U
75-34-3	1, 1-Dichloroethane	5 U
156-60-5	Trans-1, 2-Dichloroethane	5 U
67-66-3	Chloroform	5 U
107-06-2	1, 2-Dichloroethane	5 U
78-93-3	2-Butanone	10 U
71-55-6	1, 1, 1-Trichloroethane	5 U
56-23-5	Carbon Tetrachloride	5 U
106-05-4	Vinyl Acetate	10 U
75-27-4	Bromodichloromethane	5 U

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1, 2-Dichloropropane	5 U
10061-02-6	Trans-1, 3-Dichloropropene	5 U
79-01-6	Trichloroethene	5 U
124-48-1	Dibromochloromethane	5 U
79-00-5	1, 1, 2-Trichloroethane	5 U
71-43-2	Benzene	5 U
10061-01-9	cis-1, 3-Dichloropropene	5 U
110-75-8	2-Chloroethylvinylether	10 U
75-25-2	Bromoform	5 U
591-78-6	4-Methyl-2-Pentanone	10 U
108-10-1	2-Hexanone	10 U
127-18-4	Tetrachloroethene	5 U
79-34-5	1, 1, 2, 2-Tetrachloroethane	5 U
108-88-3	Toluene	5 U
108-90-7	Chlorobenzene	5 U
100-41-4	Ethylbenzene	5 U
100-42-5	Styrene	5 U
	Total Xylenes	5 U

Data Reporting Qualifiers

For reporting results to EPA the following results qualifiers are used
Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum estimate detection limit for the sample.

Estimates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g., 10U). If limit of detection is 10 ug/l and a concentration of 3 ug/l is calculated, report as 3U.

C This flag applies to pesticide parameters where the identification has been confirmed by GC MS. Single component pesticides 2:10 ug/l in the final extract should be confirmed by GC MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible greenhouse contamination and during the data use, to take appropriate action.

Other Other specific flags and footnotes may be required to provide further the results. If used they must be full, be explicit and such description attached to the data summary report.

Laboratory Name SOUTHWEST LABORATORY OF OKLA.Case No. 7312Contract # 68-01-7168/1A 68-01-7168/2AOrganics Analysis Data Sheet
(Page 2)

Sample Number

BJ 868

Semivolatile Compounds

Concentration: Low Medium (Circle One)Date Extracted/Prepared 05-28-87Date Analyzed 06-24-87Conc/Dil Factor: 4 5Percent Moisture (Decanted) 7.6GPC Cleanup ☐ Yes ☒ NoSeparatory Funnel Extraction ☐ YesContinuous Liquid-Liquid Extraction ☐ Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	330 U
111-44-4	bis(2-Chloroethyl)Ether	330 U
95-57-8	2-Chlorophenol	330 U
541-73-1	1,3-Dichlorobenzene	330 U
106-46-7	1,4-Dichlorobenzene	330 U
100-51-6	Benzyl Alcohol	330 U
95-50-1	1,2-Dichlorobenzene	330 U
98-7	2-Methylphenol	330 U
338-32-9	bis(2-chloroisopropyl)Ether	330 U
106-44-5	4-Methylphenol	330 U
621-64-7	N-Nitroso-Di-n-Propylamine	330 U
67-72-1	Hexachloroethane	330 U
98-95-3	Nitrobenzene	330 U
78-59-1	Isophorone	330 U
88-75-5	2-Nitrophenol	330 U
105-67-8	2,4-Dimethylphenol	330 U
65-85-0	Benzoic Acid	1600 U
111-91-1	bis(2-Chloroethoxy)Methane	330 U
120-83-2	2,4-Dichlorophenol	330 U
120-82-1	1,2,4-Trichlorobenzene	330 U
91-20-3	Naphthalene	330 U
106-47-8	4-Chloroaniline	330 U
87-68-3	Hexachlorobutadiene	330 U
59-50-7	4-Chloro-3-Methylphenol	330 U
91-67-6	2-Methylnaphthalene	330 U
77-47-4	Hexachlorocyclopentadiene	330 U
88-06-2	2,4,6-Trichlorophenol	330 U
85-85-4	2,4,6-Trichlorophenol	1600 U
91-88-7	2-Chloronaphthalene	330 U
88-74-4	2-Nitroaniline	1600 U
131-11-3	Dimethyl Phthalate	330 U
208-96-8	Acenaphthylene	330 U
8	2-Nitroaniline	1600 U

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	330 U
51-28-5	2,4-Dinitrophenol	1600 U
100-02-7	4-Nitrophenol	1600 U
132-64-9	Dibenzofuran	330 U
121-14-2	2,4-Dinitrotoluene	330 U
606-20-2	2,6-Dinitrotoluene	330 U
84-86-2	Diethylphthalate	330 U
7005-72-3	4-Chlorophenyl-phenylether	330 U
86-73-7	Fluorene	2107 330 U
100-01-6	4-Nitroaniline	1600 U
534-82-1	4,6-Dinitro-2-Methylphenol	1600 U
86-90-6	N-Nitrosodiphenylamine (1)	330 U
101-85-3	4-Bromophenyl-phenylether	330 U
118-74-1	Hexachlorobenzene	330 U
87-86-5	Pentachlorophenol	1600 U
95-01-8	Phenanthrene	2620 330 U
120-12-7	Anthracene	475 330 U
84-74-2	Di-n-Butylphthalate	330 U
206-44-0	Fluoranthene	3549 330 U
128-00-0	Pyrene	2748 330 U
85-88-7	Butylbenzylphthalate	330 U
91-94-1	3,3-Dichlorobenzidine	660 U
56-55-3	Benzo(a)Anthracene	330 U
117-81-7	bis(2-Ethylhexyl)Phthalate	330 U
218-01-9	Chrysene	1277 330 U
117-84-0	Di-n-Octyl Phthalate	330 U
205-99-2	Benzo(b)Fluoranthene	855 330 U
207-08-9	Benzo(k)Fluoranthene	330 U
50-32-8	Benzo(a)Pyrene	946 330 U
183-39-5	Indeno(1,2,3-cd)Pyrene	749 330 U
53-70-3	Dibenz(a,h)Anthracene	330 U
181-24-2	Benzo(a,h)Perylene	747 330 U

(1) Cannot be separated from diphenylamine

Form I

value reported for 7-85
Benzo(B) + (h) fluoranthene

Laboratory Name SOUTHWEST LABORATORY OF OKLAHOMACase No 7312Contract # 68-01-7168/1A or 2A

Organics Analysis Data Sheet

(Page 3)

Sample Number

B5868

Pesticide/PCBs

Concentration Low Medium (Circle One)Date Extracted/Prepared 5-28-87Date Analyzed 6-13-87Conc/Dil Factor 1Percent Moisture (decanted) 7.6GPC Cleanup ☐ Yes ☒ NoSeparatory Funnel Extraction ☐ YesContinuous Liquid-Liquid Extraction ☐ YesCAS
Numberug/l or ug/Kg
(Circle One)

319-84-6	Alpha BHC	8.0 U
319-85-7	Beta BHC	8.0 U
319-86-8	Delta BHC	8.0 U
56-89-9	Gamma BHC (Lindane)	8.0 U
76-44-8	Heptachlor	8.0 U
309-00-2	Aldrin	8.0 U
1024-57-3	Heptachlor Epoxide	8.0 U
959-98-8	Endosulfan I	8.0 U
60-57-1	Dieldrin	16.0 U
72-55-9	4,4-DDE	16.0 U
72-20-8	Endrin	16.0 U
33213-65-9	Endosulfan II	16.0 U
72-54-8	4,4-DDD	16.0 U
1031-07-8	Endosulfan Sulfate	16.0 U
50-29-3	4,4-DDT	16.0 U
72-43-5	Methoxychlor	80.0 U
53494-70-5	Endrin Ketone	16.0 U
57-74-9	Chlordane	80.0 U
8001-35-2	Toxaphene	160.0 U
12674-11-2	Aroclor-1016	80.0 U
11104-28-2	Aroclor-1221	80.0 U
11141-16-5	Aroclor-1232	80.0 U
53469-21-9	Aroclor-1242	80.0 U
12672-29-6	Aroclor-1248	80.0 U
11097-69-1	Aroclor-1254	160.0 U
11096-82-5	Aroclor-1260	160.0 U

 V_i = Volume of extract injected (ul) V_e = Volume of water extracted (ml) W_s = Weight of sample extracted (g) V_t = Volume of total extract (ul) V_e _____ W_s 30.04 V_i 20000 V_t 5

Organics Analysis Data Sheet
(Page 1)

7312

Laboratory Name SOUTHWEST LABORATORY OF OKLA.

Case No:

Lab Sample ID No 2133 / 12288

QC Report No:

Sample Matrix SOILContract No: 68-01-7168/1A 68-01-7168/2AData Release Authorized By: Jayant ShringarpureDate Sample Received 05-21-87

Volatile Compounds

Concentration: Low Medium (Circle One)Date Extracted/Prepared N/ADate Analyzed 05-22-87Conc/Dil Factor: 1 pH 7Percent Moisture (Not Decanted) 24.5CAS
Numberug/l or ug/Kg
(Circle One)

74-87-3	Chloromethane	10 U
74-83-9	Bromomethane	10 U
75-01-4	Vinyl Chloride	10 U
75-00-3	Chloroethane	10 U
09-2	Methylene Chloride	143 5 U
64-1	Acetone	10 U
75-15-0	Carbon Disulfide	5 U
75-35-4	1, 1-Dichloroethane	5 U
75-34-3	1, 1-Dichloroethane	5 U
156-80-5	Trans-1, 2-Dichloroethane	5 U
67-66-3	Chloroform	5 U
107-06-2	1, 2-Dichloroethane	5 U
78-93-3	2-Butanone	10 U
71-85-6	1, 1, 1-Trichloroethane	5 U
56-23-5	Carbon Tetrachloride	5 U
106-05-4	Vinyl Acetate	10 U
75-27-4	Bromodichloromethane	5 U

CAS
Numberug/l or ug/Kg
(Circle One)

78-87-5	1, 2-Dichloropropane	5 U
10061-02-6	Trans-1, 3-Dichloropropane	5 U
79-01-6	Trichloroethene	5 U
124-48-1	Dibromochloromethane	5 U
79-00-5	1, 1, 2-Trichloroethane	5 U
71-43-2	Benzene	5 U
10061-01-5	cis-1, 3-Dichloropropane	5 U
110-75-8	2-Chloroethylvinylether	10 U
75-25-2	Bromoform	5 U
591-78-6	4-Methyl-2-Pentanone	10 U
108-10-1	2-Hexanone	10 U
127-18-4	Tetrachloroethene	5 U
79-34-5	1, 1, 2, 2-Tetrachloroethane	5 U
108-86-3	Toluene	7 5 U
108-90-7	Chlorobenzene	5 U
100-41-4	Ethylbenzene	5 U
100-42-5	Styrene	5 U
	Total Xylenes	5 U

Data Reporting Qualifiers

For reporting results to EPA the following results qualifiers are used
Additional flags or footnotes explaining results are encouraged. However, the
definition of each flag must be explicit.

- Value** If the result is a value greater than or equal to the detection limit report the value
- U** Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U to g. 10U based on necessary concentration (dilution factor). (This is not necessarily the instrument detection limit). The footnote should read: (U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample)
- ~** Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g. 10U). If limit of detection is 10 ug/l and a concentration of 3 ug/l is calculated report as 3U

- C** This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides 2:10 ug/l or in the final extract should be confirmed by GC/MS
- B** This flag is used when the analyte is found in the blank as well as a sample. It indicates possible laboratory blank contamination and warns the data user to take appropriate action
- Other** Other specific flags and footnotes may be required to properly define the results. If used they must be fully described and such description attached to the data summary report

Laboratory Name SOUTHWEST LABORATORY OF OKLA.Case No. 7312Contract # 68-01-7168/1A 68-01-7168/2AOrganics Analysis Data Sheet
(Page 2)

Sample Number

BJ 869

Semivolatile Compounds

Concentration: Low Medium (Circle One)Date Extracted / Prepared: 05-28-87Date Analyzed 06-24-87Conc/Dil Factor: 45Percent Moisture (Decanted) 24.5GPC Cleanup ☐ Yes ☒ NoSeparatory Funnel Extraction ☒ YesContinuous Liquid-Liquid Extraction ☐ Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	330 U
111-44-4	bis(2-Chloroethyl)Ether	330 U
95-57-8	2-Chlorophenol	330 U
541-73-1	1,3-Dichlorobenzene	330 U
106-46-7	1,4-Dichlorobenzene	330 U
100-51-6	Benzyl Alcohol	330 U
95-50-1	1,2-Dichlorobenzene	330 U
48-7	2-Methylphenol	330 U
638-32-9	bis(2-chloroisopropyl)Ether	330 U
106-44-5	4-Methylphenol	330 U
621-64-7	N-Nitroso-Di-n-Propylamine	330 U
67-72-1	Hexachloroethane	330 U
98-95-3	Nitrobenzene	330 U
78-59-1	Isophorone	330 U
88-75-5	2-Nitrophenol	330 U
105-67-8	2,4-Dimethylphenol	330 U
65-85-0	Benzoic Acid	1600 U
111-91-1	bis(2-Chloroethoxy)Methane	330 U
120-83-2	2,4-Dichlorophenol	330 U
120-82-1	1,2,4-Trichlorobenzene	330 U
81-20-3	Naphthalene	330 U
106-47-8	4-Chloroaniline	330 U
87-68-3	Hexachlorobutadiene	330 U
59-50-7	4-Chloro-3-Methylphenol	330 U
91-87-6	2-Methylnaphthalene	330 U
77-47-4	Hexachlorocyclopentadiene	330 U
88-06-2	2,4,6-Trichlorophenol	330 U
95-85-4	2,4,6-Trichlorophenol	1600 U
91-88-7	2-Chloronaphthalene	330 U
88-74-4	2-Nitroaniline	1600 U
131-11-3	Dimethyl Phthalate	330 U
96-8	Acenaphthylene	330 U
97-59-2	3-Nitroaniline	1600 U

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	596 330 U
51-28-5	2,4-Dinitrophenol	1600 U
100-02-7	4-Nitrophenol	1600 U
132-64-9	Dibenzofuran	330 U
121-14-2	2,6-Dinitrotoluene	330 U
606-20-2	2,6-Dinitrotoluene	330 U
84-86-2	Diethylphthalate	330 U
7005-72-3	4-Chlorophenyl-phenylether	330 U
86-73-7	Fluorene	494 330 U
100-01-8	4-Nitroaniline	1600 U
634-82-1	4,6-Dinitro-2-Methylphenol	1600 U
86-30-8	N-Nitrosodiphenylamine (1)	330 U
101-85-3	4-Bromophenyl-phenylether	330 U
118-74-1	Hexachlorobenzene	330 U
87-86-6	Pentachlorophenol	1600 U
95-01-8	Phenanthrene	6158 330 U
120-12-7	Anthracene	1185 330 U
84-74-2	Di-n-Butylphthalate	3316 330 U
206-44-0	Fluoranthene	9491 330 U
128-00-0	Pyrene	6818 330 U
85-88-7	Butylbenzylphthalate	330 U
91-94-1	3,3-Dichlorobenzidine	660 U
56-55-3	Benzo(a)Anthracene	3495 330 U
117-81-7	bis(2-Ethylhexyl)Phthalate	330 U
218-01-9	Chrysene	2978 330 U
117-84-0	Di-n-Octyl Phthalate	18513 330 U
205-99-2	Benzo(b)Fluoranthene	330 U
207-08-8	Benzo(k)Fluoranthene	4072 330 U
50-32-8	Benzo(a)Pyrene	2326 330 U
183-39-5	Indeno(1,2,3-cd)Pyrene	1519 330 U
53-70-3	Dibenzo(h)Anthracene	350 330 U
191-24-2	Benzo(g,h,i)Perylene	1542 330 U

(1) Cannot be separated from diphenylamine

Total for Benz(a)P (B) & (K) 1600000

Laboratory Name SOUTHWEST LABORATORY OF OKLAHOMACase No. 7312Contract # 68-01-7168/1A or 2A

Organics Analysis Data Sheet

(Page 3)

Sample Number

BJS869

Pesticide/PCBs

Concentration

Low

Medium (Circle One)

GPC Cleanup ☐ Yes ☒ No

Date Extracted/Prepared

5-28-87Separatory Funnel Extraction ☐ Yes

Date Analyzed

6-13-87Continuous Liquid-Liquid Extraction ☐ Yes

Conc/Dil Factor

10

Percent Moisture (decanted)

24.5CAS
Numberug/l or ug/Kg
(Circle One)

319-84-6	Alpha BHC	8.0 U
319-85-7	Beta BHC	8.0 U
319-86-8	Delta BHC	8.0 U
55-89-9	Gamma BHC (Lindane)	8.0 U
76-44-8	Heptachlor	8.0 U
309-00-2	Aldrin	8.0 U
1024-57-3	Heptachlor Epoxide	8.0 U
959-98-8	Endosulfan I	8.0 U
60-57-1	Dieldrin	16.0 U
72-55-9	4,4'-DDE	16.0 U
72-20-8	Endrin	16.0 U
33213-65-9	Endosulfan II	16.0 U
72-54-8	4,4'-DDD	16.0 U
1031-07-8	Endosulfan Sulfate	16.0 U
50-29-3	4,4'-DDT	16.0 U
72-43-5	Methoxychlor	80.0 U
53494-70-5	Endrin Ketone	16.0 U
57-74-9	Chlordane	80.0 U
8001-35-2	Toxaphene	160.0 U
12674-11-2	Aroclor-1016	80.0 U
11104-28-2	Aroclor-1221	80.0 U
11141-16-5	Aroclor-1232	80.0 U
53469-21-0	Aroclor-1242	80.0 U
12672-29-6	Aroclor-1248	80.0 U
11097-69-1	Aroclor-1254	160.0 U
11096-82-5	Aroclor-1260	160.0 U

 V_i = Volume of extract injected (ul) V_e = Volume of water extracted (ml) W_s = Weight of sample extracted (g) V_t = Volume of total extract (ul) V_e W_s 36.62 V_i 10000 V_t 5

Organics Analysis Data Sheet
(Page 1)Laboratory Name SOUTHWEST LABORATORY OF OKLA.Case No: 7312Lab Sample ID No 2718 / 12289

OC Report No: _____

Sample Matrix SOILContract No: 68-01-7168/1A 68-01-7168/2AData Release Authorized By: Jayant ShringarpureDate Sample Received 05-21-87

Volatile Compounds

Concentration: Low Medium (Circle One)Date Extracted/Prepared N/ADate Analyzed 05-22-87Conc/Dil Factor: 1 pH 7.6Percent Moisture (Not Decanted) 19.4

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	10 U
74-83-9	Bromomethane	10 U
75-01-4	Vinyl Chloride	10 U
75-00-3	Chloroethane	10 U
75-09-2	Methylene Chloride	5 5 U
77-84-1	Acetone	10 U
75-15-0	Carbon Disulfide	5 U
75-35-4	1, 1-Dichloroethane	5 U
75-34-3	1, 1-Dichloroethane	5 U
156-60-5	Trans-1, 2-Dichloroethane	5 U
67-66-3	Chloroform	5 U
107-06-2	1, 2-Dichloroethane	5 U
78-93-3	2-Butanone	10 U
71-55-6	1, 1, 1-Trichloroethane	5 U
56-23-5	Carbon Tetrachloride	5 U
106-05-4	Vinyl Acetate	10 U
75-27-4	Bromodichloromethane	5 U

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1, 2-Dichloropropane	5 U
10061-02-6	Trans-1, 3-Dichloropropene	5 U
79-01-6	Trichloroethene	5 U
124-48-1	Dibromochloromethane	5 U
79-00-5	1, 1, 2-Trichloroethane	5 U
71-43-2	Benzene	5 U
10061-01-5	cis-1, 3-Dichloropropene	5 U
110-75-8	2-Chloroethylvinylether	10 U
75-25-2	Bromoform	5 U
591-78-6	4-Methyl-2-Pentanone	10 U
108-10-1	2-Hexanone	10 U
127-18-4	Tetrachloroethene	5 U
79-34-5	1, 1, 2, 2-Tetrachloroethane	5 U
108-88-3	Toluene	5 U
108-90-7	Chlorobenzene	5 U
100-41-4	Ethylbenzene	5 U
100-42-5	Styrene	5 U
	Total Xylenes	5 U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration (dilution action). (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum analyte detection limit for the sample.

Q Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g., 10Q). If limit of detection is 10 ug/l and a concentration of 3 ug/l is calculated, report as 3Q.

E The flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >10 ug/l in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible problem blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to provide details on the results. If used, they must be full, described and such description attached to the data summary report.

Laboratory Name SOUTHWEST LABORATORY OF OKLA.Case No. 7312Contract # 68-01-7168/1A 68-01-7168/2A
Organics Analysis Data Sheet
(Page 2)

Sample Number

BJ 870

Semivolatile Compounds

Concentration: Low Medium (Circle One)Date Extracted / Prepared 05-28-87Date Analyzed 06-23-87Conc/Dil Factor: 1Percent Moisture (Decanted) 19.4GPC Cleanup ☐ Yes ☒ NoSeparatory Funnel Extraction ☒ YesContinuous Liquid - Liquid Extraction ☒ Yes

CAS Number		ug/l or ug/Kg (Circle One)
106-95-2	Phenol	330 U
111-44-4	bis(2-Chloroethyl)Ether	330 U
95-57-8	2-Chlorophenol	330 U
541-73-1	1,3-Dichlorobenzene	330 U
106-46-7	1,4-Dichlorobenzene	330 U
100-51-6	Benzyl Alcohol	330 U
95-50-1	1,2-Dichlorobenzene	330 U
48-7	2-Methylphenol	330 U
638-32-9	bis(2-chloroisopropyl)Ether	330 U
106-44-5	4-Methylphenol	330 U
621-64-7	N-Nitroso-Di-n-Propylamine	330 U
67-72-1	Hexachloroethane	330 U
98-95-3	Nitrobenzene	330 U
78-59-1	Isophorone	330 U
88-75-5	2-Nitrophenol	330 U
106-67-9	2,4-Dimethylphenol	330 U
65-85-0	Benzoic Acid	1600 U
111-91-1	bis(2-Chloroethoxy)Methane	330 U
120-83-2	2,4-Dichlorophenol	330 U
120-82-1	1,2,4-Trichlorobenzene	330 U
91-20-3	Naphthalene	330 U
106-47-8	4-Chloroaniline	330 U
87-68-3	Hexachlorobutadiene	330 U
59-50-7	4-Chloro-3-Methylphenol	330 U
91-87-6	2-Methylnaphthalene	330 U
77-47-4	Hexachlorocyclopentadiene	330 U
88-06-2	2,4,6-Trichlorophenol	330 U
95-95-4	2,4,6-Trichlorophenol	1600 U
91-88-7	2-Chloronaphthalene	330 U
88-74-4	2-Nitroaniline	1600 U
111-11-3	Dimethyl Phthalate	330 U
96-8	Acenaphthylene	330 U
99-09-2	3-Nitroaniline	1600 U

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	330 U
51-28-5	2,4-Dinitrophenol	1600 U
100-02-7	4-Nitrophenol	1600 U
132-64-9	Dibenzofuran	330 U
121-14-2	2,4-Dinitrotoluene	330 U
606-20-2	2,6-Dinitrotoluene	330 U
84-86-2	Diethylphthalate	330 U
7005-72-3	4-Chlorophenyl-phenylether	330 U
86-73-7	Fluorene	330 U
100-01-8	4-Nitroaniline	1600 U
634-82-1	4,6-Dinitro-2-Methylphenol	1600 U
86-30-6	N-Nitrosodiphenylamine (1)	330 U
101-85-3	4-Bromophenyl-phenylether	330 U
118-74-1	Hexachlorobenzene	330 U
87-86-5	Pentachlorophenol	1600 U
85-01-8	Phenanthrene	330 U
120-12-7	Anthracene	330 U
84-74-2	Di-n-Butylphthalate	330 U
206-44-0	Fluoranthene	330 U
129-00-0	Pyrene	330 U
85-88-7	Butybenzylphthalate	330 U
91-84-1	3,5-Dichlorobenzidine	660 U
56-55-3	Benzo(a)Anthracene	330 U
117-81-7	bis(2-Ethylhexyl)Phthalate	330 U
218-01-8	Chrysene	330 U
117-84-0	Di-n-Octyl Phthalate	330 U
205-99-2	Benzo(b)Fluoranthene	330 U
207-08-9	Benzo(k)Fluoranthene	330 U
50-32-8	Benzo(a)Pyrene	330 U
193-39-5	Indeno(1,2,3-cd)Pyrene	330 U
53-70-3	Dibenzo(h,j)Anthracene	330 U
191-24-2	Benzo(g,h,i)Perylene	330 U

(1) Cannot be separated from diphenylamine

Laboratory Name SOUTHWEST LABORATORY OF OKLAHOMA

Sample Number

B5870Case No 7312Contract # 68-01-7168/1A or 2A

Organics Analysis Data Sheet

(Page 3)

Pesticide/PCBs

Concentration Low Medium (Circle One)GPC Cleanup ☐ Yes ☒ NoDate Extracted/Prepared 5-28-87Separatory Funnel Extraction ☐ YesDate Analyzed 6-13-87Continuous Liquid-Liquid Extraction ☐ YesConc/Dil Factor 1Percent Moisture (decanted) 19.4CAS
Numberug/l or ug/Kg
(Circle One)

319 84 6	Alpha BHC	8.0 U
319 85 7	Beta BHC	8.0 U
319 86 8	Delta BHC	8.0 U
56 89 9	Gamma BHC (Lindane)	8.0 U
76 44 8	Heptachlor	8.0 U
309 00 2	Aldrin	8.0 U
1024 57 3	Heptachlor Epoxide	8.0 U
959 98 8	Endosulfan I	8.0 U
60 57 1	Dieldrin	16.0 U
72 55 9	4,4-DDE	16.0 U
72 20 8	Endrin	16.0 U
33213 65 9	Endosulfan II	16.0 U
72 54 8	4,4-DDD	16.0 U
1031 07 8	Endosulfan Sulfate	16.0 U
50 29 3	4,4-DDT	16.0 U
72 43 5	Methoxychlor	80.0 U
53494 70 5	Endrin Ketone	16.0 U
57 74 9	Chlordane	80.0 U
8001 35 2	Toxaphene	160.0 U
12674 11 2	Aroclor-1016	80.0 U
11104 28 2	Aroclor-1221	80.0 U
11141 16 5	Aroclor-1232	80.0 U
53469 21 9	Aroclor-1242	80.0 U
12672 29 6	Aroclor-1248	80.0 U
11097 69 1	Aroclor-1254	160.0 U
11096 82 5	Aroclor-1260	160.0 U

244.0

 V_i = Volume of extract injected (ul) V_e = Volume of water extracted (ml) W_s = Weight of sample extracted (g) V_t = Volume of total extract (ul)
 V_e $\times$ W_s 25.72 V_i 20000 V_t 5

Organics Analysis Data Sheet (Page 1)

Sample Number

BJ871

Laboratory Name SOUTHWEST LABORATORY OF OKLA.

Case No: 7312

Lab Sample ID No 2119/12290

OC Report No: _____

Sample Matrix SOIL

Contract No 68-01-7168/1A 68-01-7168/2A

Data Release Authorized By Jayant Shringarpure

Date Sample Received 05-21-87

Volatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared N/A

Date Analyzed 05-22-87

Conc/Dil Factor 1 pH 7.4

Percent Moisture (Not Decanted) 18.1

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	10 U
74-83-9	Bromomethane	10 U
75-01-4	Vinyl Chloride	10 U
75-00-3	Chloroethane	10 U
75-08-2	Methylene Chloride	26 5 U
64-1	Acetone	10 U
75-15-0	Carbon Disulfide	5 U
75-35-4	1,1-Dichloroethene	5 U
75-34-3	1,1-Dichloroethane	5 U
156-60-5	Trans-1,2-Dichloroethene	5 U
67-66-3	Chloroform	5 U
107-06-2	1,2-Dichloroethane	5 U
78-93-3	2-Butanone	10 U
71-55-6	1,1,1-Trichloroethane	5 U
56-23-5	Carbon Tetrachloride	5 U
106-05-4	Vinyl Acetate	10 U
78-27-4	Bromodichloromethane	5 U

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1,2-Dichloropropane	5 U
10061-02-6	Trans-1,3-Dichloropropene	5 U
79-01-6	Trichloroethene	5 U
124-48-1	Dibromochloromethane	5 U
79-00-5	1,1,2-Trichloroethane	5 U
71-43-2	Benzene	5 U
10061-01-5	cis-1,3-Dichloropropene	5 U
110-75-8	2-Chloroethylvinylether	10 U
75-25-2	Bromoform	5 U
591-78-6	4-Methyl-2-Pentanone	10 U
106-10-1	2-Hexanone	10 U
127-18-4	Tetrachloroethene	5 U
79-34-5	1,1,2,2-Tetrachloroethane	5 U
108-88-3	Toluene	7 5 U
108-90-7	Chlorobenzene	5 U
100-41-4	Ethylbenzene	5 U
100-42-5	Styrene	5 U
	Total Xylenes	5 U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

U If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: "Compound was analyzed for but not detected. The number is the minimum obtainable detection limit for the sample."

U Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g., 10U). If limit of detection is 10 ug/l and a concentration of 3 ug/l is calculated, report as 3U.

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >10 ug/l in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as the sample. It indicates possible background contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to provide details on the results. If used, they must be fully described and such description attached to the data summary report.

Laboratory Name SOUTHWEST LABORATORY OF OKLA.Case No. 7312Contract # 68-01-7168/1A 68-01-7168/2A
Organics Analysis Data Sheet
(Page 2)

Sample Number

6J 871

Semivolatile Compounds

Concentration: Low Medium (Circle One)Date Extracted/Prepared 05-28-87Date Analyzed 06-23-87Conc/Dil Factor: 5Percent Moisture (Decanted) 18.1GPC Cleanup ☐ Yes ☒ NoSeparatory Funnel Extraction ☐ YesContinuous Liquid-Liquid Extraction ☐ Yes

CAS Number		ug/l or ug/Kg (Circle One)
106-95-2	Phenol	330 U
111-44-4	bis(2-Chloroethyl)Ether	330 U
95-57-8	2-Chlorophenol	330 U
541-73-1	1,3-Dichlorobenzene	330 U
106-46-7	1,4-Dichlorobenzene	330 U
100-51-6	Benzyl Alcohol	330 U
95-50-1	1,2-Dichlorobenzene	330 U
95-48-7	2-Methylphenol	330 U
95-38-32-9	bis(2-chloroisopropyl)Ether	330 U
106-44-5	4-Methylphenol	330 U
621-64-7	N-Nitroso-Di-n-Propylamine	330 U
67-72-1	Hexachloroethane	330 U
98-95-3	Nitrobenzene	330 U
78-59-1	Isophorone	330 U
88-75-5	2-Nitrophenol	330 U
105-67-9	2,4-Dimethylphenol	330 U
65-85-0	Benzoic Acid	1600 U
111-91-1	bis(2-Chloroethoxy)Methane	330 U
120-83-2	2,4-Dichlorophenol	330 U
120-82-1	1,2,4-Trichlorobenzene	330 U
91-20-3	Naphthalene	330 U
106-47-8	4-Chloroaniline	330 U
87-68-3	Hexachlorobutadiene	330 U
59-50-7	4-Chloro-3-Methylphenol	330 U
91-57-6	2-Methylnaphthalene	330 U
77-47-4	Hexachlorocyclopentadiene	330 U
88-06-2	2,4,6-Trichlorophenol	330 U
95-95-4	2,4,6-Trichlorophenol	1600 U
91-58-7	2-Chloronaphthalene	330 U
88-74-4	2-Nitroaniline	1600 U
121-11-3	Dimethyl Phthalate	330 U
95-96-8	Acenaphthylene	330 U
09-2	3-Nitroaniline	1600 U

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	330 U
51-28-5	2,4-Dinitrophenol	1600 U
100-02-7	4-Nitrophenol	1600 U
132-64-9	Dibenzofuran	330 U
121-14-2	2,4-Dinitrotoluene	330 U
606-20-2	2,6-Dinitrotoluene	330 U
84-86-2	Diethylphthalate	330 U
7005-72-3	4-Chlorophenyl-phenylether	330 U
86-73-7	Fluorene	330 U
100-01-6	4-Nitroaniline	1600 U
534-52-1	4,6-Dinitro-2-Methylphenol	1600 U
86-30-6	N-Nitrosodiphenylamine (1)	330 U
101-85-3	4-Bromophenyl-phenylether	330 U
118-74-1	Hexachlorobenzene	330 U
87-86-5	Pentachlorophenol	1600 U
85-01-8	Phenanthrene	330 U
120-12-7	Anthracene	330 U
84-74-2	Di-n-Butylphthalate	1833 330 U
206-44-0	Fluoranthene	330 U
128-00-0	Pyrene	330 U
85-88-7	Butylbenzylphthalate	330 U
91-84-1	3,5-Dichlorobenzidine	660 U
56-55-3	Benzo(a)Anthracene	330 U
117-81-7	bis(2-Ethylhexyl)Phthalate	330 U
218-01-9	Chrysene	330 U
117-84-0	Di-n-Octyl Phthalate	330 U
205-99-2	Benzob(b)Fluoranthene	330 U
207-08-9	Benzok(b)Fluoranthene	330 U
50-32-8	Benzo(a)Pyrene	330 U
193-39-5	Indeno(1,2,3-cd)Pyrene	330 U
53-70-3	Dibenzo(h)Anthracene	330 U
191-24-2	Benzo(g,h,i)Perylene	330 U

(1) Cannot be separated from diphenylamine

Laboratory Name SOUTHWEST LABORATORY OF OKLAHOMACase No. 7312Contract # 68-01-7168/1A or 2A

Organics Analysis Data Sheet

(Page 3)

Sample Number

BS 871

Pesticide/PCBs

Concentration

Low

Medium (Circle One)

GPC Cleanup ☐ Yes ☒ No

Date Extracted/Prepared

5-28-87Separatory Funnel Extraction ☐ Yes

Date Analyzed

6-18-87Continuous Liquid-Liquid Extraction ☐ Yes

Conc/Dil Factor

1

Percent Moisture (decanted)

18.1CAS
Numberug/l or ug/Kg
(Circle One)

319 84 6	Alpha BHC	8.0 U
319 85 7	Beta BHC	8.0 U
319 86 8	Delta BHC	8.0 U
56 89 9	Gamma BHC (Lindane)	8.0 U
76 44 8	Heptachlor	8.0 U
309 00 2	Aldrin	8.0 U
1024 57 3	Heptachlor Epoxide	8.0 U
959 98 8	Endosulfan I	8.0 U
60 57 1	Dieldrin	16.0 U
72 55 9	4,4-DDE	16.0 U
72 20 8	Endrin	16.0 U
33213 65 9	Endosulfan II	16.0 U
72 54 8	4,4-DDD	16.0 U
1031 07 8	Endosulfan Sulfate	16.0 U
50 29 3	4,4-DDT	16.0 U
72 43 5	Methoxychlor	80.0 U
53494 70 5	Endrin Ketone	16.0 U
57 74 9	Chlordane	80.0 U
8001 35 2	Toxaphene	160.0 U
12674 11 2	Aroclor-1016	80.0 U
11104 28 2	Aroclor-1221	80.0 U
11141 16 5	Aroclor-1232	80.0 U
53469 21 9	Aroclor-1242	80.0 U
12672 29 6	Aroclor-1248	80.0 U
11097 69 1	Aroclor-1254	160.0 U
11096 82 5	Aroclor-1260	160.0 U

2770

 V_i = Volume of extract injected (ul) V_e = Volume of water extracted (ml) W_s = Weight of sample extracted (g) V_t = Volume of total extract (ul) V_i W_s 28.38 V_t 20000 V_e 5

Organics Analysis Data Sheet (Page 1)

Sample Number
BJ 882

Laboratory Name SOUTHWEST LABORATORY OF OKLA.
Lab Sample ID No 2126 / 12296
Sample Matrix SOIL
Data Release Authorized By Jayant Shringarpure

Case No: 7312
QC Report No: _____
Contract No: 68-01-7168/1A 68-01-7168/2A
Date Sample Received 05-21-87

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared N/A
Date Analyzed 05-22-87
Conc/Dil Factor 1 pH 7.2
Percent Moisture (Not Decanted) 48

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	10 U
74-83-9	Bromomethane	10 U
75-01-4	Vinyl Chloride	10 U
75-00-3	Chloroethane	10 U
75-09-2	Methylene Chloride	<u>53</u> 75 U
64-1	Acetone	10 U
75-15-0	Carbon Disulfide	5 U
75-35-4	1, 1-Dichloroethane	5 U
75-34-3	1, 1-Dichloroethane	5 U
156-60-5	Trans-1, 2-Dichloroethene	5 U
67-66-3	Chloroform	5 U
107-06-2	1, 2-Dichloroethane	5 U
78-93-3	2-Butanone	10 U
71-55-6	1, 1, 1-Trichloroethane	5 U
56-23-5	Carbon Tetrachloride	5 U
106-05-4	Vinyl Acetate	10 U
75-27-4	Bromodichloromethane	5 U

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1, 2-Dichloropropane	5 U
10061-02-6	Trans-1, 3-Dichloropropene	5 U
79-01-6	Trichloroethene	<u>37</u> 75 U
124-48-1	Dibromochloromethane	5 U
79-00-5	1, 1, 2-Trichloroethane	5 U
71-43-2	Benzene	5 U
10061-01-5	cis-1, 3-Dichloropropene	5 U
110-75-8	2-Chloroethylvinylether	10 U
75-25-2	Bromoform	5 U
591-78-6	4-Methyl-2-Pentanone	10 U
106-10-1	2-Hexanone	10 U
127-18-4	Tetrachloroethene	<u>131</u> 75 U
79-34-5	1, 1, 2, 2-Tetrachloroethane	5 U
106-86-3	Toluene	<u>77</u> 75 U
106-90-7	Chlorobenzene	5 U
100-41-4	Ethylbenzene	5 U
100-42-5	Styrene	5 U
	Total Xylenes	5 U

Data Reporting Qualifiers

For reporting results to EPA the following results qualifiers are used
Additional flags or footnotes explaining results are encouraged. However, the
definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit report the value.

U Indicates compound was analyzed for but not detected. Reports the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: "Compound was analyzed for but not detected. The number is the minimum analytical detection limit for the sample."

Estimate Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g., 10U). If limit of detection is 10 ug/l and a concentration of 3 ug/l is calculated, report as 3U.

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥ 10 ug/l in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to provide a full definition of the results. If used, they must be fully described and such description attached to the data summary report.

Laboratory Name SOUTHWEST LABORATORY OF OKLA.Case No. 7312Contract # 68-01-7168/1A 68-01-7168/2AOrganics Analysis Data Sheet
(Page 2)

Sample Number

BJ 882

Semivolatile Compounds

Concentration: Low Medium (Circle One)Date Extracted / Prepared 05-28-87Date Analyzed 06-23-87Conc/Dil Factor: 5Percent Moisture (Decanted) 48GPC Cleanup ☐ Yes ☐ NoSeparatory Funnel Extraction ☐ YesContinuous Liquid - Liquid Extraction ☐ YesCAS Number ug/l or ug/Kg
(Circle One)

108-95-2	Phenol	330 U
111-44-4	bis(2-Chloroethyl)Ether	330 U
95-57-8	2-Chlorophenol	330 U
541-73-1	1,3-Dichlorobenzene	330 U
106-46-7	1,4-Dichlorobenzene	330 U
100-51-6	Benzyl Alcohol	330 U
75-50-1	1,2-Dichlorobenzene	330 U
95-48-7	2-Methylphenol	330 U
39638-32-9	bis(2-chloroisopropyl)Ether	330 U
106-44-5	4-Methylphenol	330 U
621-64-7	N-Nitroso-Di-n-Propylamine	330 U
67-72-1	Hexachloroethane	330 U
98-95-3	Nitrobenzene	330 U
78-59-1	Isophorone	330 U
88-75-5	2-Nitrophenol	330 U
105-67-9	2,4-Dimethylphenol	330 U
65-85-0	Benzoic Acid	1600 U
111-91-1	bis(2-Chloroethoxy)Methane	330 U
120-83-2	2,4-Dichlorophenol	330 U
120-82-1	1,2,4-Trichlorobenzene	330 U
91-20-3	Naphthalene	961 330 U
106-47-8	4-Chloroaniline	330 U
87-68-3	Hexachlorobutadiene	330 U
59-50-7	4-Chloro-3-Methylphenol	330 U
91-57-6	2-Methylnaphthalene	1396 330 U
77-47-4	Hexachlorocyclopentadiene	330 U
88-08-2	2,4,6-Trichlorophenol	330 U
95-95-4	2,4,5-Trichlorophenol	1600 U
91-58-7	2-Chloronaphthalene	330 U
88-74-4	2-Nitroaniline	1600 U
131-11-3	Dimethyl Phthalate	330 U
98-96-8	Acenaphthylene	330 U
99-09-2	3-Nitroaniline	1600 U

CAS Number ug/l or ug/Kg
(Circle One)

83-32-9	Acenaphthene	330 U
51-28-5	2,4-Dinitrophenol	1600 U
100-02-7	4-Nitrophenol	1600 U
132-64-9	Dibenzofuran	330 U
121-14-2	2,4-Dinitrotoluene	330 U
506-20-2	2,6-Dinitrotoluene	330 U
84-66-2	Diethylphthalate	330 U
7005-72-3	4-Chlorophenyl-phenylether	330 U
86-73-7	Fluorene	330 U
100-01-6	4-Nitroaniline	1600 U
534-52-1	4,6-Dinitro-2-Methylphenol	1600 U
86-30-6	N-Nitrosodiphenylamine (1)	330 U
101-55-3	4-Bromophenyl-phenylether	330 U
118-74-1	Hexachlorobenzene	330 U
87-86-5	Pentachlorophenol	1600 U
85-01-8	Phenanthrene	871 330 U
120-12-7	Anthracene	330 U
84-74-2	Di-n-Butylphthalate	330 U
206-44-0	Fluoranthene	944 330 U
129-00-0	Pyrene	754 330 U
85-68-7	Butylbenzylphthalate	3868 330 U
91-94-1	3,3-Dichlorobenzidine	660 U
56-55-3	Benzo(a)Anthracene	535 330 U
117-81-7	bis(2-Ethylhexyl)Phthalate	3568 330 U
218-01-9	Chrysene	592 330 U
117-84-0	Di-n-Octyl Phthalate	568 330 U
205-99-2	Benzo(b)Fluoranthene	890 330 U
207-08-9	Benzo(k)Fluoranthene	330 U
50-32-8	Benzo(a)Pyrene	330 U
193-39-5	Indeno(1,2,3-cd)Pyrene	330 U
53-70-3	Dibenz(a,h)Anthracene	330 U
191-24-2	Benzo(g,h,i)Perylene	330 U

(1)-Cannot be separated from diphenylamine

* Reported value for Total ug/kg
for Benzo (B) & (K) fluoranthene 7.85

Laboratory Name SOUTHWEST LABORATORY OF OKLAHOMACase No. 7-312Contract # 68-01-7168/1A or 2A

Organics Analysis Data Sheet

(Page 3)

Sample Number

BJ882

Pesticide/PCBs

Concentration Low Medium (Circle One)Date Extracted/Prepared 5-28-87Date Analyzed 6-14-87Conc/Dil Factor 10Percent Moisture (decanted) 48.3GPC Cleanup ☐ Yes ☒ NoSeparatory Funnel Extraction ☐ YesContinuous Liquid-Liquid Extraction ☐ YesCAS
Numberug/l or ug/Kg
(Circle One)

319-84-6	Alpha BHC	8.0 U
319-85-7	Beta BHC	8.0 U
319-86-8	Delta BHC	8.0 U
58-89-9	Gamma BHC (Lindane)	8.0 U
76-44-8	Heptachlor	8.0 U
309-00-2	Aldrin	8.0 U
1024-57-3	Heptachlor Epoxide	8.0 U
959-98-8	Endosulfan I	8.0 U
60-57-1	Dieldrin	16.0 U
72-55-9	4,4-DDE	16.0 U
72-20-8	Endrin	16.0 U
33213-65-9	Endosulfan II	16.0 U
72-54-8	4,4-DDD	16.0 U
1031-07-8	Endosulfan Sulfate	16.0 U
50-29-3	4,4-DDT	16.0 U
72-43-5	Methoxychlor	80.0 U
53494-70-5	Endrin Ketone	16.0 U
57-74-9	Chlordane	80.0 U
8001-35-2	Toxaphene	160.0 U
12674-11-2	Aroclor-1016	80.0 U
11104-28-2	Aroclor-1221	80.0 U
11141-16-5	Aroclor-1232	80.0 U
53469-21-9	Aroclor-1242	80.0 U
12672-29-6	Aroclor-1248	80.0 U
11097-69-1	Aroclor-1254	160.0 U
11096-82-5	Aroclor-1260	160.0 U

 V_i = Volume of extract injected (ul) V_e = Volume of water extracted (ml) W_s = Weight of sample extracted (g) V_t = Volume of total extract (ul) V_i W_s 34.86 V_t 10000 V_e 5

Sample Number
BJ 872

Organics Analysis Data Sheet (Page 1)

Laboratory Name SOUTHWEST LABORATORY OF OKLA.
Lab Sample ID No 2120 / 12291
Sample Matrix WATER
Data Release Authorized By Jayant Shringarpure

Case No. 7312
OC Report No. _____
Contract No. 68-01-7168/1A 68-01-7168/2A
Date Sample Received 05-21-87

Volatile Compounds

Concentration. (Low) Medium (Circle One)

Date Extracted/Prepared N/A

Date Analyzed 05-22-87

Conc/Dil Factor 1 pH 6.9

Percent Moisture (Not Decanted) N/A

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	10 U
74-83-9	Bromomethane	10 U
75-01-4	Vinyl Chloride	10 U
75-00-3	Chloroethane	10 U
5-09-2	Methylene Chloride	58 5 U
67-64-1	Acetone	10 U
75-15-0	Carbon Disulfide	5 U
75-35-4	1, 1-Dichloroethane	5 U
75-34-3	1, 1-Dichloroethane	5 U
156-60-5	Trans-1, 2-Dichloroethane	5 U
67-66-3	Chloroform	5 U
107-06-2	1, 2-Dichloroethane	5 U
78-93-3	2-Butanone	10 U
71-55-8	1, 1, 1-Trichloroethane	5 U
56-23-5	Carbon Tetrachloride	5 U
108-05-4	Vinyl Acetate	10 U
75-27-4	Bromodichloromethane	5 U

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1, 2-Dichloropropane	5 U
10061-02-6	Trans-1, 3-Dichloropropene	5 U
79-01-6	Trichloroethene	5 U
124-48-1	Dibromochloromethane	5 U
79-00-5	1, 1, 2-Trichloroethane	5 U
71-43-2	Benzene	5 U
10061-01-5	cis-1, 3-Dichloropropene	5 U
110-75-8	2-Chloroethylvinylether	10 U
75-25-2	Bromoform	5 U
591-78-6	4-Methyl-2-Pentanone	10 U
108-10-1	2-Hexanone	10 U
127-18-4	Tetrachloroethene	5 U
79-34-5	1, 1, 2, 2-Tetrachloroethane	5 U
108-88-3	Toluene	2.5 5 U
108-90-7	Chlorobenzene	5 U
100-41-4	Ethylbenzene	5 U
100-42-5	Styrene	5 U
	Total Xylenes	5 U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g., 10U). If limit of detection is 10 ug/l and a concentration of 3 ug/l is calculated, report as 3U.

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides 210 ng ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as sample. It indicates possible probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to identify, define the results. If used, they must be fully described and such description attached to the data summary report.

Laboratory Name SOUTHWEST LABORATORY OF OKLA.Case No. 7312Contract # 68-01-7168/1A 68-01-7168/2AOrganics Analysis Data Sheet
(Page 2)

Sample Number

BJ 872

Semivolatile Compounds

Concentration: Low Medium (Circle One)Date Extracted/Prepared 05-23-87Date Analyzed 06-24-87Conc/Dil Factor: 1Percent Moisture (Decanted) N/AGPC Cleanup ☐ Yes ☒ NoSeparatory Funnel Extraction ☐ YesContinuous Liquid - Liquid Extraction ☒ Yes

CAS Number		ug/l or ug/Kg (Circle One)
106-95-2	Phenol	10 U
111-44-4	bis(2-Chloroethyl)Ether	10 U
95-57-8	2-Chlorophenol	10 U
541-73-1	1,3-Dichlorobenzene	10 U
106-46-7	1,4-Dichlorobenzene	10 U
100-51-6	Benzyl Alcohol	10 U
100-50-1	1,2-Dichlorobenzene	10 U
100-48-7	2-Methylphenol	10 U
39638-32-9	bis(2-chloroisopropyl)Ether	10 U
106-44-5	4-Methylphenol	10 U
621-64-7	N-Nitroso-Di-n-Propylamine	10 U
67-72-1	Hexachloroethane	10 U
98-95-3	Nitrobenzene	10 U
78-59-1	Isophorone	10 U
88-75-5	2-Nitrophenol	10 U
105-67-9	2,4-Dimethylphenol	10 U
65-85-0	Benzoic Acid	50 U
111-91-1	bis(2-Chloroethoxy)Methane	10 U
120-83-2	2,4-Dichlorophenol	10 U
120-82-1	1,2,4-Trichlorobenzene	10 U
91-20-3	Naphthalene	10 U
106-47-8	4-Chloroaniline	10 U
87-68-3	Hexachlorobutadiene	10 U
59-50-7	4-Chloro-3-Methylphenol	10 U
91-57-6	2-Methylnaphthalene	10 U
77-47-4	Hexachlorocyclopentadiene	10 U
88-06-2	2,4,6-Trichlorophenol	10 U
95-95-4	2,4,5-Trichlorophenol	50 U
91-58-7	2-Chloronaphthalene	10 U
88-74-4	2-Nitroaniline	50 U
131-11-3	Dimethyl Phthalate	10 U
86-8	Acenaphthylene	10 U
99-09-2	3-Nitroaniline	50 U

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	10 U
51-28-5	2,4-Dinitrophenol	50 U
100-02-7	4-Nitrophenol	50 U
132-64-9	Dibenzofuran	10 U
121-14-2	2,4-Dinitrotoluene	10 U
606-20-2	2,6-Dinitrotoluene	10 U
64-66-2	Diethylphthalate	10 U
7005-72-3	4-Chlorophenyl-phenylether	10 U
86-73-7	Fluorene	10 U
100-01-6	4-Nitroaniline	50 U
534-52-1	4,6-Dinitro-2-Methylphenol	50 U
86-30-6	N-Nitrosodiphenylamine (1)	10 U
101-55-3	4-Bromophenyl-phenylether	10 U
118-74-1	Hexachlorobenzene	10 U
87-86-5	Pentachlorophenol	50 U
85-01-8	Phenanthrene	10 U
120-12-7	Anthracene	10 U
84-74-2	Di-n-Butylphthalate	10 U
206-44-0	Fluoranthene	10 U
129-00-0	Pyrene	10 U
85-68-7	Butylbenzylphthalate	10 U
91-94-1	3,3-Dichlorobenzidine	20 U
56-55-3	Benzo(a)Anthracene	10 U
117-81-7	bis(2-Ethylhexyl)Phthalate	10 U
218-01-9	Chrysene	10 U
117-84-0	Di-n-Octyl Phthalate	10 U
205-99-2	Benzo(b)Fluoranthene	10 U
207-08-9	Benzo(k)Fluoranthene	10 U
50-32-8	Benzo(a)Pyrene	10 U
193-39-5	Indeno(1,2,3-cd)Pyrene	10 U
53-70-3	Dibenz(a,h)Anthracene	10 U
191-24-2	Benzo(g,h,i)Perylene	10 U

(1) Cannot be separated from diphenylamine

Laboratory Name SOUTHWEST LABORATORY OF OKLAHOMACase No. 7312Contract # 68-01-7168/1A or 2AOrganics Analysis Data Sheet
(Page 3)

Sample Number

BJ872

Pesticide/PCBs

Concentration Low Medium (Circle One)Date Extracted / Prepared 5-24-87Date Analyzed 6-13-87Conc/Dil Factor 1Percent Moisture (decanted) —GPC Cleanup ☐ Yes ☒ NoSeparatory Funnel Extraction ☐ YesContinuous Liquid-Liquid Extraction ☒ YesCAS
Numberug/L or ug/Kg
(Circle One)

319-84-6	Alpha-BHC	0.05 U
319-85-7	Beta-BHC	0.05 U
319-86-8	Delta-BHC	0.05 U
58-89-9	Gamma-BHC (Lindane)	0.05 U
76-44-8	Heptachlor	0.05 U
309-00-2	Aldrin	0.05 U
1024-57-3	Heptachlor Epoxide	0.05 U
959-98-8	Endosulfan I	0.05 U
60-57-1	Dieldrin	0.10 U
72-55-9	4,4-DDE	0.10 U
72-20-8	Endrin	0.10 U
33213-65-9	Endosulfan II	0.10 U
72-54-8	4,4-DDD	0.10 U
1031-07-8	Endosulfan Sulfate	0.10 U
50-29-3	4,4-DDT	0.10 U
72-43-5	Methoxychlor	0.5 U
53494-70-5	Endosulfan Ketone	1.0 U
57-74-9	Chlordane	0.5 U
8001-35-2	Toxaphene	1.0 U
12674-11-2	Aroclor 1016	0.5 U
11164-28-3	Aroclor 1221	0.5 U
11141-16-5	Aroclor 1232	0.5 U
53469-21-9	Aroclor 1242	0.5 U
12672-29-6	Aroclor 1248	0.5 U
11097-69-1	Aroclor 1254	1.0 U
11096-82-5	Aroclor 1260	1.0 U

 V_i = Volume of extract injected (ul) V_w = Volume of water extracted (ml) W_s = Weight of sample extracted (g) V_t = Volume of total extract (ul) V_i 1000 W_s — V_t 10000 V_w 5

Organics Analysis Data Sheet
(Page 1)Laboratory Name: SOUTHWEST LABORATORY OF OKLA.Case No: 7312Lab Sample ID No: 2121 / 12292R

QC Report No: _____

Sample Matrix: WATERContract No: 68-01-7168/1A 68-01-7168/2AData Release Authorized By: Jayant ShringarpureDate Sample Received: 05-21-87

Volatile Compounds

Concentration: (Low) Medium (Circle One)Date Extracted/Prepared: N/ADate Analyzed: 05-22-87Conc/Dil Factor: 1 pH: 6.8Percent Moisture (Not Decanted): N/A

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	10 U
74-83-9	Bromomethane	10 U
75-01-4	Vinyl Chloride	10 U
75-00-3	Chloroethane	10 U
75-09-2	Methylene Chloride	52 5 U
67-64-1	Acetone	5-43 10 U
75-15-0	Carbon Disulfide	5 U
75-35-4	1, 1-Dichloroethane	5 U
75-34-3	1, 1-Dichloroethane	5 U
156-60-5	Trans-1, 2-Dichloroethane	5 U
67-66-3	Chloroform	5 U
107-06-2	1, 2-Dichloroethane	5 U
78-93-3	2-Butanone	10 U
71-55-8	1, 1, 1-Trichloroethane	5 U
35-23-5	Carbon Tetrachloride	5 U
108-05-4	Vinyl Acetate	10 U
75-27-4	Bromodichloromethane	5 U

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1, 2-Dichloropropane	5 U
10061-02-6	Trans-1, 3-Dichloropropene	5 U
79-01-6	Trichloroethene	5 U
124-48-1	Dibromochloromethane	5 U
79-00-5	1, 1, 2-Trichloroethane	5 U
71-43-2	Benzene	5 U
10061-01-5	cis-1, 3-Dichloropropene	5 U
110-75-8	2-Chloroethylvinylether	10 U
75-25-2	Bromoform	5 U
591-78-6	4-Methyl-2-Pentanone	10 U
108-10-1	2-Hexanone	10 U
127-18-4	Tetrachloroethene	5 U
79-34-5	1, 1, 2, 2-Tetrachloroethane	5 U
108-88-3	Toluene	23 5 U
108-90-7	Chlorobenzene	5 U
100-41-4	Ethylbenzene	5 U
100-42-5	Styrene	5 U
	Total Xylenes	5 U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit above the value

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U to g. 10U based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum estimate detection limit for the sample.

Q Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero to g. 10U. If limit of detection is 10 ug/l and a concentration of 3 ug/l is calculated report as 3U.

C This flag applies to pesticide parameters where the identification has been confirmed by GC MS. Single component pesticides >10 ng/l in the final extract should be confirmed by GC MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible problem blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

Laboratory Name SOUTHWEST LABORATORY OF OKLA.Case No. 7312Contract # 68-01-7168/1A 68-01-7168/2A Organics Analysis Data Sheet
(Page 2)

Sample Number

BJ 873

Semivolatile Compounds

Concentration: Low Medium (Circle One)Date Extracted / Prepared: 05-23-87Date Analyzed: 06-25-87Conc/Dil Factor: 1Percent Moisture (Decanted): N/AGPC Cleanup ☐ Yes ☒ NoSeparatory Funnel Extraction ☐ YesContinuous Liquid - Liquid Extraction ☒ YesCAS
Numberup / lb / ug / Kg
(Circle One)

108-95-2	Phenol	10 U
111-44-4	bis(2-Chloroethyl)Ether	10 U
95-57-8	2-Chlorophenol	10 U
541-73-1	1,3-Dichlorobenzene	10 U
106-46-7	1,4-Dichlorobenzene	10 U
100-51-6	Benzyl Alcohol	10 U
105-50-1	1,2-Dichlorobenzene	10 U
148-7	2-Methylphenol	10 U
39638-32-9	bis(2-chloroisopropyl)Ether	10 U
106-44-5	4-Methylphenol	10 U
621-84-7	N-Nitroso-Di-n-Propylamine	10 U
67-72-1	Hexachloroethane	10 U
98-95-3	Nitrobenzene	10 U
78-59-1	Isophorone	10 U
88-75-8	2-Nitrophenol	10 U
105-87-8	2,4-Dimethylphenol	10 U
65-85-0	Benzoic Acid	50 U
111-91-1	bis(2-Chloroethoxy)Methane	10 U
120-83-2	2,4-Dichlorophenol	10 U
120-82-1	1,2,4-Trichlorobenzene	10 U
81-20-3	Naphthalene	10 U
106-47-8	4-Chloroaniline	10 U
87-68-3	Hexachlorobutadiene	10 U
59-50-7	4-Chloro-3-Methylphenol	10 U
81-57-6	2-Methylnaphthalene	10 U
77-47-4	Hexachlorocyclopentadiene	10 U
88-06-2	2,4,6-Trichlorophenol	10 U
95-95-4	2,4,5-Trichlorophenol	50 U
91-58-7	2-Chloronaphthalene	10 U
88-74-4	2-Nitroaniline	50 U
111-3	Dimethyl Phthalate	10 U
14-96-8	Acenaphthylene	10 U
89-09-2	3-Nitroaniline	50 U

CAS
Numberup / lb / ug / Kg
(Circle One)

83-32-9	Acenaphthene	10 U
51-28-5	2,4-Dinitrophenol	50 U
100-02-7	4-Nitrophenol	50 U
132-64-9	Dibenzofuran	10 U
121-14-2	2,4-Dinitrotoluene	10 U
606-20-2	2,6-Dinitrotoluene	10 U
84-86-2	Diethylphthalate	10 U
7005-72-9	4-Chlorophenyl-phenylether	10 U
86-73-7	Fluorene	10 U
100-01-6	4-Nitroaniline	50 U
534-52-1	4,6-Dinitro-2-Methylphenol	50 U
85-30-6	N-Nitrosodiphenylamine (1)	10 U
101-85-3	4-Bromophenyl-phenylether	10 U
118-74-1	Hexachlorobenzene	10 U
87-86-5	Pentachlorophenol	50 U
85-01-8	Phenanthrene	10 U
120-12-7	Anthracene	10 U
84-74-2	Di-n-Butylphthalate	10 U
206-44-0	Fluoranthene	10 U
129-00-0	Pyrene	10 U
85-88-7	Butylbenzylphthalate	10 U
91-94-1	3,3-Dichlorobenzidine	20 U
56-55-3	Benzol(a)Anthracene	10 U
117-81-7	bis(2-Ethylhexyl)Phthalate	9 U
218-01-8	Chrysene	10 U
117-84-0	Di-n-Octyl Phthalate	10 U
206-99-2	Benzob(f)fluoranthene	10 U
207-08-9	Benzol(k)fluoranthene	10 U
50-32-8	Benzol(a)Pyrene	10 U
193-39-5	Indeno(1,2,3-cd)Pyrene	10 U
59-70-3	Dibenzo(h,i)Anthracene	10 U
191-24-2	Benzol(g,h,i)Perylene	10 U

(1)-Cannot be separated from diphenylamine

Laboratory Name SOUTHWEST LABORATORY OF OKLAHOMACase No. 7312Contract # 68-01-7168/1A or 2A

Sample Number

BS 873Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration Low Medium (Circle One)Date Extracted/Prepared 5-24-87Date Analyzed 6-13-87Conc/Dil Factor 1Percent Moisture (decanted) -GPC Cleanup ☐ Yes ☒ NoSeparatory Funnel Extraction ☐ YesContinuous Liquid-Liquid Extraction ☒ YesCAS
Numberug/L or ug/Kg
(Circle One)

319-84-6	Alpha BHC	0.05 U
319-85-7	Beta BHC	0.05 U
319-86-8	Delta BHC	0.05 U
58-89-9	Gamma BHC (Lindane)	0.05 U
76-44-8	Heptachlor	0.05 U
309-00-2	Aldrin	0.05 U
1024-57-3	Heptachlor Epoxide	0.05 U
959-98-8	Endosulfan I	0.05 U
60-57-1	Dieldrin	0.10 U
72-55-9	4,4-DDE	0.10 U
72-20-8	Endrin	0.10 U
33213-65-9	Endosulfan II	0.10 U
72-54-8	4,4-DDD	0.10 U
1031-07-8	Endosulfan Sulfate	0.10 U
50-29-3	4,4-DDT	0.10 U
72-43-5	Methoxychlor	0.5 U
53494-70-5	Endrin Ketone	1.0 U
57-74-9	Chlordane	0.5 U
8001-35-2	Toxaphene	1.0 U
12674-13-2	Aroclor 1016	0.5 U
11104-28-2	Aroclor 1221	0.5 U
11146-16-5	Aroclor 1232	0.5 U
53469-21-9	Aroclor 1242	0.5 U
12672-29-6	Aroclor 1248	0.5 U
11097-69-1	Aroclor 1254	1.0 U
11096-82-5	Aroclor 1260	1.0 U

 V_i = Volume of extract injected (ul) V_e = Volume of water extracted (ml) W_s = Weight of sample extracted (g) V_t = Volume of total extract (ul) V_e 1000 or W_s - V_i 10000 V_t 5

Organics Analysis Data Sheet
(Page 1)Laboratory Name: SOUTHWEST LABORATORY OF OKLA.Case No: 7312Lab Sample ID No: 2122 / 12293

QC Report No: _____

Sample Matrix: WATERContract No: 58-01-7168/1A 68-01-7168/2AData Release Authorized By: Jayant ShringarpureDate Sample Received: 05-21-87

Volatile Compounds

Concentration: (Low) Medium (Circle One)Date Extracted/Prepared: N/ADate Analyzed: 05-22-87Conc/Dil Factor: 1 pH: 7.1Percent Moisture (Not Decanted): N/A

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	10 U
74-83-9	Bromomethane	10 U
75-01-4	Vinyl Chloride	10 U
75-00-3	Chloroethane	10 U
75-09-2	Methylene Chloride	66 5 U
75-64-1	Acetone	10 U
75-15-0	Carbon Disulfide	5 U
75-35-4	1,1-Dichloroethane	5 U
75-34-3	1,1-Dichloroethane	5 U
156-80-5	Trans-1,2-Dichloroethane	5 U
67-66-3	Chloroform	38 5 U
107-06-2	1,2-Dichloroethane	5 U
78-93-3	2-Butanone	10 U
71-55-6	1,1,1-Trichloroethane	33 5 U
56-23-5	Carbon Tetrachloride	5 U
108-05-4	Vinyl Acetate	10 U
75-27-4	Bromodichloromethane	6 5 U

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1,2-Dichloropropane	5 U
10061-02-6	Trans-1,3-Dichloropropane	5 U
78-01-6	Trichloroethene	5 U
124-48-1	Dibromochloromethane	5 U
78-00-5	1,1,2-Trichloroethane	5 U
71-43-2	Benzene	5 U
10061-01-5	cis-1,3-Dichloropropane	5 U
110-75-8	2-Chloroethylvinylether	10 U
75-25-2	Bromoform	5 U
591-78-6	4-Methyl-2-Pentanone	10 U
108-10-1	2-Hexanone	10 U
127-18-4	Tetrachloroethene	5 U
79-34-5	1,1,2,2-Tetrachloroethane	5 U
108-88-3	Toluene	35 5 U
108-90-7	Chlorobenzene	5 U
100-41-4	Ethylbenzene	5 U
100-42-5	Styrene	5 U
	Total Xylenes	5 U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

U If the result is a value greater than or equal to the detection limit, report the value.

M Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: M-Compound was analyzed for but not detected. The number is the minimum obtainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for consistently identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g., 10U). If limit of detection is 10 ug/l and a concentration of 8 ug/l is calculated, report as 8J.

E This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥ 10 ug/l in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as in the sample. It indicates possible laboratory blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to describe the results. If used, they must be fully described and such description attached to the data summary report.

Laboratory Name SOUTHWEST LABORATORY OF OKLA.Case No. 7312Contract # 68-01-7168/1A 68-01-7168/2A
Organics Analysis Data Sheet
(Page 2)

Sample Number

BJ 875

Semivolatiles Compounds

Concentration: Low Medium (Circle One)Date Extracted/Prepared: 05-23-87Date Analyzed: 06-25-87Conc/Dil Factor: 1Percent Moisture (Decanted): N/AGPC Cleanup ☐ Yes ☒ NoSeparatory Funnel Extraction ☐ YesContinuous Liquid - Liquid Extraction ☒ Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	10 U
111-44-4	bis(2-Chloroethyl)Ether	10 U
95-57-8	2-Chlorophenol	10 U
541-73-1	1,3-Dichlorobenzene	10 U
106-46-7	1,4-Dichlorobenzene	10 U
100-51-6	Benzyl Alcohol	10 U
95-50-1	1,2-Dichlorobenzene	10 U
548-7	2-Methylphenol	10 U
39538-32-9	bis(2-chloroisopropyl)Ether	10 U
106-44-5	4-Methylphenol	10 U
621-84-7	N-Nitroso-Di-n-Propylamine	10 U
67-72-1	Hexachloroethane	10 U
98-95-3	Nitrobenzene	10 U
78-59-1	Isophorene	10 U
88-75-5	2-Nitrophenol	10 U
105-87-9	2,4-Dimethylphenol	10 U
65-85-0	Benzoic Acid	50 U
111-91-1	bis(2-Chloroethoxy)Methane	10 U
120-83-2	2,4-Dichlorophenol	10 U
120-82-1	1,2,4-Trichlorobenzene	10 U
81-20-3	Naphthalene	10 U
106-47-8	4-Chloroaniline	10 U
87-88-3	Hexachlorobutadiene	10 U
59-50-7	4-Chloro-3-Methylphenol	10 U
81-57-6	2-Methylnaphthalene	10 U
77-47-4	Hexachlorocyclopentadiene	10 U
88-06-2	2,4,6-Trichlorophenol	10 U
95-95-4	2,4,6-Trichlorophenol	50 U
81-58-7	2-Chloronaphthalene	10 U
88-74-4	2-Nitroaniline	50 U
1-11-3	Dimethyl Phthalate	10 U
66-86-8	Acenaphthylene	10 U
99-09-2	3-Nitroaniline	50 U

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	10 U
51-28-5	2,4-Dinitrophenol	50 U
100-02-7	4-Nitrophenol	50 U
132-64-8	Dibenzofuran	10 U
121-14-2	2,4-Dinitrotoluene	10 U
606-20-2	2,6-Dinitrotoluene	10 U
84-86-2	Diethylphthalate	10 U
7005-72-3	4-Chlorophenyl-phenylether	10 U
86-73-7	Fluorene	10 U
100-01-8	4-Nitroaniline	50 U
534-52-1	4,6-Dimethoxy-2-Methylphenol	50 U
86-30-6	N-Nitrosodiphenylamine (1)	10 U
101-85-3	4-Bromophenyl-phenylether	10 U
118-74-1	Hexachlorobenzene	10 U
87-86-5	Pentachlorophenol	50 U
85-01-8	Phenanthrene	10 U
120-12-7	Anthracene	10 U
84-74-2	Di-n-Butylphthalate	10 U
206-44-0	Fluoranthene	10 U
129-00-0	Pyrene	10 U
85-88-7	Butylbenzylphthalate	10 U
91-84-1	3,3-Dichlorobenzidine	20 U
56-55-3	Benzo(a)Anthracene	10 U
117-81-7	bis(2-Ethylhexyl)Phthalate	10 U
218-01-9	Chrysene	10 U
117-84-0	Di-n-Octyl Phthalate	10 U
205-99-2	Benzo(b)Fluoranthene	10 U
207-08-9	Benzo(k)Fluoranthene	10 U
50-32-8	Benzo(a)Pyrene	10 U
193-39-5	Indeno(1,2,3-cd)Pyrene	10 U
53-70-3	Dibenz(a,h)Anthracene	10 U
191-24-2	Benzo(g,h,i)Perylene	10 U

(1)-Cannot be separated from diphenylamine

Laboratory Name SOUTHWEST LABORATORY OF OKLAHOMA

Case No 7312

Contract # 68-01-7168/1A or 2A **Organics Analysis Data Sheet**
(Page 3)

Sample Number

BJ 875

Pesticide/PCBs

Concentration Low Medium (Circle One)

Date Extracted/Prepared 5-24-87

Date Analyzed 6-13-87

Conc/Dil Factor 1

Percent Moisture (decanted) —

GPC Cleanup ☐ Yes ☒ No

Separatory Funnel Extraction ☐ Yes

Continuous Liquid-Liquid Extraction ☒ Yes

CAS

Number

ug/l or ug/Kg
(Circle One)

319 84 6	Alpha BHC	0.05 U
319 85 7	Beta BHC	0.05 U
319 86 8	Delta BHC	0.05 U
58 89 9	Gamma BHC (Lindane)	0.05 U
75 44 8	Heptachlor	0.05 U
309 00 2	Aldrin	0.05 U
1024 57 3	Heptachlor Epoxide	0.05 U
959 98 8	Endosulfan I	0.05 U
60 57 1	Dieldrin	0.10 U
72 55 9	4,4-DDE	0.10 U
72 20 8	Endrin	0.10 U
33213 65 9	Endosulfan II	0.10 U
72 54 8	4,4-DDD	0.10 U
1031 07 8	Endosulfan Sulfate	0.10 U
50 29 3	4,4-DDT	0.10 U
72 43 5	Methoxychlor	0.5 U
53494 70 5	Endrin Ketone	1.0 U
57 74 9	Chlordane	0.5 U
8001 35 2	Toxaphene	1.0 U
12674 11 2	Aroclor 1016	0.5 U
11164 28 2	Aroclor 1224	0.5 U
11141 16 5	Aroclor 1233	0.5 U
53469 21 9	Aroclor 1242	0.5 U
12672 29 6	Aroclor 1248	0.5 U
11097 69 1	Aroclor 1254	1.0 U
11096 82 5	Aroclor 1260	1.0 U

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_i 1000 or W_s — V_t 1000 V_s 5

Sample Number
BJ 878

Organics Analysis Data Sheet (Page 1)

Laboratory Name SOUTHWEST LABORATORY OF OKLA.
Lab Sample ID No 2125 2129 / 12294
Sample Matrix SOIL
Data Release Authorized By Jayant Shringarpure

Case No: 7312
QC Report No: _____
Contract No: 68-01-7168/1A 68-01-7168/2A
Date Sample Received 05-21-87

Volatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared N/A

Date Analyzed 05-22-87

Conc/Dil Factor: 1 pH 6.8

Percent Moisture (Not Decanted) 49

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	10 U
74-83-9	Bromomethane	10 U
75-01-4	Vinyl Chloride	10 U
75-00-3	Chloroethane	10 U
75-09-2	Methylene Chloride	12 5 U
67-64-1	Acetone	10 U
75-15-0	Carbon Disulfide	5 U
75-35-4	1, 1-Dichloroethane	5 U
75-34-3	1, 1-Dichloroethane	5 U
156-60-5	Trans-1, 2-Dichloroethane	5 U
67-66-3	Chloroform	5 U
107-06-2	1, 2-Dichloroethane	5 U
78-93-3	2-Butanone	10 U
71-55-6	1, 1, 1-Trichloroethane	5 U
56-23-5	Carbon Tetrachloride	5 U
108-05-4	Vinyl Acetate	10 U
75-27-4	Bromodichloromethane	5 U

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1, 2-Dichloropropane	5 U
10061-02-6	Trans-1, 3-Dichloropropane	5 U
79-01-6	Trichloroethene	5 U
124-48-1	Dibromochloromethane	5 U
79-00-5	1, 1, 2-Trichloroethane	5 U
71-43-2	Benzene	5 U
10061-01-5	cis-1, 3-Dichloropropane	5 U
110-75-8	2-Chloroethylvinylether	10 U
75-25-2	Bromoform	5 U
591-78-6	4-Methyl-2-Pentanone	10 U
108-10-1	2-Hexanone	10 U
127-18-4	Tetrachloroethene	5 U
78-34-5	1, 1, 2, 2-Tetrachloroethane	5 U
108-86-3	Toluene	9 5 U
108-90-7	Chlorobenzene	5 U
100-41-4	Ethylbenzene	5 U
100-42-8	Styrene	5 U
	Total Xylenes	5 U

Data Reporting Qualifiers

For reporting results to EPA the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

- U** If the result is a value greater than or equal to the detection limit report the value.
- D** Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.
- J** Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g., 10U). If limit of detection is 10 ug/l and a concentration of 2 ug/l is calculated report as 2U.

- C** This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides 2:10 ug/l in the final extract should be confirmed by GC/MS.
- B** This flag is used when the analyte is found in the blank as well as a sample. It indicates possible probable blank contamination and warns the data user to take appropriate action.
- Other** Other specific flags and footnotes may be required to accurately define the results. If used they must be fully described and such description attached to the data summary report.

Laboratory Name SOUTHWEST LABORATORY OF OKLA.Case No. 7312

Sample Number

BJ 878Contract # 68-01-7168/1A 68-01-7168/2AOrganics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)Date Extracted/Prepared 05-28-87Date Analyzed 06-23-87Conc/Dil Factor: 1Percent Moisture (Decanted) 49GPC Cleanup ☐ Yes ☒ NoSeparatory Funnel Extraction ☐ YesContinuous Liquid-Liquid Extraction ☐ Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	330 U
111-44-4	bis(2-Chloroethyl)Ether	330 U
95-57-8	2-Chlorophenol	330 U
541-73-1	1,3-Dichlorobenzene	330 U
106-46-7	1,4-Dichlorobenzene	330 U
100-51-6	Benzyl Alcohol	330 U
95-50-1	1,2-Dichlorobenzene	330 U
95-48-7	2-Methylphenol	330 U
39638-32-9	bis(2-chloroisopropyl)Ether	330 U
106-44-5	4-Methylphenol	330 U
621-64-7	N-Nitroso-Di-n-Propylamine	330 U
67-72-1	Hexachloroethane	330 U
98-95-3	Nitrobenzene	330 U
78-59-1	Isophorone	330 U
88-75-5	2-Nitrophenol	330 U
105-67-9	2,4-Dimethylphenol	330 U
65-85-0	Benzoic Acid	1600 U
111-91-1	bis(2-Chloroethoxy)Methane	330 U
120-83-2	2,4-Dichlorophenol	330 U
120-82-1	1,2,4-Trichlorobenzene	330 U
91-20-3	Naphthalene	330 U
106-47-8	4-Chloroaniline	330 U
87-68-3	Hexachlorobutadiene	330 U
59-50-7	4-Chloro-3-Methylphenol	330 U
91-57-6	2-Methylnaphthalene	330 U
77-47-4	Hexachlorocyclopentadiene	330 U
88-08-2	2,4,6-Trichlorophenol	330 U
95-95-4	2,4,6-Trichlorophenol	1600 U
91-58-7	2-Chloronaphthalene	330 U
88-74-4	2-Nitroaniline	1600 U
131-11-3	Dimethyl Phthalate	330 U
208-96-8	Acenaphthylene	973 330 U
99-09-2	3-Nitroaniline	1600 U

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	1313 330 U
51-28-5	2,4-Dinitrophenol	1600 U
100-02-7	4-Nitrophenol	1600 U
132-64-9	Dibenzofuran	330 U
121-14-2	2,4-Dinitrotoluene	330 U
606-20-2	2,6-Dinitrotoluene	330 U
84-86-2	Diethylphthalate	330 U
7005-72-3	4-Chlorophenyl-phenylether	330 U
86-73-7	Fluorene	1393 330 U
100-01-6	4-Nitroaniline	1600 U
534-52-1	4,6-Dinitro-2-Methylphenol	1600 U
86-30-6	N-Nitrosodiphenylamine (1)	330 U
101-65-3	4-Bromophenyl-phenylether	330 U
118-74-1	Hexachlorobenzene	330 U
87-86-5	Pentachlorophenol	1600 U
85-01-8	Phenanthrene	1653 330 U
120-12-7	Anthracene	3205 330 U
84-74-2	Di-n-Butylphthalate	330 U
208-44-0	Fluoranthene	2480 330 U
128-00-0	Pyrene	1645 330 U
95-68-7	Butylbenzylphthalate	1658 330 U
91-94-1	3,3-Dichlorobenzidine	660 U
56-55-3	Benzo(a)Anthracene	1023 330 U
117-91-7	bis(2-Ethylhexyl)Phthalate	7800 330 U
218-01-9	Chrysene	987 330 U
117-84-0	Di-n-Octyl Phthalate	1023 330 U
205-99-2	Benzo(b)Fluoranthene	1514 330 U
207-08-9	Benzo(k)Fluoranthene	330 U
50-32-8	Benzo(e)Pyrene	876 330 U
193-39-5	Indeno(1,2,3-cd)Pyrene	808 330 U
53-70-3	Dibenzo(h)Anthracene	1903 330 U
191-24-2	Benzo(g,h,i)Perylene	800 330 U

*1) Cannot be separated from diphenylamine

Form 1

Reported Value for
Total Benzo (B) & (K) Fluoranthene 9.85

Laboratory Name SOUTHWEST LABORATORY OF OKLAHOMACase No. 7312Contract # 68-01-7168/1A or 2A **Organics Analysis Data Sheet**
(Page 3)

Sample Number

BJ 878

Pesticide/PCBs

Concentration. Low

Medium (Circle One)

GPC Cleanup ☐ Yes ☒ NoDate Extracted/Prepared 5-28-87Separatory Funnel Extraction ☐ YesDate Analyzed 6-14-87Continuous Liquid-Liquid Extraction ☐ YesConc/Dil Factor 10Percent Moisture (decanted) 49.4CAS
Numberug/l or ug/Kg
(Circle One)

319 84 6	Alpha BHC	8.0 U
319 85 7	Beta BHC	8.0 U
319 86 8	Delta BHC	8.0 U
55 89 9	Gamma BHC (Lindane)	8.0 U
76 44 8	Heptachlor	8.0 U
309 00 2	Aldrin	8.0 U
1024 57 3	Heptachlor Epoxide	8.0 U
959 98 8	Endosulfan I	8.0 U
60 57 1	Dieldrin	16.0 U
72 55 9	4,4-DDE	16.0 U
72 20 8	Endrin	16.0 U
33213 65 9	Endosulfan II	16.0 U
72 54 8	4,4-DDD	16.0 U
1031 07 8	Endosulfan Sulfate	16.0 U
50 29 3	4,4-DDT	16.0 U
72 43 5	Methoxychlor	80.0 U
53494 70 5	Endrin Ketone	16.0 U
57 74 9	Chlordane	80.0 U
8007 35 2	Toxaphene	160.0 U
12674 11 2	Aroclor 1016	80.0 U
11104 28 2	Aroclor 1221	80.0 U
11181 16 5	Aroclor 1232	80.0 U
53469 21 8	Aroclor 1242	80.0 U
12672 29 6	Aroclor 1248	80.0 U
11097 69 1	Aroclor 1254	160.0 U
11096 82 5	Aroclor 1260	160.0 U

 V_i = Volume of extract injected (ul) V_e = Volume of water extracted (ml) W_s = Weight of sample extracted (g) V_t = Volume of total extract (ul) V_i W_s 49.83 V_t 10000 V_e 5

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: SOUTHWEST LABORATORY OF OKLA. Case No: 7312
 Lab Sample ID No: 2125 / 12295 QC Report No: _____
 Sample Matrix: WATER Contract No: 68-01-7168/1A 68-01-7168/2A
 Data Release Authorized By: Jayant Shringarpure Date Sample Received: 05-21-87

Volatile Compounds

Concentration: (Low) Medium (Circle One)Date Extracted/Prepared: N/ADate Analyzed: 05-22-87Conc/Dil Factor: 1 pH: 7.9Percent Moisture (Not Decanted): N/A

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	10 U
74-83-9	Bromomethane	10 U
75-01-4	Vinyl Chloride	10 U
75-00-3	Chloroethane	10 U
75-09-2	Methylene Chloride	5 U
7-64-1	Acetone	758 10 U
75-15-0	Carbon Disulfide	5 U
75-35-4	1,1-Dichloroethane	5 U
78-34-3	1,1-Dichloroethane	5 U
186-80-5	Trans-1,2-Dichloroethane	5 U
67-66-3	Chloroform	5 U
107-06-2	1,2-Dichloroethane	5 U
78-93-3	2-Butanone	10 U
71-55-6	1,1,1-Trichloroethane	5 U
56-23-5	Carbon Tetrachloride	5 U
108-05-4	Vinyl Acetate	10 U
75-27-4	Bromodichloromethane	5 U

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1,2-Dichloropropane	5 U
10061-02-6	Trans-1,3-Dichloropropene	5 U
79-01-6	Trichloroethene	5 U
124-48-1	Dibromochloromethane	5 U
79-00-5	1,1,2-Trichloroethane	5 U
71-43-2	Benzene	5 U
10061-01-5	cis-1,3-Dichloropropene	5 U
110-75-8	2-Chloroethylvinylether	10 U
75-25-2	Bromoform	5 U
591-78-6	4-Methyl-2-Pentanone	10 U
108-10-1	2-Hexanone	10 U
127-18-4	Tetrachloroethene	5 U
79-34-5	1,1,2,2-Tetrachloroethane	5 U
108-88-3	Toluene	5 U
108-90-7	Chlorobenzene	5 U
100-41-4	Ethylbenzene	5 U
100-42-5	Styrene	5 U
	Total Xylenes	5 U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U to g. 10U based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: "Compound was analyzed for but not detected. The number is the minimum detectable detection limit for the sample."

Est Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g., 10U). If limit of detection is 10 ug/l and a concentration of 3 ug/l is calculated, report as 3U.

C This flag applies to pesticide parameters where the identification has been confirmed by GC MS. Single component pesticides >10 ug/l in the final extract should be confirmed by GC MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible problem blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and each definition attached to the data summary report.

Laboratory Name SOUTHWEST LABORATORY OF OKLA.

Case No. 7312

Contract # 68-01-7168/1A 68-01-7168/2A **Organics Analysis Data Sheet**
(Page 2)

Sample Number

BJ881

Semivolatiles Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared 05-23-87

Date Analyzed 06-24-87

Conc/Dil Factor: 1

Percent Moisture (Decanted) N/A

GPC Cleanup ☐ Yes ☒ No

Separatory Funnel Extraction ☐ Yes

Continuous Liquid-Liquid Extraction ☒ Yes

CAS Number ug/l or ug/Kg
(Circle One)

106-95-2	Phenol	10 U
111-44-4	bis(2-Chloroethyl)Ether	10 U
95-57-8	2-Chlorophenol	10 U
541-73-1	1,3-Dichlorobenzene	10 U
106-46-7	1,4-Dichlorobenzene	10 U
100-81-6	Benzyl Alcohol	10 U
95-50-1	1,2-Dichlorobenzene	10 U
48-7	2-Methylphenol	10 U
39638-32-9	bis(2-chloroisopropyl)Ether	10 U
106-44-5	4-Methylphenol	10 U
621-84-7	N-Nitroso-Di-n-Propylamine	10 U
67-72-1	Hexachloroethane	10 U
98-95-3	Nitrobenzene	10 U
78-59-1	Isophorone	10 U
88-75-6	2-Nitrophenol	10 U
106-87-9	2,4-Dimethylphenol	10 U
65-85-0	Benzoic Acid	50 U
111-91-1	bis(2-Chloroethoxy)Methane	10 U
120-83-2	2,4-Dichlorophenol	10 U
120-82-1	1,2,4-Trichlorobenzene	10 U
91-20-3	Naphthalene	10 U
106-47-8	4-Chloroaniline	10 U
87-68-3	Hexachlorobutadiene	10 U
59-50-7	4-Chloro-3-Methylphenol	10 U
91-87-6	2-Methylnaphthalene	10 U
77-47-4	Hexachlorocyclopentadiene	10 U
88-08-2	2,4,6-Trichlorophenol	10 U
95-85-4	2,4,6-Trichlorophenol	50 U
91-88-7	2-Chloronaphthalene	10 U
88-74-4	2-Nitroaniline	50 U
131-11-3	Dimethyl Phthalate	10 U
86-8	Acenaphthylene	10 U
89-09-2	3-Nitroaniline	50 U

CAS Number ug/l or ug/Kg
(Circle One)

83-32-9	Acenaphthene	10 U
51-28-5	2,4-Dinitrophenol	50 U
100-02-7	4-Nitrophenol	50 U
132-64-9	Dibenzofuran	10 U
121-14-2	2,4-Dinitrotoluene	10 U
506-20-2	2,6-Dinitrotoluene	10 U
84-86-2	Diethylphthalate	10 U
7005-72-3	4-Chlorophenyl-phenylether	10 U
86-73-7	Fluorene	10 U
100-01-8	4-Nitroaniline	50 U
534-82-1	4,6-Dinitro-2-Methylphenol	50 U
86-30-6	N-Nitrosodiphenylamine (1)	10 U
101-85-3	4-Bromophenyl-phenylether	10 U
118-74-1	Hexachlorobenzene	10 U
87-86-5	Pentachlorophenol	50 U
85-01-8	Phenanthrene	10 U
120-12-7	Anthracene	10 U
84-74-2	Di-n-Butylphthalate	10 U
206-44-0	Fluoranthene	10 U
129-00-0	Pyrene	10 U
85-88-7	Butylbenzylphthalate	10 U
91-84-1	3,3-Dichlorobenzidine	20 U
56-55-3	Benzo(a)Anthracene	10 U
117-81-7	bis(2-Ethylhexyl)Phthalate	10 U
218-01-9	Chrysene	10 U
117-84-0	Di-n-Octyl Phthalate	10 U
205-99-2	Benzo(b)Fluoranthene	10 U
207-08-9	Benzo(k)Fluoranthene	10 U
50-32-8	Benzo(a)Pyrene	10 U
183-39-5	Indeno(1,2,3-cd)Pyrene	10 U
53-70-3	Dibenzo(h)Anthracene	10 U
191-24-2	Benzo(g,h,i)Perylene	10 U

(1) Cannot be separated from diphenylamine

Laboratory Name SOUTHWEST LABORATORY OF OKLAHOMACase No. 7312Contract # 68-01-7168/1A or 2A

Organics Analysis Data Sheet

(Page 3)

Sample Number

BJ 881

Pesticide/PCBs

Concentration Low Medium (Circle One)Date Extracted/Prepared 5-24-87Date Analyzed 6-13-87Conc/Dil Factor 1Percent Moisture (decanted) —GPC Cleanup ☐ Yes ☒ NoSeparatory Funnel Extraction ☐ YesContinuous Liquid-Liquid Extraction ☒ YesCAS
Numberug/L or ug/Kg
(Circle One)

319-84-6	Alpha BHC	0.05 U
319-85-7	Beta BHC	0.05 U
319-86-8	Delta BHC	0.05 U
58-89-9	Gamma BHC (Lindane)	0.05 U
76-44-8	Heptachlor	0.05 U
309-00-2	Aldrin	0.05 U
1024-57-3	Heptachlor Epoxide	0.05 U
959-98-8	Endosulfan I	0.05 U
60-57-1	Dieldrin	0.10 U
72-55-9	4,4-DDE	0.10 U
72-20-8	Endrin	0.10 U
33213-65-9	Endosulfan II	0.10 U
72-54-8	4,4-DDD	0.10 U
1031-07-8	Endosulfan Sulfate	0.10 U
50-29-3	4,4-DDT	0.10 U
72-43-5	Methoxychlor	0.5 U
53494-70-5	Endrin Ketone	1.0 U
57-74-9	Chlordane	0.5 U
8001-35-2	Toxaphene	1.0 U
12674-11-2	Aroclor-1016	0.5 U
11104-28-2	Aroclor-1221	0.5 U
11141-16-5	Aroclor-1232	0.5 U
53469-21-9	Aroclor-1242	0.5 U
12672-29-6	Aroclor-1248	0.5 U
11097-69-1	Aroclor-1254	1.0 U
11096-82-5	Aroclor-1260	1.0 U

 V_i = Volume of extract injected (ul) V_s = Volume of water extracted (ml) W_s = Weight of sample extracted (g) V_t = Volume of total extract (ul) V_s 1000 or W_s — V_i 10000 V_t 5

REFERENCE NO. 22

NUS CORPORATION
SUPERFUND DIVISION

PROJECT NOTES

TO: File: Houdaille Industries; 02-8704-12 DATE: 12-22-88

FROM: J.B. Goble

COPIES N/A

SUBJECT: Population Served by G.W.

REFERENCE: Calculation of above

Using the information given me by Arlene Richardson of Newstead Township (see Ref. 4, this report), the # of houses using groundwater w/i 3m. of the site (outside area serviced by public water) equals 182.

$$\text{Population} = 182 \times 3.8 \approx 692$$

REFERENCE NO. 23

Dangerous Properties of Industrial Materials

Sixth Edition

N. IRVING SAX

Assisted by:

Benjamin Feiner/Joseph J. Fitzgerald/Thomas J. Haley/Elizabeth K. Weisburger



VAN NOSTRAND REINHOLD COMPANY
NEW YORK CINCINNATI TORONTO LONDON MELBOURNE

2250 POLYCHLORINATED BIPHENYL (AROCLOR 1232)

POLYCHLORINATED BIPHENYL (AROCLOR 1232)

CAS RN: 11141165

NIOSH #: TQ 1354000

SYNS:

AROCLOR 1232

CHLORODIPHENYL (32% Cl)

TOXICITY DATA:

2-1

CODEN:

ori-rat LD50: 4470 mg/kg
skn-rbt LDLo: 2000 mg/kg

ARVPAX 14,139,74
ARVPAX 14,139,74

Carcinogenic Determination: Human Suspected IARC**
18,43,78. *Toxicology Review:* ARVPAX 14,139,74;
STEVA8 2(4),305,74. Occupational Exposure to Poly-
chlorinated Biphenyls recm Std: Air: TWA 1.0 ug/
m3 NTIS**.

THR: Susp hmn CARC. MOD skn; LOW orl. See also
PCB's.

Disaster Hazard: When heated to decomp it emits tox
fumes of Cl⁻.

POLYCHLORINATED BIPHENYL (AROCLOR 1242)

CAS RN: 53469219

NIOSH #: TQ 1356000

SYNS:

AROCHLOR 1242
AROCLOR 1242

CHLORIERTE BIPHENYLE, CHLOR-
GEHALT 42% (GERMAN)
CHLORODIPHENYL (42% Cl)

CLORODIFENILI, CLORO 42%
(ITALIAN)

DIPHENYLE CHLORE, 42% DE
CHLORE (FRENCH)
GECHLOREERDEIDIFENYL
(DUTCH)

TOXICITY DATA:

3-2

CODEN:

ihl-hmn TCLo: 10 mg/m3:IRR
ori-rat LD50: 4250 mg/kg
scu-gpg LDLo: 345 mg/kg

85CYAB 2,153,59
TXAPA9 24,434,73
PHRPA6 59,1085,44

Carcinogenic Determination: Human Suspected IARC**
18,43,78. *TLV:* Air: 1 mg/m3 (skin) DTLVS* 4,88,80.
Toxicology Review: EVHPAZ 1,105,72; ARVPAX
14,139,74; RREVAH 44,1,73; STEVA8 2(4),305,74;
BISNAS 20,958,70. OSHA Standard: Air: TWA 1 mg/
m3 (skin) (SCP-I) FEREAC 39,23540,74. Occupa-
tional Exposure to Polychlorinated Biphenyls recm Std:
Air: TWA 1.0 ug/m3 NTIS**. "NIOSH Manual of
Analytical Methods" VOL 4 S120*.

THR: Susp hmn CARC; A hmn ihl IRR. HIGH scu;
MOD orl; see also PCB's.

Disaster Hazard: When heated to decomp it emits tox
fumes of Cl⁻.

For further information see Chlorinated Diphenys, Vol.
1, No. 3 of *DPIM Report*.

POLYCHLORINATED BIPHENYL (AROCLOR 1248)

CAS RN: 12672296

NIOSH #: TQ 1358000

SYNS:

AROCLOR 1248

CHLORODIPHENYL (48% Cl)

TOXICITY DATA:

3

CODEN:

ori-mky TDLo: 455 mg/kg
ori-mky TDLo: 33 mg/kg/(1-166D
preg):TER

FEPRAT 34,338,75
TXCYAC 6,331,76

ori-rat LD50: 11 gm/kg
skn-rbt LDLo: 1269 mg/kg

ARVPAX 14,139,74
ARVPAX 14,139,74

Carcinogenic Determination: Human Suspected IARC**
18,43,78. *Toxicology Review:* ARVPAX 14,139,74;
STEVA8 2(4),305,74. Occupational Exposure to Poly-
chlorinated Biphenyls recm Std: Air: TWA 1.0 ug/
m3 NTIS**.

THR: An exper TER. A susp hmn CARC. MOD skn;
LOW orl. See also PCB's.

Disaster Hazard: When heated to decomp it emits tox
fumes of Cl⁻.

For further information see Chlorinated Diphenyls, Vol.
1, No. 3 of *DPIM Report*.

POLYCHLORINATED BIPHENYL (AROCLOR 1254)

CAS RN: 11097691

NIOSH #: TQ 1360000

Composed of 11% tetra-, 49% penta-, 34% hexa- and
6% heptachlorobiphenyls (FCTXAV 12,63,74)

SYNS:

AROCHLOR 1254
AROCLOR 1254

CHLORIERTE BIPHENYLE, CHLOR-
GEHALT 54% (GERMAN)
CHLORODIPHENYL (54% Cl)

CLORODIFENILI, CLORO 54%
(ITALIAN)

DIPHENYLE CHLORE, 54% DE
CHLORE (FRENCH)
NCI-C02664

TOXICITY DATA:

3

ori-rat TDLo: 188 mg/kg (MGN)
ori-rat TDLo: 645 mg/kg (MGN)
ori-rat TDLo: 90 mg/kg (7-15D preg)
ori-rbt TDLo: 350 mg/kg (1-28D preg)
ori-rat TDLo: 4 gm/kg/2Y-I:ETA

CODEN:

FCTXAV 12,63,74
FCTXAV 12,63,74
FCTXAV 11,471,73
EVPHBI 1,67,71
NCITR* NCI-CG-TR-
38,78

ori-mus TDLo: 17 gm/kg/
48W-C:NEO

skn-mus TDLo: 4 mg/kg:ETA
ori-rat LD50: 1295 mg/kg
ivn-rat LD50: 358 mg/kg
ipr-mus LD50: 2840 mg/kg

JNCIAM 53,547,74

BECTA6 18,552,77
FCTXAV 12,63,74
FCTXAV 12,63,74
BECTA6 8,245,72

Carcinogenic Determination: Human Suspected IARC**
18,43,78.

TLV: Air: 0.5 mg/m3 DTLVS* 4,89,80. *Toxicology Re-
view:* EVHPAZ 1,105,72; ARVPAX 14,139,74;
RREVAH 44,1,73; STEVA8 2(4),305,74; BISNAS
20,958,70. OSHA Standard: Air: TWA 500 ug/m3
(skin) (SCP-I) FEREAC 39,23540,74. Occupational
Exposure to Polychlorinated Biphenyls recm std: Air:
TWA 1.0 ug/m3 NTIS**. NCI Carcinogenesis Bioas-
say Completed; Results Indefinite: Rat (NCITR* NCI-
CG-TR-38,78). "NIOSH Manual of Analytical Meth-
ods" Vol. 2 S121.

THR: An exper ETA, NEO. A susp hmn CARC. HIGH
ivn; MOD orl, ipr. See also PCB's.

Disaster Hazard: When heated to decomp it emits tox
fumes of Cl⁻.

For further information see Chlorinated Diphenyls, Vol.
1, No. 3 of *DPIM Report*.

POLYCHLORINATED BIPHENYL (AROCLOR 1260)

CAS RN: 11096825

NIOSH #: TQ 1362000

926 DI-n-BUTYL PHTHALATE

TOXICITY DATA: 1

skn-rbt 10 mg/24H open MLD
ori-rat LD50: 25 gm/kg

CODEN:

AIHAAP 23,95,62
AIHAAP 23,95,62

THR: A skn irr. LOW orl. See also esters.

Disaster Hazard: When heated to decomp it emits tox fumes of PO_x.

DI-n-BUTYL PHTHALATE

CAS RN: 84742

NIOSH #: TI 0875000

mf: C₁₆H₂₂O₄; mw: 278.38

Oily liquid, mild odor. bp: 340°, fp: -35°, flash p: 315°F (CC), d: 1.047-1.049 @ 20°/20°, autoign. temp.: 757°F, vap. d: 9.58.

SYNS:

O-BENZENEDICARBOXYLIC ACID,
DIBUTYL ESTER
BENZENE-O-DICARBOXYLIC ACID
DI-N-BUTYL ESTER

DIBUTYL-1,2-BENZENEDICAR-
BOXYLATE
DIBUTYL PHTHALATE

TOXICITY DATA: 3

CODEN:

ipr-rat TDLo: 874 mg/kg (5-15D preg)
TFX: TER

JPMSAE 61,51,72

ori-rat TDLo: 8400 ug/kg (7D male)
ipr-rat TDLo: 1017 mg/kg (5-15D

TXAPA9 53,35,80
JPMSAE 61,51,72

preg)
ipr-rat TDLo: 305 mg/kg (5-15D preg)
ori-mus TDLo: 1440 mg/kg (1-18D

JPMSAE 61,51,72
ENVRAL 22,245,80

preg)
ori-mus TDLo: 12 gm/kg (1-18D preg)
ori-mus TDLo: 38 gm/kg (1-18D preg)

ENVRAL 22,245,80
ENVRAL 22,245,80
GTPZAB 17(10),51,73
GTPZAB 17(10),51,73
GTPZAB 17(10),51,73
MUREAV 48,337,77
JPMSAE 61,51,72

ihl-rat LC50: 7900 ug/m³
ori-mus LD50: 5282 ug/kg

ihl-mus LC50: 2100 ug/m³
cyt-ham: fbr 30 mg/L/24H

ipr-rat TDLo: 874 mg/kg (5-15D

preg): TER
ori-hmn TDLo: 140 mg/kg: EYE

SMWOAS 84,1243,54
SPEADM 74-1,-74

ori-rat LD50: 12000 mg/kg
ipr-rat LD50: 3050 mg/kg

JPMSAE 61,51,72
GTPZAB 24(3),25,80

unk-rat LD50: 10000 mg/kg
ipr-mus LD50: 3570 mg/kg

JSCCA5 28,667,77
GTPZAB 24(3),25,80

unk-mus LD50: 10000 mg/kg
unk-gpg LD50: 10000 mg/kg

GTPZAB 24(3),25,80
GTPZAB 24(3),25,80

ihl-mam LC50: 9620 mg/m³

Aquatic Toxicity Rating: TLm96: 1000-100 ppm
WQCHM* 4,-,74.

TLV: Air: 5 mg/m³ DTLVS* 4,124,80. Toxicology Re-
view: RREVAH 54,1,75; EVHPAZ 4,3,73; CMTVAS
10(3),49,73; ESKHAS 93,1,75; 27ZTAP 3,28,69.
OSHA Standard: Air: TWA 5 mg/m³ (SCP-D)
FEREAC 39,23540,74. "NIOSH Manual of Analytical
Methods" VOL 2 S33. Reported in EPA TSCA Inven-
tory, 1980. EPA TSCA 8(a) Preliminary Assessment
Information Proposed Rule FERREAC 45,13646,80.

THR: MUT data. An exper TER. A hmn EYE. MOD
ipr. LOW orl, unk, ihl. See esters, phthalic acid and
butyl alcohol.

Fire Hazard: Slight, when exposed to heat or flame; can
react with oxidizing materials. Violent reaction with
Cl₂.

To Fight Fire: CO₂, dry chemical.

Incomp: Chlorine.

N,N-DIBUTYLPROPIONAMIDE

CAS RN: 1187333

NIOSH #: UE 3500000

mf: C₁₁H₂₃NO; mw: 185.35

TOXICITY DATA: 3

CODEN:

ipr-mus LDLo: 125 mg/kg

CBCCT* 5,288,53

Reported in EPA TSCA Inventory, 1980.

THR: HIGH ipr.

Disaster Hazard: When heated to decomp it emits tox
fumes of NO_x.

DIBUTYL SEBACATE

CAS RN: 109433

NIOSH #: VS 1150000

mf: C₁₈H₃₄O₄; mw: 314.52

Clear liquid. bp: 180° @ 3 mm, fp: -11°, flash p: 353°F
(COC), d: 0.936 @ 20°/20°, vap. d: 10.8.

SYNS:

SEBACIC ACID, DIBUTYL ESTER
BIS(N-BUTYL)SEBACATE

DECANEDIOIC ACID, DIBUTYL ES-
TER
DI-N-BUTYL SEBACATE

TOXICITY DATA: 1

CODEN:

ori-rat TDLo: 418 g/kg (10W male/
10D pre)

AMIHBC 7,310,53

ori-rat LD50: 16000 mg/kg

NPIRI* 2,22,75

Reported in EPA TSCA Inventory, 1980.

THR: LOW orl. See esters and butyl alcohol.

Fire Hazard: Slight, when exposed to heat or flame; can
react with oxidizing materials.

To Fight Fire: CO₂, dry chemical.

DIBUTYL(TETRACHLOROPHTHALATO)
STANNANE

CAS RN: 23535899

NIOSH #: DF 4500000

mf: C₁₆H₁₆Cl₄O₄Sn; mw: 534.83

SYNS:

DIBUTYL TIN TETRACHLORO-
PHTHALATE

DIBUTYL(TETRACHLORO-
PHTHALATO)STANNANE

TOXICITY DATA: 3

CODEN:

ivn-mus LD50: 180 mg/kg

CSLNX* NX#02077

Occupational Exposure to Organotin Compounds recm
std: Air: TWA 0.1 mg(Sn)/m³ NTIS**.

THR: HIGH ivn. See also tin compounds.

Disaster Hazard: When heated to decomp it emits tox
fumes of Cl⁻.

1,3-DIBUTYLTHIOUREA

CAS RN: 109466

NIOSH #: YS 8400000

mf: C₉H₂₀N₂S; mw: 188.37

White to light tan powder; mp: 60°; vap d: 6.5.

SYNS:

N,N'-DIBUTYLTHIOUREA
1,3-DI-N-BUTYL-2-THIOUREA

USAF EK-2138

TOXICITY DATA: 3-2

CODEN:

ori-rat LD50: 350 mg/kg

JPETAB 90,260,47

ipr-mus LD50: 800 mg/kg

NTIS** AD277-689

FLUORACIZINE

CAS RN: 30223484 NIOSH #: SO 4700000
mf: $C_{20}H_{21}F_3N_2OS$; mw: 394.49

SYN: 10-DIETHYLAMINOPROPIONYL-3-TRIFLUOROMETHYL PHENOTHIAZINE HYDROCHLORIDE

TOXICITY DATA: 3 CODEN:
unk-rat TDLo: 300 mg/kg (16-21D RPTOAN 36(4), 178.73
preg): TER
unk-mus TDLo: 10 mg/kg (4D preg) RPTOAN 36 178.73
unk-rbt TDLo: 140 mg/kg (16-29D RPTOAN 36 178.73
preg)

THR: An exper TER.

Disaster Hazard: When heated to decomp it emits very tox fumes of SO_x , NO_x and F^- .

FLUORANTHENE

CAS RN: 206440 NIOSH #: LL 4025000
mf: $C_{16}H_{10}$; mw: 202.26

A polycyclic hydrocarbon. Colorless solid. mp: 120° , bp: 367° , vap. press: 0.01 mm @ 20° .

SYNS:

BENZO(1K)FLUORENE
IDRYL

1,2-(1,8-NAPHTHYLENE)BENZENE

TOXICITY DATA: 3 CODEN:
mma-sat 100 mg/L/72H FCTXAV 17,141,79
skn-mus TDLo: 280 mg/kg/58W-I JNCIAM 56,1237,76
TFX: ETA
ori-rat LD50: 2000 mg/kg AIHAAP 23,95,62
ivn-mus LD50: 100 mg/kg CSLNX* NX#00205
skn-rbt LD50: 3180 mg/kg AIHAAP 23,95,62

"NIOSH Manual of Analytical Methods" VOL 1 183, 184. Reported in EPA TSCA Inventory, 1980. EPA TSCA 8(a) Preliminary Assessment Information Proposed Rule FERREAC 45,13646,80.

THR: An exper ETA. HIGH ivn. MOD oral and skin. MUT data.

Fire Hazard: Slight, when exposed to heat or flame.

Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

1,1'-(3,9-FLUORANTHENEDIYL)BIS(2-DIMETHYLAMINO)ETHANONE)
DIHYDROCHLORIDE HYDRATE

CAS RN: 64296500 NIOSH #: KM 5776000
mf: $C_{24}H_{24}N_2O_2 \cdot 2ClH \cdot xH_2O$; mw: 571.56

SYN: RMI 11645 DA

TOXICITY DATA: 2 CODEN:
ori-mus LD50: 2590 mg/kg ALACBI 12,77,79
scu-mus LD50: 930 mg/kg ALACBI 12,77,79

THR: MOD ori, scu.

Disaster Hazard: When heated to decomp it emits very tox fumes of HCl and NO_x .

FLUORAPATITE

CAS RN: 1306054 NIOSH #: LL 4850000
mf: $Ca_{10}F_2O_4P$; mw: 533.77

SYN: PHOSPHATE ROCK

TOXICITY DATA:

Occupational Exposure to Inorganic Fluorides-recm std:
Air: TWA 2.5 mg(F)/m³ NTIS**.

THR: See also fluorides and phosphates.

Disaster Hazard: When heated to decomp it emits very tox fumes of F^- and PO_x .

FLUOREN-2-AMINE

CAS RN: 153786 NIOSH #: LL 5075000
mf: $C_{13}H_{11}N$; mw: 181.25

SYNS:

AMINOFLUOREN (GERMAN)
2-AMINOFLUORENE

2-FLUORENAMINE
2-FLUORENEAMINE

TOXICITY DATA: 3 CODEN:
dad-rat:ivr 4200 nmol/L CNREA8 40,3579,80
dns-rat:ivr 500 nmol/L ENMUDM 3,11,81
bfa-rat/sat 10 mg/kg ENMUDM 1,155,79
msc-rat:ivr 100 umol/L ENMUDM 2,278,80
dnr-sat 50 ug/plate MUREAV 89,1,81
mma-omi 20 ug/plate CBINA8 22,297,78
ori-rat TDLo: 3600 mg/kg/32W- CNREA8 15,188,55
C: CAR
skn-rat TDLo: 240 mg/kg/73W- JNCIAM 10,1201,50
I: CAR
scu-rat TDLo: 400 mg/kg/26W- CNREA8 7,453,47
I: ETA
ori-mus TDLo: 100 mg/kg/47W- CNREA8 7,453,47
C: ETA
skn-mus TDLo: 11 mg/kg/34W- BJCAA1 14,195,60
C: NEO
imp-mus TDLo: 50 mg/kg: CAR BJCAA1 12,222,58
ori-rat TD: 4000 mg/kg/23W-C: ETA CNREA8 7,730,47
ori-rat TD: 3200 mg/kg/58W-C: ETA CNREA8 7,453,47
ori-rat TD: 2420 mg/kg/23W-C: NEO JNCIAM 10,1201,50
imp-mus TD: 100 mg/kg: ETA BMBUAQ 14,147,58

Toxicology Review: 85CVA2 5,63,70.

THR: An exper CARC, ETA, NEO. MUT data.

Disaster Hazard: When heated to decomp it emits tox fumes of NO_x .

FLUORENE-9,9-(BIS)PROPYLAMINE

CAS RN: 2409190 NIOSH #: LL 5860000
mf: $C_{19}H_{24}N_2$; mw: 280.45

SYN: 9,9'-FLUORENEDIPROPYLAMINE

TOXICITY DATA: 2 CODEN:
eye-rbt 500 mg SEV IHFCAY 6,1,67
ori-rat LD50: 620 mg/kg IHFCAY 6,1,67

THR: MOD oral. A severe irr to rbt's eyes.

Disaster Hazard: When heated to decomp it emits tox fumes of NO_x .

9-FLUORENECARBOXYLATE-3-QUINUCLIDINOL HYDROCHLORIDE

CAS RN: 548652 NIOSH #: VD 7180000
mf: $C_{21}H_{22}NO_2 \cdot ClH$; mw: 356.90

SYN: FLUORENE-9-CARBOXYLIC ACID, 3-QUINUCLIDINYL ESTER

A mixture of 2 isomers, brown crystals, nearly insol in water, sol in most organic solvents. mp(α): 106°, mp(β): 212°, d: 1.745 @ 20°/20°.

SYNS:

ENT 23,979

ALPHA,BETA-1,2,3,4,7,7-

HEXACHLOROBICYCLO(2.2.1)-

2-HEPTENE-5,6-BIS(OXY-

METHYLENE SULFITE

1,2,3,4,7,7-HEXACHLORO-

BICYCLO(2.2.1)HEPTEN-

5,6-BIS(OXYMETHYLENE)SUL-

FITE

HEXACHLOROHEXAHYDRO-

METHANO

2,4,3-BENZODIOXATHIEPIN-3-

OXIDE

6,7,8,9,10,10-HEXACHLORO-1,5,

5a,6,9,9a-HEXAHYDRO-6,9-

METHANO-2,4,3-BENZODIOXA-

THIEPIN-3-OXIDE

1,4,5,6,7,7-HEXACHLORO-5-NOR-

BORNENE-2,3-DIMETHANOL

CYCLIC SULFITE

NCI-C00566

TOXICITY DATA: 3

orl-rat TDLo:45 mg/kg/(6-14D

preg):TER

orl-mus TDLo:330 mg/kg/78W-

I:NEO

scu-mus TDLo:2 mg/kg:ETA

orl-rat LD50:18 mg/kg

skn-rat LD50:74 mg/kg

ipr-rat LD50:22 mg/kg

unk-rat LD50:40 mg/kg

orl-mus LD50:75 mg/kg

ipr-mus LD50:7 mg/kg

orl-cat LD50:2 mg/kg

skn-rbt LD50:167 mg/kg

orl-ham LD50:118 mg/kg

orl-dck LD50:34 mg/kg

orl-bwd LD50:35 mg/kg

CODEN:

RPTOAN 42,150,78

NTIS** PB223-159

NTIS** PB223-159

ARSIM* 20,9,66

WRPCA2 9,119,70

BECTA6 15,708,76

30ZDA9 -,267,71

GTPZAB 8(4),30,64

BECTA6 15,708,76

85DPAN -,71,76

BECTA6 14,513,75

JETOAS 7,159,74

TXAPA9 22,556,72

TXAPA9 21,315,72

Aquatic Toxicity Rating: TLm96:under 1 ppm

WQCHM* 3,-,74. TLV: Air: 0.1 mg/m3 (skin)

DTLVS* 4,165,80. Toxicology Review: DTTIAF

80(20),485,73; RREVAH 56,107,75; 27ZTAP 3,142,69.

NCI Carcinogenesis Bioassay Completed: Results Neg-

ative (NCITR* NCI-CG-TR-62,77).

THR: An exper TER, NEO, ETA. VERY, VERY HIGH

orl. VERY HIGH via dermal routes. A CNS stimulant

producing convulsions. A highly toxic organochlorine

pesticide which does not accumulate significantly in

human tissue. Absorption is normally slow but is in-

creased by alcohols, oil, emulsifiers.

Disaster Hazard: Dangerous; see chlorides and S com-

pounds.

BENZO(j)FLUORANTHENE

CAS RN: 205823

NIOSH #: DF 6300000

mf: C₂₀H₁₂; mw: 252.32

SYNS:

10,11-BENZFLUORANTHENE

7,8-BENZOFUORANTHENE

DIBENZO(A,J,K)FLUORENE

TOXICITY DATA: 3

skn-mus TDLo:312 mg/kg/26W-

I:ETA

CODEN:

CANCAR 12,1194,59

Carcinogenic Determination: Animal positive IARC**

3,92,73.

Toxicology Review: 85DHAX Pc,4,72. "NIOSH Manual

of Analytical Methods" VOL 1 183.

THR: An exper ETA. An exper CARC.

Disaster Hazard: When heated to decomp it emits acrid smoke and irr fumes.

BENZO(k)FLUORANTHENE

CAS RN: 207089

NIOSH #: DF 6350000

mf: C₂₀H₁₂; mw: 252.32

SYN: 11,12-BENZO(K)FLUORANTHENE

TOXICITY DATA: 3

skn-mus TDLo:2820 mg/kg/47W-

I:ETA

CODEN:

CANCAR 12,1194,59

scu-mus TDLo:72 mg/kg/9W-I:ETA AICCA6 19,490,63

"NIOSH Manual of Analytical Methods" VOL 1 183,184.

THR: An exper ETA.

Disaster Hazard: When heated to decomp it emits acrid smoke and irr fumes.

BENZO(b)FLUORENE

CAS RN: 30777196

NIOSH #: DF 6383000

mf: C₁₇H₁₂; mw: 216.29

TOXICITY DATA:

mma-sat 25 umol/L/2H

CODEN:

CNREA8 39,4152,79

THR: MUT data.

Disaster Hazard: When heated to decomp it emits acrid smoke and irr fumes.

BENZOFURAN

CAS RN: 271896

NIOSH #: DF 6423800

mf: C₈H₆O; mw: 118.14

SYNS:

BENZO(B)FURAN

2,3-BENZOFURAN

BENZOFURFURAN

NCI-C56166

1-OXINDENE

Currently Tested by NTP for Carcinogenesis by Standard Bioassay Protocol as of December 1980. Reported in EPA TSCA Inventory, 1980.

THR: No data.

Disaster Hazard: When heated to decomp it emits acrid and irr smoke and fumes.

2-BENZOFURANCARBOXYLIC ACID

CAS RN: 496413

NIOSH #: DF 6490000

mf: C₉H₆O₃; mw: 162.15

SYN: COUMARILIC ACID

TOXICITY DATA: 3

ivn-mus LD50:320 mg/kg

CODEN:

CSLNX* NX#02495

Reported in EPA TSCA Inventory, 1980.

THR: HIGH ivn.

Disaster Hazard: When heated to decomp it emits acrid smoke and irr fumes.

2-BENZO-FURANCETONITRILE

CAS RN: 6149699

NIOSH #: DF 6550000

Toxicology Review: 27ZTAP 3,26,69. Reported in EPA TSCA Inventory, 1980.

THR: A skin irr. HIGH ipr, orl, ivn. See also sulfates.

Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and SO_x.

BENZALDEHYDE THIOSEMICARBAZONE

CAS RN: 1627732 NIOSH #: CU 8400000
mf: C₉H₉N₃S; mw: 179.26

TOXICITY DATA: 3-2 CODEN:
orl-rat LDLo: 500 mg/kg NCNSA6 5,44,53
orl-mus LD50: 100 mg/kg JPPMAB 2,764,50

THR: HIGH-MOD orl. See also aldehydes.

Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and SO_x.

BENZAL GLYCERYL ACETAL

CAS RN: 1708390 NIOSH #: JI 3325000
mf: C₁₀H₁₂O₃; mw: 180.22

SYNS:
BENZYLIDENE GLYCEROL 2-PHENYL-M-DIOXAN-5-OL

TOXICITY DATA: 2-1 CODEN:
orl-rat LD50: 3150 mg/kg FCTXAV 14,659,76
ipr-mus LD50: 1296 mg/kg AIPTAK 85,474,51
orl-rbt LD50: 5000 mg/kg FCTXAV 14,659,76

THR: MOD orl, ipr. LOW orl.

Disaster Hazard: When heated to decomp it emits acid smoke and irr fumes.

BENZALKONIUM CHLORIDE

White or yellowish-white powder, aromatic odor, very bitter taste. Alkyl dimethyl benzylammonium chlorides.

THR: HIGH via oral route. Also an irr. A bactericide and fungicide.

Disaster Hazard: Dangerous; see chlorides.

BENZALMALONONITRILE

mf: C₆H₅CH₂CH(CN)₂; mw: 156.2

THR: HIGH. See cyanides.

Disaster Hazard: See cyanides.

BENZAMIDE

CAS RN: 55210 NIOSH #: CU 8700000
mf: C₇H₇NO; mw: 121.15

SYNS:
BENZOIC ACID AMIDE BENZOYLAMIDE
PHENYLCARBOXYAMIDE

TOXICITY DATA: 2 CODEN:
orl-mus LD50: 1160 mg/kg TXAPA9 19,20,71.

Reported in EPA TSCA Inventory, 1980.

THR: MOD orl.

Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

(2-BENZAMIDO)ACETOHYDROXAMIC ACID

CAS RN: 1499543 NIOSH #: AK 8200000
mf: C₉H₁₀N₂O₃; mw: 194.21

SYNS:
BENZOYLAMINOACETO- HYDROXAMIC ACID HIPPUROHYDROXAMIC ACID

TOXICITY DATA: CODEN:
dnr-bcs 10 umol/disc JOPHDQ 3,557,80
mma-sat 5 umol/plate MUREAV 56,7,77
mmo-sat 1 mg/plate AMACCQ 11,753,77

THR: MUT data.

Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

BENZ(a)ANTHRACEN-7-ACETONITRILE

CAS RN: 63018699 NIOSH #: CV 8975000
mf: C₂₀H₁₃N; mw: 267.34

SYN: 10-CYANOMETHYL-1,2-BENZANTHRACENE

TOXICITY DATA: 3 CODEN:
scu-mus TDLo: 600 mg/kg:ETA JNCIAM 1,303,40

THR: An exper ETA. See also nitriles.

Disaster Hazard: When heated to decomp it emits tox fumes of NO_x and cyanides.

BENZ(a)ANTHRACEN-7-AMINE

CAS RN: 2381182 NIOSH #: CV 8990000
mf: C₁₈H₁₃N; mw: 243.32

SYN: 10-AMINO-1,2-BENZANTHRACENE

TOXICITY DATA: 3 CODEN:
scu-mus TDLo: 1500 mg/kg/23W- PRLBA4 129,439,40
I:ETA

THR: An exper ETA.

Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

BENZ(a)ANTHRACEN-8-AMINE

CAS RN: 56961605 NIOSH #: CV 9000000
mf: C₁₈H₁₃N; mw: 243.32

SYN: 5-AMINO-1,2-BENZANTHRACENE

TOXICITY DATA: 3 CODEN:
scu-mus TDLo: 400 mg/kg/3W- PRLBA4 131,170,42
I:ETA

THR: An exper ETA.

Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

BENZ(a)ANTHRACENE

CAS RN: 56553 NIOSH #: CV 9275000
mf: C₁₈H₁₂; mw: 228.30

Colorless leaflets or plates. bp: 400°, mp: 160°.

356 1,2-BENZANTHRACENE-10-ACETIC ACID, METHYL ESTER

SYNS:

BENZANTHRACENE
1,2-BENZ(A)ANTHRACENE
1,2-BENZANTHRENE
BENZOANTHRACENE
1,2-BENZOANTHRACENE
BA
1,2-BENZANTHRACENE
1,2-BENZANTHRAZEN (GERMAN)

BENZANTHRENE
BENZO(A)ANTHRACENE
BENZO(A)PHENANTHRENE
BENZO(B)PHENANTHRENE
2,3-BENZOPHENANTHRENE
2,3-BENZPHENANTHRENE
NAPHTHANTHRACENE
TETRAPHENE

TOXICITY DATA: 3

dnd-sal:tes 5 ug/1H-C
dns-rat:ivr 100 umol/L
skn-mus TDLo:18 mg/kg:NEO
scu-mus TDLo:2 mg/kg:ETA
imp-mus TDLo:80 mg/kg:CAR
skn-mus TD:18 mg/kg:ETA
skn-mus TD:360 mg/kg:56W-1:ETA
skn-mus TD:240 mg/kg:1W-1:NEO
ivn-mus LDLo:10 mg/kg

CODEN:

BUOAK 110,159,68
ENMUDM 3,11,81
CNREA8 38,1699,78
CNREA8 15,632,55
BJCAA1 22,825,68
CNREA8 38,1705,78
CNREA8 11,892,51
BJCAA1 9,177,55
JNCIAM 1,225,40

Carcinogenic Determination: Animal Positive IARC**
3,45,73. Toxicology Review: AEHLAU 23,6,71;
ACRSJ 7,475,63; 85DHAX Pc,4,72. "NIOSH Man-
ual of Analytical Methods" VOL 1 183. Reported in
EPA TSCA Inventory, 1980. EPA TSCA 8(a) Prelimi-
nary Assessment Information Proposed Rule FER-
REAC 45,13646,80.

THR: MUT data. An exper NEO, ETA, CARC. It is
found in oils, waxes, smoke, food, drugs. HIGH acute
ivn.

Disaster Hazard: When heated to decomp it emits acrid
smoke and irr fumes.

1,2-BENZANTHRACENE-10-ACETIC ACID, METHYL ESTER

CAS RN: 63018406 NIOSH #: CV 8950000
mf: C₂₁H₁₆O₂; mw: 300.37

SYN: BENZ(A)ANTHRACEN-7-ACETIC ACID, METHYL ESTER

TOXICITY DATA: 3 CODEN:
scu-mus TDLo:600 mg/kg:ETA JNCIAM 1,303,40

THR: An exper ETA. See also esters.

BENZ(a)ANTHRACENE-7-CARBOXALDEHYDE

CAS RN: 7505626 NIOSH #: CW 0800000
mf: C₁₉H₁₂O; mw: 256.31

SYN: 1,2-BENZANTHRACENE-10-ALDEHYDE

TOXICITY DATA: 3 CODEN:
scu-mus TDLo:280 mg/kg:ETA JNCIAM 1,303,40

THR: An exper ETA. See also aldehydes.

BENZ(a)ANTHRACENE-7,12- DICARBOXALDEHYDE

CAS RN: 19926228 NIOSH #: CW 1600000
mf: C₂₀H₁₂O₂; mw: 284.32

SYN: 7,12-DIFORMYLBENZ(A)ANTHRACENE

TOXICITY DATA: 3 CODEN:
skn-mus TDLo:8000 mg/kg:NEO JJIND8 61,135,78

THR: An exper NEO. See also aldehydes.

Disaster Hazard: When heated to decomp it emits acrid
smoke and irr fumes.

BENZ(a)ANTHRACENE-1,2-DIHYDRODIOL

CAS RN: 60967886 NIOSH #: CW 1780000
mf: C₁₈H₁₄O₂; mw: 262.32

SYNS:

BA 1,2-DIHYDRODIOL

TRANS-1,2-DIHYDROXY-1,2-
DIHYDROBENZ(A)ANTHRACENE

TOXICITY DATA: 3

otr-ham:emb 4 mg/L
msc-ham:ing 1200 ug/L/3H
skn-mus TDLo:2100 ug/kg:ETA
skn-mus TD:10 mg/kg:ETA

CODEN:

CNREA8 32,1391,72
BJCAA1 39,540,79
CNREA8 38,1699,78
PNASA6 74,3176,77

THR: MUT data. An exper ETA.

Disaster Hazard: When heated to decomp it emits acrid
smoke and irr fumes.

BENZ(a)ANTHRACENE-3,4-DIHYDRODIOL

CAS RN: 60967897 NIOSH #: CW 1783000
mf: C₁₈H₁₄O₂; mw: 262.32

SYNS:

TRANS-3,4-DIHYDRO-3,4-DIHY-
DROXYBENZO(A)ANTHRACENE

TRANS-3,4-DIHYDROXY-3,4-
DIHYDROBENZ(A)ANTHRACENE

TOXICITY DATA: 3

mma-sat 25 umol/L
msc-ham:ing 2500 ug/L/3H
skn-mus TDLo:2100 ug/kg:NEO
skn-mus TD:4200 ug/kg:NEO
skn-mus TD:4200 ug/kg:NEO

CODEN:

BBRCA9 72,680,76
BJCAA1 39,540,79
CNREA8 38,1699,79
PNASA6 74,3176,77
CNREA8 38,1705,78

THR: MUT data. An exper NEO.

Disaster Hazard: When heated to decomp it emits acrid
smoke and irr fumes.

(+)-(3S,4S)trans BENZ(a)ANTHRACENE-3,4- DIHYDRODIOL

CAS RN: 67335437 NIOSH #: CW 1785000
mf: C₁₈H₁₀O₃; mw: 274.28

SYNS:

(+)-(3S,4S)-TRANS-3,4-DIHYDRO-
3,4-DIHYDROXYBENZ(A)AN-
THRACENE

(+)-(3S,4S)-TRANS-3,4-DIHYDRO-
3,4-DIHYDROXYBENZ(A)AN-
THRACENE

TOXICITY DATA: 3

skn-mus TDLo:4390 ug/kg:ETA

CODEN:

CNREA8 38,1705,78

THR: An exper ETA.

Disaster Hazard: When heated to decomp it emits acrid
smoke and irr fumes.

BENZ(a)ANTHRACENE-5,6-cis-DIHYDRODIOL

CAS RN: 32373174 NIOSH #: CW 4630000
mf: C₁₆H₁₄O₂; mw: 238.30

SYN: BA-5,6-CIS-DIHYDRODIOL

TOXICITY DATA:
otr-ham:emb 2500 ug/L

CODEN:

CNREA8 32,1391,72

REFERENCE NO. 24

NATIONAL FLOOD INSURANCE PROGRAM

FIRM FLOOD INSURANCE RATE MAP

VILLAGE OF
AKRON, NEW YORK
ERIE COUNTY

ONLY PANEL PRINTED

COMMUNITY-PANEL NUMBER
361553 0001 B

EFFECTIVE DATE:
NOVEMBER 19, 1980



federal emergency management agency
federal insurance administration

KEY TO MAP

500-Year Flood Boundary	_____	
100-Year Flood Boundary	_____	ZONE B
Zone Designations* With Date of Identification e.g., 12/2/74		
100-Year Flood Boundary	_____	ZONE B
500-Year Flood Boundary	_____	
Base Flood Elevation Line With Elevation in Feet**	~~~~~ 513 ~~~~~	
Base Flood Elevation in Feet Where Uniform Within Zone**		(EL 987)
Elevation Reference Mark		RM7x
River Mile		• M1.5

**Referenced to the National Geodetic Vertical Datum of 1929

*EXPLANATION OF ZONE DESIGNATIONS

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

NOTES TO USER

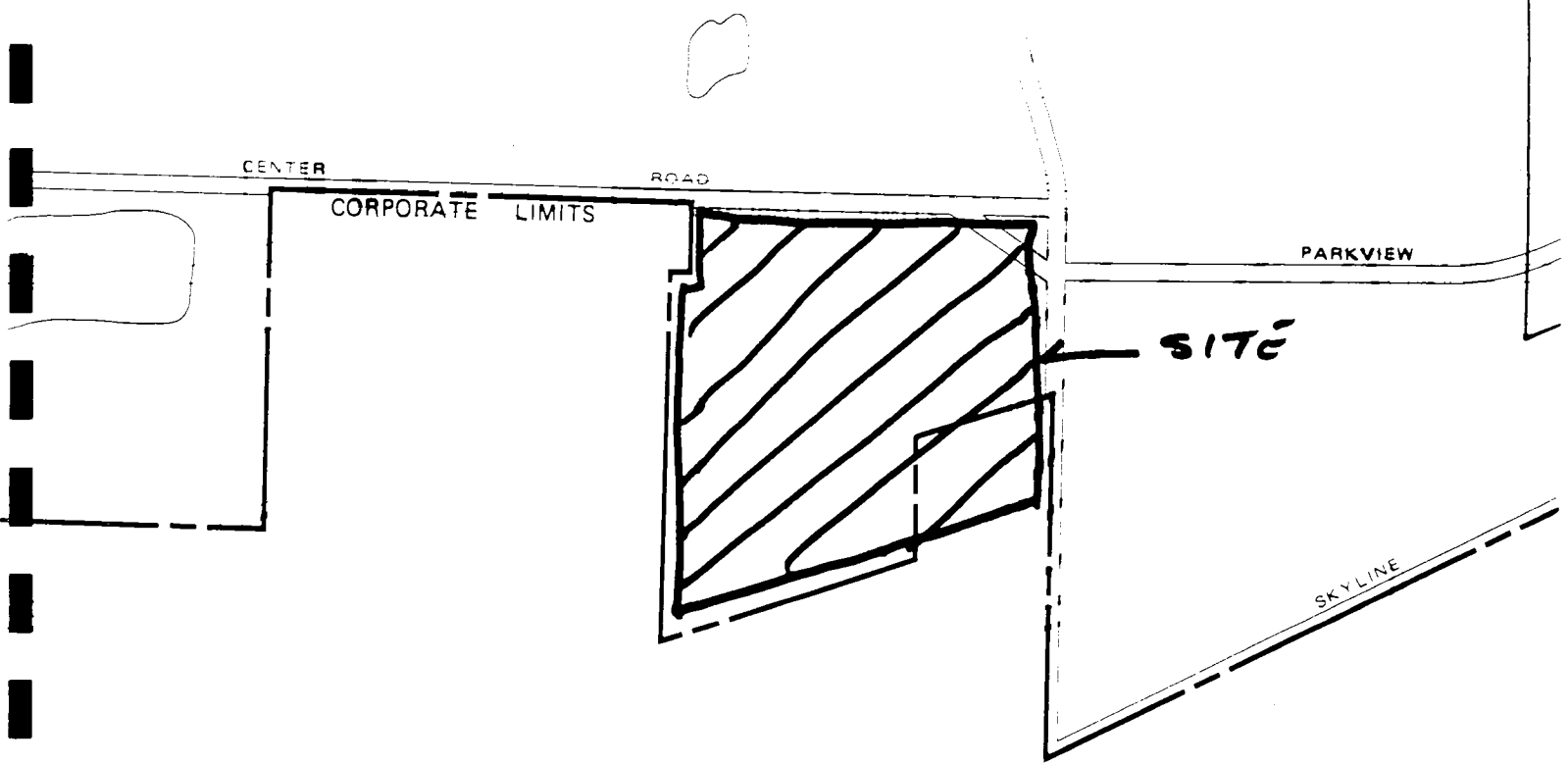
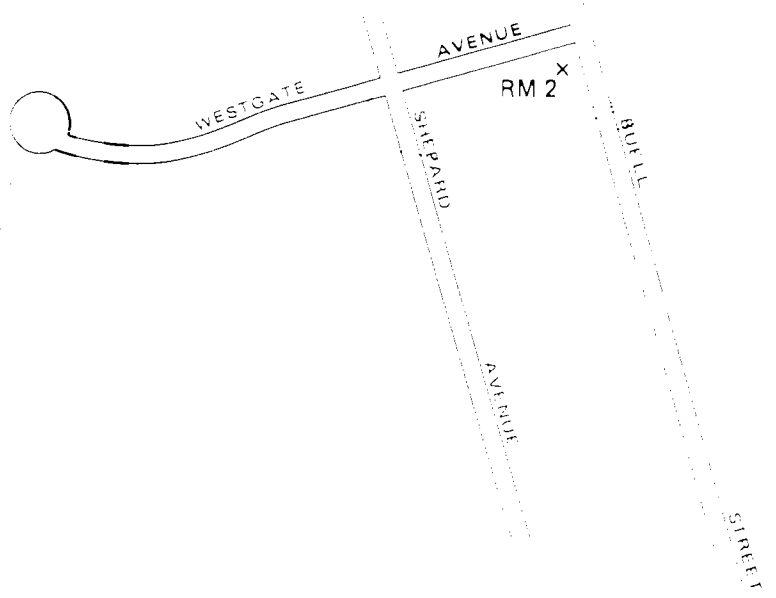
Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

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

INITIAL IDENTIFICATION:

MAY 31, 1974

FLOOD HAZARD BOUNDARY MAP REVISIONS:



RECEIVED

DEC 07 1948

ENVIRONMENTAL

PROTECTION