PHASE I REPORT

ENGINEERING INVESTIGATIONS AND EVALUATIONS AT INACTIVE HAZARDOUS WASTE DISPOSAL SITES

Alltift Realty

Erie County, NY

SUBMITTED TO

New York State Department of Environmental Conservation

SUBMITTED BY

ENGINEERING-SCIENCE
in association with
DAMES & MOORE

SEPTEMBER 1983

PHASE I REPORT

ENGINEERING INVESTIGATIONS AND EVALUATIONS AT INACTIVE HAZARDOUS WASTE DISPOSAL SITES

Alltift Realty
Erie County, NY

SUBMITTED TO

New York State Department of Environmental Conservation

SUBMITTED BY

ENGINEERING-SCIENCE, INC.
in association with
DAMES & MOORE

JUNE 1983

TABLE OF CONTENTS

SITE IDENTIFICATION

USEPA #NYD000513713

NYSDEC #915054

SECTION I

EXECUTIVE SUMMARY

Alltift Realty

Objective

The purpose of this two phase program is to conduct engineering investigations and evaluations at inactive hazardous waste disposal sites in New York State in order to calculate a Hazard Ranking System (HRS) score for each site and estimate the cost of any recommended remedial action. During the initial portion of this investigation (Phase I) all available data and records combined with information collected from a site inspection were reviewed and evaluated to determine the adequacy of existing information for calculating an HRS score. On the basis of this evaluation, a Phase II Work Plan was prepared for collecting additional HRS data (if necessary), evaluating remedial alternatives and preparing a cost estimate for recommended remedial action. The results of this Phase I study for this site are summarized below and detailed in the body of the report.

Site Background

Alltift Landfill is an active landfill located in an industrial area in the southern portion of the City of Buffalo, Erie County, south of Tifft Road. The landfill is currently owned and operated by the Alltift Realty Company of Buffalo. The site is approximately triangular and is bounded on three sides by road and railroad embankments. The site has been used as a landfill since the 1930's.

The current landfill is located above a larger chemical landfill used to dispose of metal sludges, napthalene and monochlorobenzene. Site investigations have detected organic chemicals, including phenols and PCB, and heavy metals such as chromium, arsenic and mercury in surface water, soil, and groundwater samples.

Assessment

Insufficient data is available to complete a final HRS scoring. The preliminary HRS scoring for this site was:

$S_M = 7.23$	$S_A = 0$
$S_{GW} = 6.12$	$S_{FE} = 0$
$S_{SW} = 10.91$	$S_{DC} = 25.00$

The low route scores are largely due to the low target values. An air monitoring sample is required.

Recommendations

An air monitoring survey by OVA meter is required to determine air quality. The estimated manhours required to complete Phase II are 150, while the estimated cost is $6937..

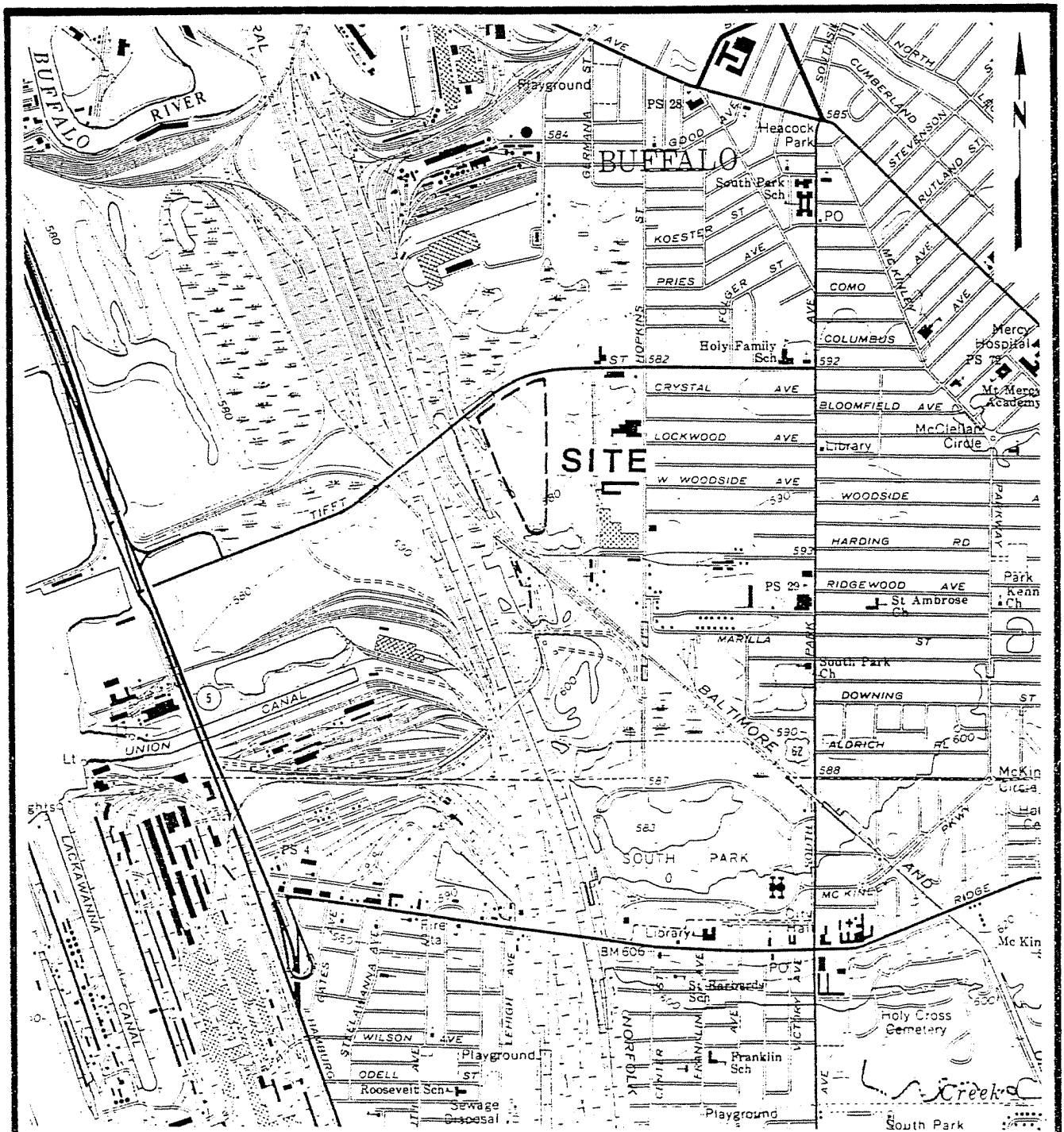
SECTION II

SITE DESCRIPTION

Alltift Landfill

Alltift Landfill is an active landfill located in an industrial area in the southern portion of the City of Buffalo, Erie County (NYS), south of Tifft Road. The site is approximately triangular, 1800 ft north-south (maximum length) dimension by 800 ft east-west. The ground surface is level; the site is bounded on three sides by road and railroad embankments. The site has been used as a landfill since the 1930's.

At different times, various owners have disposed hazardous and nonhazardous wastes, including metal sludges, nitrobenzene, monochlorobenzene, and napthalene. The presently operating landfill is located on top of a portion of a larger, chemical landfill. Organic chemicals and heavy metals have been detected in groundwater and surface water samples.



SITE LOCATION MAP
ALLTIFT REALITY

REFERENCE: U.S.G.S. 7.5' TOPOGRAPHIC MAP
BUFFALO SE, NY (1965) QUADRANGLE

SECTION III

HRS SCORING

HRS COVER SHEET

Facility name: Alltift Realty

Location: Buffalo

EPA Region: II

Person(s) in charge of the facility: Leonard Greenfield (President)

Alltift Realty

Buffalo, NY

Name of Reviewer: John Kubarewicz/Eileen Gillian Date: May 23, 1983

General description of the facility:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Landfill currently used for construction and automobile shredding rubbish. The current landfill was built on top of a previous landfill used for chemical wastes from the Aniline Division of Allied Chemicals. Toxics found in surface water, groundwater and soil.

Scores: $S_M = 7.23$ ($S_{gw} = 6.12$ $S_{sw} = 10.91$ $S_a = 0$)

$S_{FE} = 0$

$S_{DC} = 25.00$

GROUND WATER ROUTE WORK SHEET

Ground Water Route Work Sheet						
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section
1 Observed Release	0 (45)	1	45	45	3.1
If observed release is given a score of 45, proceed to line 4. If observed release is given a score of 0, proceed to line 2.					
2 Route Characteristics					3.2
Depth to Aquifer of Concern	0 1 2 3	2		6	
Net Precipitation	0 1 2 3	1		3	
Permeability of the Unsaturated Zone	0 1 2 3	1		3	
Physical State	0 1 2 3	1		3	
Total Route Characteristics Score				15	
3 Containment	0 1 2 3	1		3	3.3
4 Waste Characteristics					3.4
Toxicity / Persistence	0 3 6 9 12 15 (18)	1	18	18	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 (8)	1	8	8	
Total Waste Characteristics Score			26	26	
5 Targets					3.5
Ground Water Use	0 (1) 2 3	3	3	9	
Distance to Nearest Well / Population Served	(0) 4 6 8 10 12 16 18 20 24 30 32 35 40	1	0	40	
Total Targets Score			3	49	
6 If line 1 is 45, multiply 1 x 4 x 5 / If line 1 is 0, multiply 2 x 3 x 4 x 5			3510	57,330	
7 Divice line 6 by 57,330 and multiciy by 100			S_{gw} = 6.12		

SURFACE WATER ROUTE WORK SHEET

Surface Water Route Work Sheet						
Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	Ref. (Section)
1 Observed Release	0 (45)	1	45	45	4.1
If observed release is given a value of 45, proceed to line 4. If observed release is given a value of 0, proceed to line 2.					
2 Route Characteristics					4.2
Facility Slope and Intervening Terrain	0 1 2 3	1		3	
1-yr. 24-hr. Rainfall	0 1 2 3	1		3	
Distance to Nearest Surface Water	0 1 2 3	2		6	
Physical State	0 1 2 3	1		3	
Total Route Characteristics Score				15	
3 Containment	0 1 2 3	1		3	4.3
4 Waste Characteristics					4.4
Toxicity/Persistence	0 3 6 9 12 15 (18)	1	18	18	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 (8)	1	8	8	
Total Waste Characteristics Score			26	26	
5 Targets					4.5
Surface Water Use	(0) 1 2 3	3	0	9	
Distance to a Sensitive Environment	0 1 2 (3)	2	6	6	
Population Served/Distance to Water Intake Downstream	(0) 4 6 8 10 / 12 16 18 20 / 14 30 32 35 40	1	0	40	
Total Targets Score			6	55	
6 If line 1 is 45, multiply 1 x 4 x 5. If line 1 is 0, multiply 2 x 3 x 4 x 5			7020	64,350	
7 Divide line 6 by 64,350 and multiply by 100			S_{sw} = 10.91		

AIR ROUTE WORK SHEET

Air Route Work Sheet

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Release	(0) 45	1	0	45	5.1

Date and Location:

Sampling Protocol:

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

2 Waste Characteristics					5.2
Reactivity and Incompatibility	0 1 2 3	1		3	
Toxicity	0 1 2 3	3		9	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
Total Waste Characteristics Score				20	
3 Targets					5.3
Population Within 4-Mile Radius	0 9 12 15 18 21 24 27 30	1		30	
Distance to Sensitive Environment	0 1 2 3	2		6	
Land Use	0 1 2 3	1		3	
Total Targets Score				39	
4 Multiply 1 x 2 x 3				35,100	

5 Divide line 4 by 35,100 and multiply by 100 S_a = (0)

DIRECT CONTACT WORK SHEET

Direct Contact Work Sheet						
Rating Factor	Assigned Value (Circle One)		Multiplier	Score	Max. Score	Ref. (Sectic..)
1 Observed Incident	(0)	45	1	0	45	8.1
If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2						
2 Accessibility	0 1 (2) 3		1.	2	3	8.2
3 Containment	0	[15]	1	[15]	15	8.3
4 Waste Characteristics Toxicity	0 1 2 (3)		5	15	15	8.4
5 Targets						8.5
Population Within a 1-Mile Radius	[0] 1 2 3 4 5		4	[0]	20	
Distance to a Critical Habitat	0 1 2 (3)		4	12	12	
Total Targets Score				12	32	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5				5400	21,600	
7 Divide line 6 by 21,600 and multiply by 100						

SOC = 25.00

Fire and Explosion Work Sheet

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

WORKSHEET FOR COMPUTING S_M

	S	S^2
Groundwater Route Score (S_{gw})	6.12	37.45
Surface Water Route Score (S_{sw})	10.91	119.03
Air Route Score (S_a)	0	0
$S_{gw}^2 + S_{sw}^2 + S_a^2$		156.48
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		12.51
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} \,/\, 1.73 = S_M =$		7.23

June 28, 1982

DOCUMENTATION RECORDS
FOR
HAZARD RANKING SYSTEM

INSTRUCTIONS: The purpose of these records is to provide a convenient way to prepare an auditable record of the data and documentation used to apply the Hazard Ranking System to a given facility. As briefly as possible summarize the information you used to assign the score for each factor (e.g., "Waste quantity = 4,230 drums plus 800 cubic yards of sludges"). The source of information should be provided for each entry and should be a bibliographic-type reference that will make the document used for a given data point easier to find. Include the location of the document and consider appending a copy of the relevant page(s) for ease in review.

FACILITY NAME: ALCTIFT REALTY

LOCATION: BUFFALO, NY

GROUND WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected (5 maximum):

Chromium
Copper
Lead
calcium
phenols

Rationale for attributing the contaminants to the facility:

Found in wells on-site
Recra Research ; 1980, 1978

* * *

2 ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifers(s) of concern:

~9ft.

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

SAME or less

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

unknown

Net Precipitation

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

40''

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

27''

Net precipitation (subtract the above figures):

13''

Permeability of Unsaturated Zone

Soil type in unsaturated zone:

silt/clay

Permeability associated with soil type:

10^{-5} CM/SEC

Physical State

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

solids
sludges

(RECRA Research, 1980) * *

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

TANKS
POSSIBLY EXPOSED SLUDGES

Method with highest score:

TANKS

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

BENZENE
NAPTHALENE
MERCURY
PHENOLS

(Recra Research; 1978, 1980)

Compound with highest score:

MERCURY 3,3 => 18

TRACE AMOUNTS OF PESTICIDES (Endosulfer) found in samples but at .09 ppb, MAYBE AN ERROR IN ANALYSIS

Hazardous Waste Quantity

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

16,100 TONS

= highest rating = 8

Basis of estimating and/or computing waste quantity:

3/20/68 letter from ALLIED concerning their dumping practices.

* * *

5 TARGETS

Ground Water Use

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

NONE

Distance to Nearest Well

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

N/A

Distance to above well or building:

N/A

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

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

NONE

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

NONE

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

NONE

SURFACE WATER ROUTE

1 OBSERVED RELEASE

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

chromium
copper
lead
calcium
arsenic

Rationale for attributing the contaminants to the facility:

analysis of surface water on site (Ponds)
(Recra Research, 1980)

* * *

2 ROUTE CHARACTERISTICS

Facility Slope and Intervening Terrain

Average slope of facility in percent:

14.9%

Name/description of nearest downslope surface water:

wetlands adjacent + west of site

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

1.4%

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

NO

Is the facility completely surrounded by areas of higher elevation?

NO

1-Year 24-Hour Rainfall in Inches

2.1

Distance to Nearest Downslope Surface Water

0.01

Physical State of Waste

Liq + solid

* * *

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

TANKS - memo mentioned exposed sludge

Method with highest score:

TANKS

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated

Benzene
Naphthalene
chrome sludge
mercury

Compound with highest score:

mercury 3,3 => 18

Hazardous Waste Quantity

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

16,100 TONS

Basis of estimating and/or computing waste quantity:

3/20/68 Letter
From Allied Chem. for 1960-65

* * *

5 TARGETS

Surface Water Use

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

recreation
transportation

Is there tidal influence?

NO

Distance to a Sensitive Environment

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

N/A

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

0.01

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

0.01

Population Served by Surface Water

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

None

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

N/A

Total population served:

N/A

Name/description of nearest of above water bodies:

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

N/A

AIR ROUTE

1 OBSERVED RELEASE

Contaminants detected:

N/A

Date and location of detection of contaminants

N/A

Methods used to detect the contaminants:

N/A

Rationale for attributing the contaminants to the site:

N/A

* * *

2 WASTE CHARACTERISTICS

Reactivity and Incompatibility

Most reactive compound:

N/A

Most incompatible pair of compounds:

N/A

Toxicity

Most toxic compound:

N/A

Hazardous Waste Quantity

Total quantity of hazardous waste:

N/A

Basis of estimating and/or computing waste quantity:

N/A

* * *

3 TARGETS

Population Within 4-Mile Radius

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

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

N/A

Distance to a Sensitive Environment

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

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

0.01

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

0.01

Land Use

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

0.57 miles

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

0.8

Distance to residential area, if 2 miles or less:

0.23miles

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

N/A

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

N/A

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

NO

EPA

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

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER: NY D000513713

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
ALLTIFT REALTY	TIFFT STREET				
03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
BUFFALO	NY	14220	ERIE		

09 COORDINATES: LATITUDE 42° 50' 37.0" | LONGITUDE 078° 50' 22.5"

10 TYPE OF OWNERSHIP (Check one)
☒ A. PRIVATE ☐ B. FEDERAL _____ ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER _____ ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION	02 SITE STATUS	03 YEARS OF OPERATION
4,28,83 (MONTH DAY YEAR)	☒ ACTIVE ☐ INACTIVE	1960 (BEGINNING YEAR) to 1965 (ENDING YEAR) ___ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR _____ (Name of firm) ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR _____ (Name of firm)
☐ E. STATE ☒ F. STATE CONTRACTOR ENGINEERING SCIENCE (Name of firm) ☐ G. OTHER _____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
ART SEANOR	GEOLOGIST	D+M	(315) 638-2572
09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
JOHN KUBAREWICZ	CHEMICAL ENGINEER	ES	(703) 591-7575
			( )
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO.
CHUCK COVEN	—	ALLTIFT REALTY	(716) 823-9900
			( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☒ PERMISSION ☐ WARRANT	11:36	HAZY

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
JOHN KUBAREWICZ	ES	(703) 591-7575

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
SAME				5 6 83 (MONTH DAY YEAR)

EPA FORM 2070-13 (7-81)

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

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER
NY 0000513713

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)
- ☐ A. SOLID
- ☐ B. POWDER, FINES
- ☒ C. SLUDGE
- ☐ D. OTHER (Specify)
- ☐ E. SLURRY
- ☒ F. LIQUID
- ☐ G. GAS

02 WASTE QUANTITY AT SITE
(Measures of waste quantities must be independent)
TONS 16,106
CUBIC YARDS
NO. OF DRUMS

03 WASTE CHARACTERISTICS (Check all that apply)
- ☒ A. TOXIC
- ☐ B. CORROSIVE
- ☐ C. RADIOACTIVE
- ☐ D. PERSISTENT
- ☐ E. SOLUBLE
- ☐ F. INFECTIOUS
- ☐ G. FLAMMABLE
- ☐ H. IGNITABLE
- ☐ I. HIGHLY VOLATILE
- ☐ J. EXPLOSIVE
- ☐ K. REACTIVE
- ☐ L. INCOMPATIBLE
- ☐ M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
(SLU)	SLUDGE	50,000	lbs/MONTH	CHROME SLUDGE
OLW	OILY WASTE			
(SOL)	SOLVENTS	700	lbs/MONTHS	MONOCHLOROBENZENE, NITROBENZENE
PSD	PESTICIDES			
(OCC)	OTHER ORGANIC CHEMICALS	15,600	lbs/MONTH	NAPTHALENE AND MISC ORGANICS
(IOC)	INORGANIC CHEMICALS	20,000	lbs/MONTH	COPPER SULFATE
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

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

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
OCC	PHENOLS	108-95-2	LF	.04 - .69	PPM
OCC	ACENAPHTHENE	999	LF	41	ppb
OCC	BENZO(A)ANTHRACENE	999	LF	20	ppb
OCC	PYRENE	999	LF	25	ppb
OCC	FLUORANTHENE	999	LF	41	ppb
OCC	ENDOSULFAN	999	LF	.09	ppb
OCC	4'4 DDE	999	LF	.09	ppb
MES	MERCURY	7439976	LF	4-10	ppb
MES	CHROMIUM	7440-47-3	LF	.116	PPM
MES	LEAD	999	LF	.12 - .40	PPM
MES	ARSENIC	7440-38-2	LF	12 - 89	ppb
OCC	PCB	133363	LF	≤ 2.5	ppb

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS	MERCURY	7439976	FDS		
FDS	ARSENIC	7440382	FDS		
FDS			FDS		
FDS			FDS		

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

ALLIED CHEMICAL LETTER DATED 11/12/79 TO JOHN IANNOTTI (NYDEC)
" " 11/4/78 TO PETER MILLER (NYDEC)
HYDROGEOLOIC INVESTIGATION AT ALLIED REALTY, NEHRAM + RECRA RESEARCH 1/16/81
ALLIED CHEM. MEMO. 6/20/80

EPA FORM 2070-13(7-81)

EPA

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

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER
NY D000513713

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION
02 ☒ OBSERVED (DATE: 7/31/79 + 7/16/81) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____
04 NARRATIVE DESCRIPTION
CHROMIUM, COPPER LEAD, PHENOLS, MERCURY, AND OTHER ORGANICS DETECTED.

01 ☒ B. SURFACE WATER CONTAMINATION
02 ☒ OBSERVED (DATE: 7/31/79 + 7/16/81) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____
04 NARRATIVE DESCRIPTION
PHENOLS, ARSENIC, CHROMIUM, LEAD, AND ORGANICS DETECTED.

01 ☒ C. CONTAMINATION OF AIR
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____
04 NARRATIVE DESCRIPTION
NO APPARENT ODOR.

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

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

01 ☒ F. CONTAMINATION OF SOIL
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: _____ (Acres)
04 NARRATIVE DESCRIPTION
SEDIMENT FROM STANDING WATER CONTAINED LOW LEVELS ORGANICS + METALS.

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

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

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

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
NY 000513713

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

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

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

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

01 ☒ M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoff/Standing liquids, Leaking drums) — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
LEACHING TO GROUND/SURFACE WATER

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

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

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

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS
N/A

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS
SURFACE WATER MAYBE INTERCONNECTED AT TIMES WITH NEARBY WETLANDS AND TIFF FARMS PRESERVE

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

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION
01 ~~STATE~~ 02 SITE NUMBER
NY 000513713

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) 360	915-01-02X	—	—	APPLIED 8/5/81
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
☐ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☐ A. SURFACE IMPOUNDMENT		
☐ B. PILES		
☐ C. DRUMS, ABOVE GROUND		
☐ D. TANK, ABOVE GROUND		
☐ E. TANK, BELOW GROUND		
☑ F. LANDFILL	16,000	TONS
☐ G. LANDFARM		
☐ H. OPEN DUMP		
☐ I. OTHER (Specify)		

04 TREATMENT (Check all that apply)
- ☐ A. INCINERATION
- ☐ B. UNDERGROUND INJECTION
- ☐ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☐ H. OTHER (Specify)

05 OTHER
- ☑ A. BUILDINGS ON SITE

06 AREA OF SITE
~25 (Acres)

07 COMMENTS
OPERATING LANDFILL, NO VISIBLE PROBLEMS IN AREA OF OLD ALLIED LANDFILL

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)
☐ A. ADEQUATE, SECURE ☑ B. MODERATE ☐ C. INADEQUATE, POOR ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.
ONE 50ft² AREA IS FENCED IN, APPEARS TO BE A DRIED POND

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☐ YES ☑ NO
02 COMMENTS SITE FENCED IN

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

SITE INSPECTION

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D000513713

II. DRINKING WATER SUPPLY

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

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

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

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

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
29 (ft)	radial	~9 (ft)	_____ (gpd)	☐ YES ☐ NO

09 DESCRIPTION OF WELLS (Including useage, depth, and location relative to population and buildings)
On site wells, from 2 investigations, total to 12 monitoring wells

10 RECHARGE AREA		11 DISCHARGE AREA	
☒ YES ☐ NO	COMMENTS In east-central part of site	☒ YES ☐ NO	COMMENTS above periphery of 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
Niagara River	☐	1.1 (mi)
Lake Erie	☐	1.2 (mi)
	☐	_____ (mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE	02 DISTANCE TO NEAREST POPULATION
A. 2300 NO. OF PERSONS	B. 12000 NO. OF PERSONS	C. 21000 NO. OF PERSONS	1600' (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE	04 DISTANCE TO NEAREST OFF-SITE BUILDING
3500	1200' (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)
0

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER
NY 000513713

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

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

02 PERMEABILITY OF BEDROCK (Check one)

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

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH	
15'-60' (ft)	0.0 (ft)		

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE		
		SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
40-27=13 (in)	2.1 (in)	1.4 %	S	1.4 %

09 FLOOD POTENTIAL
SITE IS IN 2500 YEAR FLOODPLAIN

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

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE	OTHER
A. _____ (mi)	B. 0.01 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)
0.01 (mi)
ENDANGERED SPECIES: PEREGRINE FALCON, GOLDEN EAGLE

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS	
		PRIME AG LAND	AG LAND
A. 0.1 (mi)	B. 0.07 (mi)	C. _____ (mi)	D. _____ (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

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

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NJ	0000513713

II. SAMPLES TAKEN N/A

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

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☐ GROUND ☑ AERIAL

02 IN CUSTODY OF D+M OFFICE
(Name of organization or individual)

03 MAPS ☑ YES ☐ NO

04 LOCATION OF MAPS D+M OFFICE

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

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

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	D000513713

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

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER
ALLTIFT COMPANY		GREENFIELD, CHAPMAN + FAGAN	

03 STREET ADDRESS *(P.O. Box, RFD #, etc.)*	04 SIC CODE	10 STREET ADDRESS *(P.O. Box, RFD #, etc.)*	11 SIC CODE
105 DOROTHY ST			

05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE
BUFFALO	NY	14206	BUFFALO	NY	

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER

03 STREET ADDRESS *(P.O. Box, RFD #, etc.)*	04 SIC CODE	10 STREET ADDRESS *(P.O. Box, RFD #, etc.)*	11 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER

03 STREET ADDRESS *(P.O. Box, RFD #, etc.)*	04 SIC CODE	10 STREET ADDRESS *(P.O. Box, RFD #, etc.)*	11 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER

03 STREET ADDRESS *(P.O. Box, RFD #, etc.)*	04 SIC CODE	10 STREET ADDRESS *(P.O. Box, RFD #, etc.)*	11 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE

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

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
DOWING CONTAINER			

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

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
BUFFALO	NY				

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
RAPID DISPOSAL CO. (B+F)			

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
BROWING + FERRIS INTER.			

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)*

Allied Chemical Letter 1/12/79
John Tygert NYDES May 1993

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER
NY D000513713

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME	02 D+B NUMBER	04 SIC CODE
ALLTIFT REALTY		

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	05 CITY	06 STATE	07 ZIP CODE
105 DOROTHY STREET	BUFFALO	NY	14206

08 YEARS OF OPERATION	09 NAME OF OWNER

OPERATOR'S PARENT COMPANY (If applicable)

10 NAME	11 D+B NUMBER	13 SIC CODE

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	14 CITY	15 STATE	16 ZIP CODE

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

01 NAME	02 D+B NUMBER	04 SIC CODE
F. DOWING TRUCKING		—

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	05 CITY	06 STATE	07 ZIP CODE
TUFF ST	Buffalo	NY	—

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)

10 NAME	11 D+B NUMBER	13 SIC CODE

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	14 CITY	15 STATE	16 ZIP CODE

01 NAME	02 D+B NUMBER	04 SIC CODE

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

10 NAME	11 D+B NUMBER	13 SIC CODE

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	14 CITY	15 STATE	16 ZIP CODE

01 NAME	02 D+B NUMBER	04 SIC CODE

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

10 NAME	11 D+B NUMBER	13 SIC CODE

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	14 CITY	15 STATE	16 ZIP CODE

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

ALLIED CHEMICAL MEMO TO JOHN IANNOTTI, NYS DEC JANUARY 1979, NOVEMBER 1978
MR - JOHN TUGENT NYSDEC

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER
NY 000513713

II. ON-SITE GENERATOR

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

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
ALLIED CHEMICAL			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
NATIONAL ANILINE			
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
BUFFALO	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 / 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
F. DOWING TRUCKING			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
TIFF ST.			
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
BUFFALO	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 / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

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

SAME

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER
NY D000513713

II. PAST RESPONSE ACTIVITIES

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

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER
NY D000513713

II PAST RESPONSE ACTIVITIES (Continued)

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

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

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

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

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

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

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

01 ☐ Y. LEACHATE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
BEING CONSIDERED

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

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

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

01 ☐ 3. OTHER REMEDIAL ACTIVITIES — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NONE

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

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	000513713

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☑ NO

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

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

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER: NY 000513713

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
ALLTIFT REALTY	TIFFT STREET

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
BUFFALO	NY	14220	ERIE		37

09 COORDINATES LATITUDE	LONGITUDE
42°50'37."	078°50'22.5"

10 DIRECTIONS TO SITE (Starting from nearest public road)
INCLUDES CURRENT ALLTIFT PROPERTY AND EXTENDS ON EAST SIDE AND THE BALTIMORE & OHIO RAILROAD RIGHT OF-WAY ON SOUTH AND SOUTHWEST SIDE.

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)
ALLTIFT REALTY CO.	10 S DOROTHY ST.

03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
BUFFALO	NY	14206	(716) 823-9900

07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)
SAME	

09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER
			( )

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

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

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
☒ YES DATE 4 28 83 (MONTH DAY YEAR)
☐ NO

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

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

03 YEARS OF OPERATION
1960 (BEGINNING YEAR) | 1965 (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
Phenols, Arsenic, Organics (acenaphthene), mercury, Chromium, pyrene, Lead

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
ALLIED CHEM. CO. ANILINE DIVISION DISPOSED OF WASTES ON SITE. GROUNDWATER, SURFACE WATER AND SOIL SAMPLES CONTAIN HEAVY METALS AND ORGANICS. PCB found in surface water.

V. PRIORITY ASSESSMENT

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

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NUMBER
JOHN KUBAREWICZ	ENGINEERING-SCIENCE	(703) 591-7575

04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
SAME			( )	5 17 83 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER
NY 0000513713

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)
- ☐ A. SOLID
- ☐ B. POWDER, FINES
- ☑ C. SLUDGE
- ☐ D. OTHER (Specify)
- ☐ E. SLURRY
- ☑ F. LIQUID
- ☐ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)
TONS 16,100
CUBIC YARDS
NO. OF DRUMS

03 WASTE CHARACTERISTICS (Check all that apply)
- ☑ A. TOXIC
- ☐ B. CORROSIVE
- ☐ C. RADIOACTIVE
- ☐ D. PERSISTENT
- ☐ E. SOLUBLE
- ☐ F. INFECTIOUS
- ☐ G. FLAMMABLE
- ☐ H. IGNITABLE
- ☐ I. HIGHLY VOLATILE
- ☐ J. EXPLOSIVE
- ☐ K. REACTIVE
- ☐ L. INCOMPATIBLE
- ☐ M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	50,000	lbs/month	CHROME SLUDGE
OLW	OILY WASTE			
SOL	SOLVENTS	700	lbs/month	MONOCHLOROBENZENE, NITROBENZENE
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS	15,600	lbs/month	NAPTHALENE AND MISC ORGANICS
IOC	INORGANIC CHEMICALS	20,000	lbs/month	COPPER SULFATE
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

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

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
OCC	PHENOLS	108-95-2	LF	.04-.69	PPM
OCC	ACERAPHTHENE	999	LF	41	PPb
OCC	BENZEO(A)ANTHRACENE	999	LF	20	PPb
OCC	PYRENE	999	LF	25	PPb
OCC	FLUORANTHENE	999	LF	41	PPb
OCC	ENDOSULFAN	999	LF	.09	PPb
OCC	4'4 DDE	999	LF	.09	PPb
MES	MERCURY	7439976	LF	4-10	PPb
MES	CHROMIUM	7440-47-3	LF	.116	PPM
MES	LEAD	999	LF	.12-.46	PPM
MES	ARSENIC	7440-38-2	LF	12-89	PPb
OCC	PCB	133363	LF	≤ 2x5	PPb

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS	MERCURY	7439976	FDS		
FDS	ARSENIC	7440-38-2	FDS		
FDS			FDS		
FDS			FDS		

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

ALLIED CHEMICAL LETTER DATED 1/12/79 TO JOHN SANNUTTI (NYDEC)
" " 11/4/78 TO PETER MILLER (NYDEC)
HYDROGEOLOGICAL INVESTIGATION AT ALLTIFT REALTY, NEHRAN + RESEARCH 7/16/81
ALLIED CHEM. MEMO 6/20/60

EPA FORM 2070-12 (7-81)

EPA

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

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER
NY 0000513713

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION
02 ☒ OBSERVED (DATE: 7/31/79) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____
04 NARRATIVE DESCRIPTION 7/16/81
CHROMIUM, COPPER LEAD, PHENOLS, MERCURY, AND OTHER ORGANICS DETECTED

01 ☒ B. SURFACE WATER CONTAMINATION
02 ☒ OBSERVED (DATE: 7/31/79) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____
04 NARRATIVE DESCRIPTION 7/16/81
PHENOLS, ARSENIC, CHROMIUM, LEAD, AND ORGANICS DETECTED

01 ☐ C. CONTAMINATION OF AIR
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____
04 NARRATIVE DESCRIPTION
NO APPARENT ODOR

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

01 ☐ E. DIRECT CONTACT
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____
04 NARRATIVE DESCRIPTION
WORKER ON SITE (7)

01 ☒ F. CONTAMINATION OF SOIL
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: _____ (Acres)
04 NARRATIVE DESCRIPTION
SEDIMENT FROM STANDING WATER CONTAINED LOW LEVELS ORGANICS + METALS.

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

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

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

EPA FORM 2070-12 (7-81)

EPA

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

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
NY D000513713

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

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

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

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

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

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

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

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

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS
N/A

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS
SURFACE WATER MAYBE INTERCONNECTED AT TIMES WITH NEARBY WETLANDS AND TIFT FARMS PRESERVE

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

EPA FORM 2070-12 (7-81)

SECTION IV

SITE HISTORY

Alltift Landfill

The site was previously a low lying marsh area at the easternmost end of Lake Erie. Presently, the site is surrounded by road and railroad embankments. Between 1930 and 1973, Allied Chemical Company's Buffalo Dye Plant disposed of wastes on the site, including aluminum hydroxide sludge, calcium sulfate sludge, iron oxide sludges, metal sludges, napthalene, and monochlorobenzene (Allied, 1979). Site ownership changed hands; currently the site is owned and operated by Alltift Realty Inc.

In 1978, the owners hired a consultant to conduct a geological investigation and to prepare an "Application for Approval to Construct a Solid Waste Management Facility" (RECRA Research, 1980). During the course of this investigation, a serious groundwater contamination problem was discovered. A later investigation further suggested that the source of bedrock aquifer contamination may be due to ponded surface water south of the active landfill (RECRA Research, 1982).

SECTION V

SUMMARY OF AVAILABLE DATA

Alltift Realty

Regional Geology and Hydrology

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

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

As glacial ice retreated from the region, meltwater formed lakes in front of the ice margin. This region is covered by lake sediments, the most recent being from Lake Iroquois (a larger predecessor to Lake Ontario) and from Lake Tonawanda (an elongate lake which occupied an east-west valley and drained north into Lake Iroquois). The sediments consist of blanket sands and beach ridges which are occasionally underlain by lacustrine silts and clays (indicating quiet, deeper water deposition).

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

Site Geology

The geology of the site is known from two hydrogeological investigations (RECRA, 1982, and Wehran & RECRA, 1978) which drilled 15 on-site borings, twelve of which include well installations. The following summary is our interpretation of the geology, based on a compilation of the previous studies.

The site overlies two bedrock contacts; thus three rock units are present along the bedrock surface. From south to north these units are 1) the Stafford Creek Limestone Member of the Skaneateles Formation, 2) the Oatka Creek Shale Member of the Marcellus Formation, and 3) the Moorehouse Limestone Member of the Onondaga Formation. The bedrock surface slopes to the northwest; depth to bedrock varies from approximately 10 feet to over 60 feet.

Soil stratigraphy on the site is characterized by a lowermost silty and sandy till unit overlying the most deeply buried areas of bedrock. Above the till is lacustrine clay (grades upward to silty clay and clayey silt). This unit blankets the site, reaching thicknesses up to approximately 50 feet. Above these fine grained soils are occasional remnant pockets of lacustrine silt and sand; above this unit and across the site is waste material.

Site Hydrology

Previous hydrogeological studies (RECRA,1982 and Wehran and RECRA, 1978) have identified a shallow groundwater aquifer within the waste material.

Information from monitoring wells suggests that there is a groundwater dome in the east-center part of the site. Flow is away from the dome, and predominantly to the west, where a groundwater discharge area (wetland swamp) occurs adjacent to the site. Potential flow off-site to the east has not been studied.

Two other groundwater units have been identified in the subsurface of the site. One of these is the mass of interstitial water contained

in the fine-grained lacustrine sediments. The second is a mass of water contained within the till and fractures in the underlying bedrock. Flow direction of this lowermost aquifer has been measured to be approximately northwest (down the slope of the bedrock surface).

Boring logs suggest that the geologic compositions of the clay layer may be adequate for separation of the upper and lower aquifers. The two previously mentioned investigations show different flow directions for these two aquifers. However, chemical anaylses of the lower aquifer water show contamination. This contamination may be attributed to a possible hydraulic connection between ponded surface water in the southern part of the site and the bedrock. This conclusion is supported by the fact that the depth to the bedrock in the southern part of the site is less than 20 feet. However, it is possible that an unknown off-site contamination source is degrading the lower aquifer water.

Sampling and Analysis

Both surface and groundwater samples were taken at the Alltift Realty site on July 31, 1978 (RECRA Research, Wehran Engineering, 1978). Sampling locations are shown on Figure V-1, while an analytical summary is presented in Table V-1. As shown, phenols, arsenic, and total halogenated organics were detected in all ground and surface water samples. In addition, mercury, lead and chromium were detected in many samples. According to the previously cited reports, traces of PCB were detected in surface water samples SS3 on two occasions but quantification was not possible.

Supplemental analysis of ground and surface water in 1982 (RECRA Research, 1982) found low levels of arsenic, chromium and mercury in the surface water. This analysis is contained in Appendix A.

In 1981 the NYSDEC had a complete priority pollutant analysis performed on three water/sediment samples (RECRA Research, 1981). Analytical results are summarized in Table V-2. A number of polynuclear aromatics and pesticides were detected at low levels.

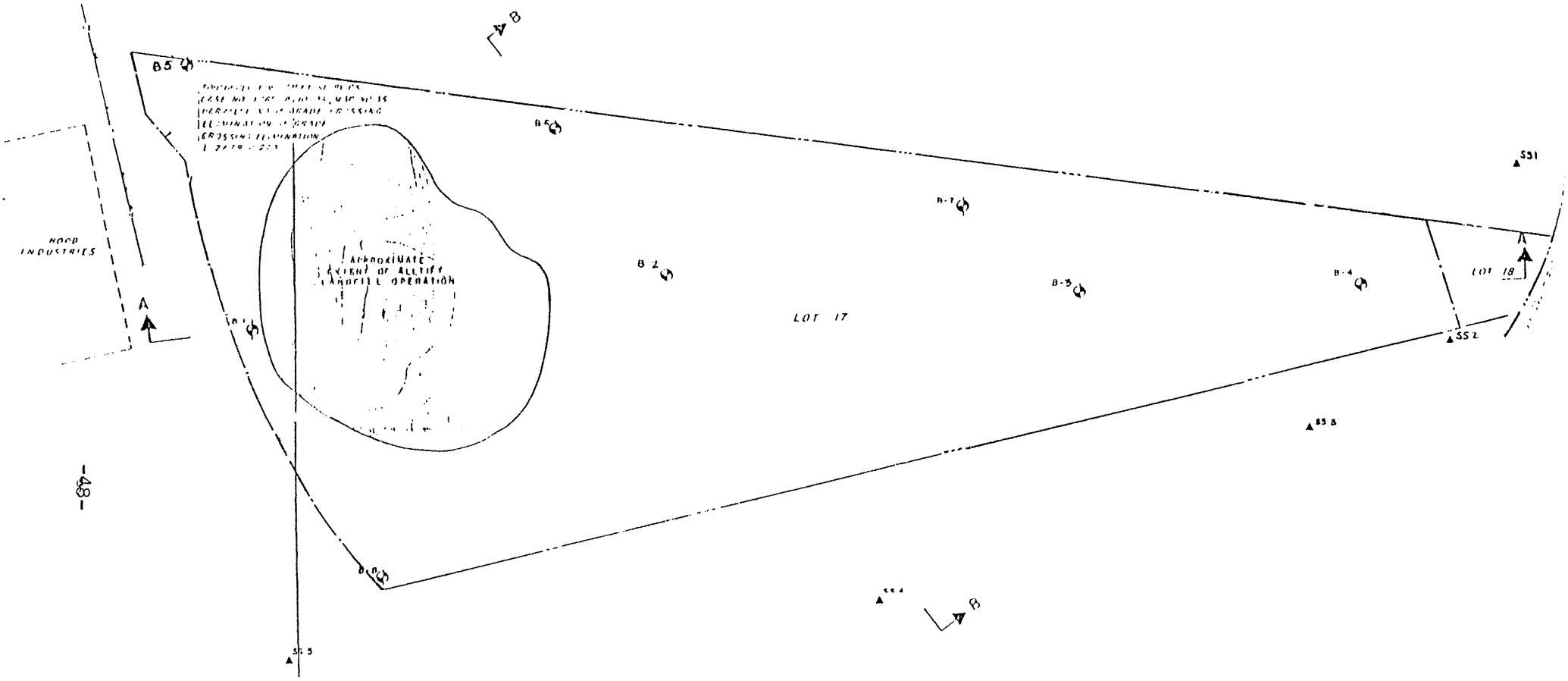


FIGURE V-1 Location of Alltift Sampling Points

TABLE V-1

SUMMARY OF ANALYSIS ALLTIFT REALTY 1978
(RECRA Research, Wehran Engineering, 1978)

Sample	Phenols (ppm)	THO* (ppb)	Arsenic (ppb)	Lead (ppm)	Mercury (ppm)	Total Chromium (ppm)
Groundwater						
(7/31/78) B1	0.037	8.42	6.3	BDL	BDL	BDL
B2	0.696	38.4	131	BDL	3.8	0.04
B4	0.050	1.32	BDL**	BDL	BDL	BDL
B5	0.020	1.24	5.1	BDL	BDL	BDL
B6	0.030	3.33	21.3	BDL	BDL	BDL
B7	0.089	--	15.4	BDL	10.7	0.016
B8	0.071	--	12.2	BDL	--	0.012
Surface						
(7/5/78) SS1	0.034	1.83	89	0.42	BDL	0.763
SS2	0.027	1.33	57	0.38	BDL	0.751
SS3	0.039	3.07	46	BDL	BDL	0.039
SS4	0.094	7.32	74	BDL	BDL	0.057
SS5	0.071	1.76	75	0.04	BDL	0.040
(7/17/78) SS1	0.040	2.31	94	0.51	BDL	0.834
SS2	0.036	7.25	34	0.51	BDL	0.874
SS3	0.058	1.02	8	BDL	BDL	0.040
SS4	0.043	BDL	2	BDL	BDL	0.042
SS5	0.057	BDL	5	BDL	BDL	0.066

*Total Halogenated Organics
**Below Detectable Limits

TABLE V-2

SUMMARY OF ANALYTICAL RESULTS
ALLTIFT REALTY 1981

Paramter (ppb)	Sample Identification 81-167-01	81-167-02	81-167-03
Acenaphthene	BDL	BDL	41
Benzo(a)anthracene	BDL	20	20
Fluoranthene	BDL	41	20
Pyrene	BDL	25	20
-BHC	BDL	0.02	BDL
-BHC	0.01	BDL	BDL
4,4 DDE	0.09	0.09	BDL
4,4 DDT	0.06	BDL	BDL
-Endosulfan	0.09	BDL	BDL
Arsenic	BDL	BDL	12
Chromium	12	16	12
Lead	BDL	BDL	12

BDL = Below Detectable Limits.

The following sample locations were given:

Sample	Location
81-167-01	South Pond, East Bank
81-167-02	Drainage Ditch North of Pond
81-167-03	North Pond, East Bank

SECTION VI

ASSESSMENT OF ADEQUACY OF DATA

Site: Alltift Realty

HRS Data Requirement	Comments on Data
Observed Release	
Ground Water	Data available, adequate for HRS evaluation.
Surface Water	Data available, adequate for HRS evaluation.
Air	No available data, field data collection recommended.
Route Characteristics	
Ground Water	Data available, adequate for HRS evaluation.
Surface Water	Data available, adequate for HRS evaluation.
Air	Data available, adequate for HRS evaluation.
Containment	Information available, adequate for HRS evaluation.
Waste Characteristics	Information available, adequate for HRS evaluation.
Targets	Information available, adequate for HRS evaluation.
Observed Incident	Information available revealed no report of incident. No further investigation recommended.
Accessibility	Adequate information available.

SECTION VII

PHASE II WORK PLAN

Site: Alltift Realty

Objectives

The objectives of the Phase II activities are:

- To collect additional field data necessary to complete the HRS scoring.
- To perform a conceptual evaluation of remedial alternatives and estimate budgetary costs for the most likely alternative.
- To prepare a site investigation report.

The additional field data required to complete the HRS are defined as follows:

Air - An air monitoring survey with an OVA meter is recommended to check the air quality above the surface of the site.

TASK DESCRIPTION

The proposed Phase II tasks are described in Table VII-1.

COST ESTIMATE

The estimated manhours required for the Phase II project are presented in Table VII-2 and the estimated project costs by tasks are presented in Table VII-3. The cost for performing the Phase II project is $6937.

TABLE VII-1
PHASE II WORK PLAN - TASK DESCRIPTION
Site: Alltift Realty

Tasks		Description of Task
TASK		
II-A	Update Work Plan	Review the information in the Phase I report, conduct a site visit, and revise the Phase II work plan.
II-B	Conduct Geophysical studies	No further studies necessary.
II-C	Conduct Boring/Install Install Monitoring Wells	No further installation of monitoring wells necessary.
II-D	Construct Test Pits/ Auger Holes	No further construction of test pits/auger holes necessary.
II-E	Perform Sampling and Analysis	
	Soil samples from borings	No further sampling necessary.
	Soil samples from surface soils	No further sampling necessary.
	Soil samples from test pits and auger holes	No further sampling necessary.
	Sediment samples from surface water	No further sampling necessary.
	Ground-water samples	No further sampling necessary.
	Surface water samples	No further sampling necessary.
	Air samples	Using the OVA, determine the presence of organics.
	Waste samples	No further sampling necessary.
II-F	Calculate Final HRS	Based on the field data collected in Tasks IIB - IIE, complete the HRS form.
II-G	Conduct Site Assessment	Prepare final report containing Phase I report, additional field data, final HRS and HRS documentation records, and site assessments. The site assessment will consist of a conceptual evaluation of alternatives and a preliminary cost estimate of the most probable alternative.
II-H	Project Management	Project coordination, administration and reporting.

TABLE VII-2
PERSONNEL RESOURCES BY TASK
PHASE II HRS SITE INVESTIGATION (SITE: ALLTIFT REALTY)

TASK DESCRIPTION	TEAM MEMBERS, MANHOURS													
	PIC	TRB	PM	DPM	PCM	DAN	HSM	FIL	FT	RAAI	RAAT	SS	TOTAL HOURS	TOTAL $
II-A UPDATE WORK PLAN	1		4	1			1	2		6		0	23	376.8
II-B CONDUCT GEOPHYSICAL STUDIES													0	0
II-C CONDUCT BORING/INSTALL MONITORING WELLS													0	0
II-D CONSTRUCT TEST PITS/AUGER HOLES													0	0
II-E PERFORM SAMPLING AND ANALYSIS														
SOIL SAMPLES FROM BORINGS													0	0
SOIL SAMPLES FROM SURFACE SOILS													0	0
SOIL SAMPLES FROM TEST PITS AND AUGER HOLES													0	0
SEDIMENT SAMPLES FROM SURFCE WATER													0	0
GROUND-WATER SAMPLES													0	0
SURFACE WATER SAMPLES													0	0
AIR SAMPLES			1					1	8			2	12	133.66
WASTE SAMPLES													0	0
II-F CALCULATE FINAL HRS			2	2				2	6			8	20	262.7
II-G CONDUCT SITE ASSESSMENT	1	2	4	2				4	8	6	24	32	83	1029.44
II-H PROJECT MANAGEMENT	2		6	2			2					8	20	369.16
TOTALS	4	2	17	7	0	0	3	9	22	12	24	50	158	2171.76

TABLE VII-3
COST ESTIMATE BREAKDOWN BY TASK
PHASE II HRS SITE INVESTIGATION (SITE: ALLTIFT REALTY)

TASK DESCRIPTION	DIRECT LABOR HOURS	DIRECT LABOR COST	OTHER DIRECT COSTS (ODC), $ LAB ANALYSIS	TRAVEL AND SUBSISTANCE	SUPPLIES	EQUIP. CHARGES	SUBCON-TRACTORS	MISC.	SUBTOTAL ODC	TOTAL ($)
II-A UPDATE WORK PLAN	23	376.8		100	50	50		25	225	601.8
II-B CONDUCT GEOPHYSICAL STUDIES									0	0
II-C CONDUCT BORING/INSTALL MONITORING WELLS									0	0
II-D CONSTRUCT TEST PITS/AUGER HOLES									0	0
II-E PERFORM SAMPLING AND ANALYSIS										
SOIL SAMPLES FROM BORINGS									0	0
SOIL SAMPLES FROM SURFACE SOILS									0	0
SOIL SAMPLES FROM TEST PITS AND AUGER HOLES									0	0
SEDIMENT SAMPLES FROM SURFACE WATER									0	0
GROUND-WATER SAMPLES									0	0
SURFACE WATER SAMPLES									0	0
AIR SAMPLES	12	133.66		85	25	15		5	130	263.66
WASTE SAMPLES									0	0
II-F CALCULATE FINAL HRS	20	262.7			50	50		25	125	387.7
II-G CONDUCT SITE ASSESSMENT	83	1029.44			100	200		75	375	1404.44
II-H PROJECT MANAGEMENT	20	369.16		150	150	50		50	400	769.16
TOTALS	158	2171.76	0	335	375	365	0	180	1255	3426.76

OVERHEAD = 3101.27
SUBTOTAL = 6528.03
FEE = 408.65
TOTAL PROJECT COST = 6936.68

APPENDIX A

BIBLIOGRAPHY

APPENDIX A

Bibliography

Alltift Realty

Beecher, John L. (1980) Assoc. Chem. Eng., NYSDEC. Letter to John Banaszak, Recra Research, Inc. January 11, 1980.

Dana, Richard (1982) Division of Solid Waste. Letter to Hal Hamptman, Hazard Assessment Section, USEPA. August 18, 1982.

Greenfield, Leonard (1980) Alltift Company, Inc. Application for Approval to Operate a Solid Waste Management Facility (to NYSDEC). May 6, 1980.

McMahon, John (1979) Regional Eng., NYSDEC. Memo to Mr. Burke. March 14, 1979.

Mitrey, Robert F. (1981) Assoc. Sanitary Eng., NYSDEC. Letter to Leonard Greenfield, Alltift, Inc., Buffalo. August 5, 1981.

NYS Geological Association (1982) Guidebook for Field Trips in Western New York, Northern Pennsylvania and Adjacent, Southern Ontario, October 10, 1982.

NYS Geological Association (1966) Guidebook of Western New York. April 29, 1966.

NYS Museum and Science Service (1970) Map and Charts Series No. 15 Geological Map of NYS.

Rayer, G.R. (1978) Environmental Services, Allied Chemical. Letter to Peter Miller, Intragency Task Force on Hazardous Wastes, Niagara Falls. November 14, 1978.

Rayer, G.R. (1979) Allied Chemical, Morristown, NJ. Letter to John Iannotti, NYSDEC. January 12, 1979.

Recra Research, Inc. (1981). Analytical Report. Prepared for NYSDEC. July 16, 1981.

Recra Research, Inc. (1982) Supplemental Hydrogeological Investigation-Alltift. 1982.

Rootzer, A. (1968) Niagara County Health Dept. Memo to Charles Infantino. March 20, 1968.

Bibliography

Alltift Realty (cont.)

Tygert, John S. (1980) Sr. Sanitary Eng., NYSDEC. Letter to Leonard Greenfield, Alltift Company, Inc. November 17, 1980.

Tygert, John S. (1981A) Sr. Sanitary Eng., NYSDEC. Letter to Leonard Greenfield, Alltift Company, Inc. Buffalo. January 12, 1981.

Tygert, John S. (1981B) Sr. Sanitary Eng., NYSDEC. Letter to Leonard Greenfield, Alltift Company, Inc., Buffalo. February 20, 1981.

Wehran Engineering Corporation and Recra Research, Inc. (joint project) (1981). Hydrogeologic Investigation, Alltift Landfill, Erie County, Buffalo, New York. December 4, 1978.

WEHRAN
ENGINEERING
Consulting Engineers

December 4, 1978

Mr. Leonard Greenfield
Alltift, Inc.
PO Box 246
Buffalo, NY 14240

RE: Hydrogeologic Investigation
Alltift Landfill
Buffalo, New York
(WE/Recra Job No. 01338147/

Dear Mr. Greenfield:

In accordance with our proposal, we hereby submit the Hydrogeologic Investigation of the Alltift Landfill site.

As originally intended, this hydrogeologic study would have been incorporated into a broader-based engineering report, satisfying the requirements of the New York State Department of Environmental Conservation's Part 360 regulations governing solid waste management facilities. As described in the report's introduction, conditions encountered during the course of this investigation clearly necessitated a period of reevaluation and reconsideration of the landfill's future, prior to design and implementation of extensive environmental controls at the site. For this reason we have prepared this report, focusing upon the conditions encountered and their significance to continued operation at the landfill in accordance with all applicable regulations.

We have enjoyed working with you on this project and look forward to being of continued service in the future. If you have any questions, please do not hesitate to contact us.

Very truly yours,

Kenneth C. Malinowski

Ken Malinowski
Vice-President
Recra Research

Robert D. Mutch Jr.

Robert D. Mutch, Jr.
Associate/Ground-Water Hydrologist
Wehran Engineering

KM/RDM/tf

ANALYTICAL RESULTS
ALLTIFT COMPANY, INC. LANDFILL SITE
SURFACE WATER SAMPLES

TABLE 7

Sampling Date: 7/5/78
Report Date: 9/26/78

PARAMETER	UNITS OF MEASURE	SAMPLING LOCATION				
		SS1	SS2	SS3	SS4	SS5
pH	Standard Units	1.95	1.93	7.78	7.30	7.52
Conductivity	µmhos/cm	8800	8200	5700	5500	5000
Dissolved Oxygen	mg/l	1.40	0.75	3.60	1.60	2.80
BOD_5	mg/l	8.09	21.6	150	212	191
COD	mg/l	60.6	70.7	495	495	404
Total Coliform	MPN/100ml	≤200	≤200	14,000	54,000	17,000
Ammonia	mg N/l	1.31	1.80	31.9	71.0	41.2
Nitrate	mg N/l	21	21	0.20	<0.10	<0.10
Nitrite	mg N/l	-	-	-	-	-
TKN	mg N/l	4.92	1.96	39.3	78.1	45.1
Phosphate (Total)	mg P/l	0.05	0.05	0.83	1.58	0.34
Sulfate	mg/l	5850	6130	592	578	769
Detergent	MBAS mg/l	<0.02	<0.02	0.13	0.16	0.14
Phenols	mg/l	0.034	0.027	0.039	0.094	0.071
Acidity	mg/l as $CaCO_3$	6290	5940	-	-	-
Alkalinity	mg/l as $CaCO_3$	-	-	1620	1980	1090
Total Solids	mg/l	10,200	9310	4470	4230	4060
Color	True Pt-Co Units	1400	1250	1250	750	1000
Hardness (Total)	mg/l	900	530	740	840	460
Chlorides	mg/l	18.7	18.0	1140	1080	1190
Total Organic Carbon	mg/l	39.0	27.0	415	470	490
Total Halogenated Hydrocarbons	µg/l as Cl, Lindane Standard	1.83	1.33	3.07	7.32	1.76
PCB's	µg/l as 1254	<1.25	<0.50	≤2.50	<0.25	<1.25
Total Aluminum	mg/l	2.92	2.64	0.27	0.26	0.27
Total Arsenic	µg/l	89	57	46	74	75
Total Chromium	mg/l	0.763	0.751	0.039	0.057	0.040
Hexavalent Chromium	mg/l	0.70	0.71	0.03	0.05	0.03
Total Copper	mg/l	6.89	1.71	0.130	0.440	0.360
Total Lead	mg/l	0.42	0.38	<2	<2	0.04
Total Mercury	µg/l	<1.0	<1.0	<1.0	<1.0	<1.0
Total Potassium	mg/l	26.9	20.0	182	331	256
Total Sodium	mg/l	440	68	1360	1010	1020
Total Calcium	mg/l	360	600	88	148	176
Total Silver	mg/l	0.017	0.021	0.006	0.007	0.005
Total Iron	mg/l	1832	1144	18.3	18.4	12.4

COMMENTS: Samples were collected by Recra personnel and received on 7/5/78. Nitrite nitrogen analyses could not be completed due to interferences present in the samples. Differences in detectabilities for PCB's is a result of different final volumes of the sample extracts. Sample SS3 was believed to contain PCB's but due to the low levels in the extract (<0.5 mg/µl) the exact amount in the original sample was not quantifiable. Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260 and 1268 were used for quantification purposes. Aroclor 1254 was arbitrarily selected for reporting purposes. These data are reported as less than the detection limit of 1254. The detection limits of the other Aroclors are approximately the same as for 1254.

FOR RECRA RESEARCH, INC. Robert K Wyatt DATE 9/26/78

RECRA RESEARCH, INC.
TOTAL CHEMICAL WASTE MANAGEMENT THROUGH APPLIED RESEARCH
111 Wales Avenue / Tonawanda, New York 14150 / (716) 692-7620

ANALYTICAL RESULTS
ALLTIFT COMPANY, INC. LANDFILL SITE
GROUND WATER SAMPLES

TABLE 6

Sampling Date: 7/31/78
Report Date: 9/26/78

PARAMETER	UNITS OF MEASURE	SAMPLING LOCATION				
		B7	B8	-	-	-
pH	Standard Units	8.00	7.70	-	-	-
Conductivity	µmhos/cm	7,900	6,000	-	-	-
Dissolved Oxygen	mg/l	-	-	-	-	-
BOD_5	mg/l	-	-	-	-	-
COD	mg/l	780	499	-	-	-
Total Coliform	MPN/100ml	-	-	-	-	-
Ammonia	mg N/l	259	113	-	-	-
Nitrate	mg N/l	<0.1	<1.0	-	-	-
Nitrite	mg N/l	0.07	0.12	-	-	-
TKN	mg N/l	-	-	-	-	-
Phosphate (total)	mg P/l	-	0.044	-	-	-
Sulfate	mg/l	-	299	-	-	-
Detergent	MBAS mg/l	-	0.03	-	-	-
Phenols	mg/l	0.089	0.071	-	-	-
Alkalinity	mg/l as $CaCO_3$	2,250	2,390	-	-	-
Total Solids	mg/l	6,100	6,100	-	-	-
Color	True Pt-Co Units	-	700	-	-	-
Hardness (total)	mg/l	-	536	-	-	-
Chlorides	mg/l	2,070	1,430	-	-	-
Total Organic Carbon	mg/l	-	538	-	-	-
Total Halogenated Hydrocarbons	µg/l as Cl, Lindane Standard	-	-	-	-	-
PCB's	µg/l as 1254	-	-	-	-	-
Total Aluminum	mg/l	<0.03	0.24	-	-	-
Total Arsenic	µg/l	15.4	12.2	-	-	-
Total Chromium	mg/l	0.016	0.012	-	-	-
Hexavalent Chromium	mg/l	0.01	0.01	-	-	-
Total Copper	mg/l	0.01	0.014	-	-	-
Total Lead	mg/l	<0.03	<0.03	-	-	-
Total Mercury	µg/l	(10.7)	-	-	-	-
Total Potassium	mg/l	182	118	-	-	-
Total Sodium	mg/l	1,560	1,300	-	-	-
Total Calcium	mg/l	56	18	-	-	-
Total Silver	mg/l	0.004	0.003	-	-	-
Total Iron	mg/l	0.46	0.02	-	-	-

COMMENTS: The analyses of PCB's included Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260, and 1268. None of these Aroclors were found in detectable concentrations. For reporting purposes Aroclor 1254 was arbitrarily chosen for presentation of a working detection limit. The other Aroclors exhibit similar detection limits.

FOR RECRA RESEARCH, INC. Robert K Lyttle

DATE 9/26/78

RECRA RESEARCH, INC.
TOTAL CHEMICAL WASTE MANAGEMENT THROUGH APPLIED RESEARCH
111 Wales Avenue / Tonawanda, New York 14150 / (716) 692-7620

ANALYTICAL RESULTS
ALLTIFT COMPANY, INC. LANDFILL SITE
GROUND WATER SAMPLES

TABLE 6

Sampling Date: 7/31/78
Report Date: 9/26/78

PARAMETER	UNITS OF MEASURE	SAMPLING LOCATION				
		B1	B2	B4	B5	B6
pH	Standard Units	7.28	7.47	6.43	7.10	7.34
Conductivity	µmhos/cm	6,000	21,000	11,000	4,000	5,400
Dissolved Oxygen	mg/l	5.8	4.3	7.2	4.2	6.2
BOD_5	mg/l	359	7,020	96.5	242	605
COD	mg/l	489	2,580	593	291	379
Total Coliform	MPN/100ml	130	24,000	230	130	24,000
Ammonia	mg N/l	77.6	1,930	73.9	61.2	107
Nitrate	mg N/l	<0.1	<0.5	<0.5	0.12	<0.1
Nitrite	mg N/l	0.05	<0.05	<0.05	0.08	0.05
TKN	mg N/l	91.9	1490	106	69.2	125
Phosphate (total)	mg P/l	0.556	1.29	0.044	0.086	0.130
Sulfate	mg/l	86.3	441	(2,660)	387	240
Detergent	MBAS mg/l	0.16	0.05	0.19	0.15	0.03
Phenols	mg/l	0.037	(0.696)	0.050	(0.020)	(0.030)
Alkalinity	mg/l as $CaCO_3$	2,280	8,270	915	1,530	1,760
Total Solids	mg/l	4,410	30,000	9,590	2,990	4,950
Color	True Pt-Co Units	500	-	200	150	200
Hardness (total)	mg/l	665	1,250	2,260	665	594
Chlorides	mg/l	3,630	8,450	3,880	730	1,010
Total Organic Carbon	mg/l	950	1,400	313	110	488
Total Halogenated Hydrocarbons	µg/l as Cl, Lindane Standard	8.42	38.4	1.32	1.24	3.33
PCB's	µg/l as 1254	<1.0	<1.0	<1.0	<1.0	<1.0
Total Aluminum	mg/l	0.26	0.05	0.24	0.06	<0.03
Total Arsenic	µg/l	6.3	(131)	<4	5.1	21.3
Total Chromium	mg/l	0.014	0.546	<0.003	0.010	0.006
Hexavalent Chromium	mg/l	<0.01	0.04	<0.01	<0.01	<0.01
Total Copper	mg/l	<0.003	0.026	0.015	0.21	0.005
Total Lead	mg/l	<0.03	<0.03	<0.03	<0.03	<0.03
Total Mercury	µg/l	<1.3	(3.8)	<1.3	<1.3	<1.3
Total Potassium	mg/l	98	908	146	118	128
Total Sodmium	mg/l	1,060	3,080	2,020	840	1,140
Total Calcium	mg/l	214	54	760	146	190
Total Silver	mg/l	<0.002	<0.002	<0.002	<0.002	<0.002
Total Iron	mg/l	0.28	2.43	(5.08)	0.16	0.03

COMMENTS: Samples were collected by Recra personnel and received on 7/31/78. Data not provided in these tables are a consequence of insufficient sample volume for completion of the required analyses. The determination of true color of samples from B2 and B7 were turbid after centrifugation and could not be matched with any standard Pt-Co Color Unit. Sample B2 exhibited higher NH_3-N than Total Kjeldahl Nitrogen (TKN). These results are believed to be due to the positive interferences in the NH_3-N analyses from amines and other nitroso compounds that would not effect the TKN results. This conclusion is supported by the presense of numerous nitrogen compounds as seen in the chromatographs for the total halogenated organics analyses.

FOR RECRA RESEARCH, INC. Ralph Lyett

DATE 9/26/78

RECRA RESEARCH, INC. 111 Wales Avenue / Tonawanda, New York 14150 / (716) 692-7620
TOTAL CHEMICAL WASTE MANAGEMENT THROUGH APPLIED RESEARCH

ANALYTICAL RESULTS
ALLTIFT COMPANY, INC. LANDFILL SITE
SURFACE WATER SAMPLES

TABLE 7

Sampling Date: 7/17/78
Report Date: 9/26/78

PARAMETER	UNITS OF MEASURE	SAMPLING LOCATION				
		SS1	SS2	SS3	SS4	SS5
pH	Standard Units	2.38	2.36	7.95	8.01	7.51
Conductivity	µmhos/cm	9400	9400	6600	7400	5500
Dissolved Oxygen	mg/l	0.5	0.5	3.20	5.06	5.16
BOD_5	mg/l	36.7	12.3	193	339	169
COD	mg/l	60.6	70.7	495	495	404
Total Coliform	MPN/100ml	≤200	≤200	1700	4900	35,000
Ammonia	mg N/l	1.42	2.10	31.8	72.9	40.1
Nitrate	mg N/l	18	18	0.16	<0.10	<0.10
Nitrite	mg N/l	-	-	-	-	-
TKN	mg N/l	5.22	3.99	59.4	86.5	40.7
Phosphate (Total)	mg P/l	0.05	0.05	1.17	7.40	0.15
Sulfate	mg/l	6050	5930	696	589	956
Detergent	MBAS mg/l	<0.02	<0.02	0.14	0.14	0.10
Phenols	mg/l	0.040	0.036	0.058	0.043	0.057
Acidity	mg/l as $CaCO_3$	6210	6480	-	-	-
Alkalinity	mg/l as $CaCO_3$	-	-	1880	2250	1140
Total Solids	mg/l	9970	10,400	4890	5540	4200
Color	True Pt-Co Units	1500	1500	1670	3500	1000
Hardness (Total)	mg/l	600	650	860	765	750
Chlorides	mg/l	11.6	13.1	1270	1570	1050
Total Organic Carbon	mg/l	30.0	30.5	785	805	505
Total Halogenated Hydrocarbons	µg/l as Cl, Lindane Standard	2.31	7.25	1.02	<0.75	<0.75
PCB's	µg/l as 1254	<2.50	<2.00	≤2.50	<1.0	<1.0
Total Aluminum	mg/l	4.91	4.87	0.11	0.15	0.06
Total Arsenic	µg/l	94	34	8	2	5
Total Chromium	mg/l	0.834	0.874	0.040	0.042	0.066
Hexavalent Chromium	mg/l	0.80	0.82	0.03	0.04	0.05
Total Copper	mg/l	1.0	1.3	0.017	<0.003	0.010
Total Lead	mg/l	0.51	0.51	<0.02	<0.02	<0.02
Total Mercury	µg/l	<1.0	<1.0	<1.0	<1.0	<1.0
Total Potassium	mg/l	3.5	4.8	286	289	246
Total Sodium	mg/l	340	70	1220	1100	1050
Total Calcium	mg/l	184	652	116	148	56
Total Silver	mg/l	0.008	0.008	<0.003	<0.003	<0.003
Total Iron	mg/l	2030	1770	2.00	0.80	1.20

COMMENTS: Samples were collected by Recra personnel and received on 7/17/78. Nitrite nitrogen analyses could not be completed due to interferences present in the samples. Differences in detectabilities for PCB's is a result of different final volumes of the sample extracts. Sample SS3 was believed to contain PCB's but due to the low levels in the extract (<0.5 mg/µl) the exact amount in the original sample was not quantifiable. Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260 and 1268 were used for quantification purposes. Aroclor 1254 was arbitrarily selected for reporting purposes. These data are reported as less than the detection limit of 1254. The detection limits of the other Aroclors are approximately the same as for 1254.

FOR RECRA RESEARCH, INC. Robert H. Wyatt DATE 9/26/78

RECRA RESEARCH, INC.
TOTAL CHEMICAL WASTE MANAGEMENT THROUGH APPLIED RESEARCH
111 Wales Avenue / Tonawanda, New York 14150 / (716) 692-7620

File 11.0

New York State Department of Environmental Conservation
Delaware Avenue, Buffalo, New York, 14202

Robert F. Flacke
Commissioner

January 11, 1980

RECEIVED

JAN 17 1980

BUREAU OF HAZARDOUS
WASTE MANAGEMENT PROGRAMS

Mr. John Banaszak
Recra Research, Inc.
P.O. Box 448
Tonawanda, NY 14150

Re: Alltift Landfill

Dear Mr. Banaszak:

The conceptual proposal for the Alltift Landfill located near Tift Street in Buffalo (C), Erie County as submitted in your letter of December 20, 1979 is acceptable if significantly modified and if the proposed sludges fall within the parameter limits for an Intermediate Landfill.

Specific comments are:

1. The clay cut-off wall is limited to the area proposed for the sludge facility. However, leachate with high organic contamination from past disposal of the Buffalo Dye Plant wastes, is not restricted to that area. Some level of leachate control is to be provided for the area proposed for shredder waste disposal.

2. The geology at the southern tip of the site may not be suitable for the sludge management facility (intermediate landfill). The area chosen must meet the Part 360 criteria for clay thickness and quality and depth to bedrock.

3. Intermediate cover may be required for the sludges and the sludges will have to exhibit a loadbearing capacity which will permit cover. This specification is likely to be 150 lbs./ft.^{2}

4. The method of off-site leachate treatment will need to be reviewed and approved.

5. The specifications on the two foot of cover will need to be identified.

6. The shredder waste area grading may need to be supplemented with clay or other low permeable material to reduce infiltration.

7. Some means of leachate control is to be provided in the shredder waste area.

It is the understanding by this office (J. Banaszak-J. Beecher phone discussion) that the decision has been made to withdraw the sludge proposal and limit the site usage to continuation of the current shredder waste disposal.

Since a decision has been made, there is to be an approvable submission of an engineering report and application for a permit to operate by March 1, 1980. The submission is to address leachate migration control and provide for a reduction of infiltration.

Very truly yours,

John L. Beecher, P.E.
Associate Chemical Engineer

JLB:sk

cc: L. Greenfield, Alltift
R. Schultz, Frontier Chemical
N.C.H.D.
A. Voell
B. Mitrey
P. Counterman

New York State Department of Environmental Conservation

MEMORANDUM

TO: Mr. Burke
FROM: Mr. McMahon
SUBJECT: Alltift Landfill

DATE: March 14, 1979

Arrangements have been made with the current owners of the Alltift Landfill located south of Tifft Street in Buffalo for a meeting to be held at this office at 10 a.m. on April 5, 1979.

The current owners of the Alltift site are making application under Part 360 for the utilization of the above site for the disposal of non-metalic automobile materials resulting from their automobile shredding operations.

A hydrogeologic investigation indicates that previous operations at the site result in the site being the repository of a wide range of chemical wastes (hazardous and non-hazardous) which are now evident from the leachate from the landfill.

The previous operations extended beyond the boundaries of the property transferred to the current owners and is on land owned by a third party.

It is my understanding that the site was previously owned by the City of Buffalo and that the operations were conducted by Downing Container Service. It is reported that Allied Chemical disposed of liquid materials directly in the landfill.

Your assistance in identifying the parties the Department will hold responsible for action in this situation is requested.

JCM:egb
cc: Mr. Counterman
Mr. Beecher

Attached is copy of the report.

Alltift Realty Pg 9

August 18, 1982

Mel Hauptman
Hazard Assessment Section
U.S. Environmental Protection Agency
Region II
26 Federal Plaza
New York, New York 10278

Dear Mr. Hauptman:

Enclosed is the documentation you requested for the Alltift Realty "Superfund" site, that you need to complete the Hazard Ranking Model for the site.

A memo from Maureen Hogan to John Tygert (dated August 21, 1981), both of the Department of Environmental Conservation, contains analytical results from samples collected at the site.

One memo and two letters provide the documentation for waste quantity at the site:

-Memo from A. Roetzer to Charles Infantino, (dated March 20, 1968), both of the Niagara County Health Department.

-Letter from G.R. Royer of Allied Chemical Corporation to Peter Miller, Director, Interagency Task Force on Hazardous Waste (dated November 14, 1978).

-Letter from G.R. Royer of Allied Chemical Corporation to John E. Iannotti of the Department (dated January 12, 1979).

If you have any questions, please call (518)457-4543.

Sincerely,

Richard Dana
Senior Engineering Geologist
Site Investigation Section
Division of Solid Waste

RD:cl

Enclosure

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

APPLICATION FOR APPROVAL TO OPERATE A SOLID WASTE MANAGEMENT FACILITY

TO Elkb

SEE APPLICATION INSTRUCTIONS ON REVERSE SIDE

FOR STATE USE ONLY	
PROJECT NO. 15S10	DATE RECEIVED
DEPARTMENT ACTION ☐ Approved ☐ Disapproved	DATE

1. OWNER'S NAME	2. ADDRESS (Street, City, State, Zip Code)	3. Telephone No.
Alltift Inc.	P. O. Box 246, Buffalo, NY 14240	716/823-9900
4. OPERATOR'S NAME	5. ADDRESS (Street, City, State, Zip Code)	6. Telephone No.
Barber Salvage	Rt. 78 South Wales, NY 14139	716/457-9378
7. ENGINEER'S NAME	8. ADDRESS (Street, City, State, Zip Code)	9. Telephone No.
Gordon H. Soderholm	4804 Transit Rd., Depew, NY 14043	716/668-4100
10. ON-SITE SUPERVISOR	11. ADDRESS (Street, City, State, Zip Code)	12. Telephone No.
	N. Canada St., Holland, NY 14080	716/537-9068

13. HAS THE INDIVIDUAL NAMED IN ITEM 10 ATTENDED A DEPARTMENT SPONSORED OR APPROVED TRAINING COURSE?
☐ Yes Date Course Title Location ☐ No

14. PROJECT/FACILITY NAME	15. COUNTY IN WHICH FACILITY IS LOCATED	16. ENVIRONMENTAL CONSERVATION REGION
Alltift Landfill	Erie	9

17. TYPE OF PROJECT FACILITIES: ☐ Composting ☐ Transfer ☐ Shredding ☐ Baling ☐ Sanitary Landfill ☐ Incineration ☐ Pyrolysis ☐ Resource Recovery-Energy ☐ Resource Recovery-Materials ☒ Other Shredder Waste & Demolition Debris Landfill

18. HAS THIS DEPARTMENT EVER APPROVED PLANS AND SPECIFICATIONS AND/OR ENGINEERING REPORTS FOR THIS FACILITY? ☐ Yes Date _____ ☒ No

19. LIST WASTES NOT ACCEPTED

Putrescible, Sanitary or Hazardous Wastes

20. BRIEFLY DESCRIBE OPERATION

Operation will involve landfilling of shredder waste and some construction and demolition debris. Details of the proposed operation are provided in the accompanying engineering report.

21. IF FACILITY IS A SANITARY LANDFILL, PROVIDE THE FOLLOWING INFORMATION: Please refer to companionate documents

a. Total useable area: (Acres) Initially _____ Currently _____

b. Distance to nearest offsite, downgradient, water supply well _____ Feet

c. No. of groundwater monitoring wells Upgradient _____ Downgradient _____

22. INDICATE WHICH ATTACHMENTS, IF ANY, ARE INCLUDED WITH THIS APPLICATION:

☒ Form 47-19-2 or SW-7 ☒ Operations Plan & Report ☐ USGS Topographic Map ☒ Record Forms ☒ Other Environmental Assessment Forms
☐ Construction Certificate ☒ Boring Logs ☒ Water Sample Analysis ☐ None

23. CERTIFICATION:

I hereby affirm under penalty of perjury that information provided on this form and attached statements and exhibits is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

5/6/80 Date

Leonard Greenfield Signature and Title

Leonard Greenfield, President

47-19-4 (6/77)
formerly SW-22

CENTRAL OFFICE COPY

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

LEACHING POTENTIAL TEST REPORT

FOR STATE USE ONLY		
SITE NO.	APPLICATION NO.	DATE RECEIVED
DEPARTMENT ACTION ☐ Approved ☐ Disapproved		DATE

SEE INSTRUCTIONS ON REVERSE SIDE

1. NAME OF PROJECT/FACILITY	2. COUNTY	3. SITE NO.	4. APPLICATION NO.
Alltift Landfill	Erie		001

NAME OF OWNER	6. ADDRESS (Street, City, State, Zip Code)	7. TELEPHONE NO.
Alltift, Inc.	P.O. Box 246, Buffalo, New York 14240	716/823-9900
* NAME OF OPERATOR	9. ADDRESS (Street, City, State, Zip Code)	10. TELEPHONE NO.
Barber Salvage	Rt. 78, S. Wales, New York 14139	716/457-9378
11. COMPANY GENERATING WASTE	12. ADDRESS OF FACILITY GENERATING WASTE (Street, City, State, Zip Code)	
Intermetal Nee Advanced Metals Recycling	776 Ohio St., Buffalo, New York 14203	
13. REPRESENTATIVE OF WASTE GENERATOR	14. MAILING ADDRESS OF REPRESENTATIVE	15. TELEPHONE NO.
Leonard Russ	776 Ohio St., Buffalo, New York 14203	716/847-6200
16. DATE SAMPLES TAKEN	17. SAMPLES TAKEN BY (Name and Employer)	
7/5/78	Kenneth C. Malinowski, Recra Research, Inc.	
18. ORGANIZATION PERFORMING ANALYSES	19. ADDRESS (Street, City, State, Zip Code)	
Recra Research, Inc.	111 Wales Avenue, Tonawanda, New York 14150	
20. REPRESENTATIVE OF ORGANIZATION PERFORMING ANALYSES	21. TITLE	22. TELEPHONE NO.
Robert K. Wyeth	Laboratory Director	716/692-7620

23. ANALYSES OF LIQUID FRACTION: pH: Sample 1 _____ Sample 2 _____ Sample 3 _____

COMPONENT	CONCENTRATION Sample 1	Sample 2	Sample 3	UNIT (Check One) Wt. %	PPM
1) Not Applicable				☐	☐
2)				☐	☐
3)				☐	☐
4)				☐	☐
5)				☐	☐
6)				☐	☐

24. ANALYSES OF SOLIDS FRACTION: Percent Solids: Sample 1 _____ Sample 2 _____ Sample 3 _____

COMPONENT	CONCENTRATION (Dry Weight) Sample 1	Sample 2	Sample 3	UNIT (Check One) Wt. %	PPM
1) See enclosed analytical report				☐	☐
2)				☐	☐
3)				☐	☐
4)				☐	☐
5)				☐	☐
6)				☐	☐

25. LEACHING TEST ON SOLIDS FRACTION: pH: Sample 1 _____ Sample 2 _____ Sample 3 _____

COMPONENT	CONCENTRATION Sample 1	Sample 2	Sample 3	UNIT (Check One) Wt. %	PPM
1) See enclosed analytical report				☐	☐
2)				☐	☐
3)				☐	☐
4)				☐	☐
5)				☐	☐
6)				☐	☐

26. CERTIFICATION

I hereby affirm under penalty of perjury that information provided on this form and attached statements and exhibits is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

a. SIGNATURE AND TITLE OF REPRESENTATIVE OF WASTE GENERATOR	DATE
X Leonard Russ	
b. SIGNATURE AND TITLE OF REPRESENTATIVE OF TREATMENT OR DISPOSAL FACILITY	DATE
X Leonard Russ (Pres.)	

47-15-6 (12/77)

19-2 (5/77)
merly SW-7

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

APPLICATION FOR APPROVAL TO CONSTRUCT A SOLID WASTE MANAGEMENT FACILITY

APPLICATION INSTRUCTIONS ON REVERSE SIDE

FOR STATE USE ONLY	
PROJECT NO.	DATE RECEIVED
DEPARTMENT ACTION ☐ Approved ☐ Disapproved	DATE

1. OWNER'S NAME	2. ADDRESS (Street, City, State, Zip Code)	3. Telephone No.
Alltift Inc.	P. O. Box 246, Buffalo, NY 14240	716/823-9900
4. OPERATOR'S NAME	5. ADDRESS (Street, City, State, Zip Code)	6. Telephone No.
Barber Salvage	Rt. 78, South Wales, NY 14139	716/457-9378
7. ENGINEER'S NAME	8. ADDRESS (Street, City, State, Zip Code)	9. Telephone No.
Gordon H. Soderholm	4804 Transit Rd., Depew, NY 14043	716/668-4100

7. ENGINEER'S N.Y.S. LICENSE NO.: 42331

10. TYPE OF PROJECT FACILITIES:
☐ Composting ☐ Transfer ☐ Shredding ☐ Baling ☐ Sanitary Landfill ☐ Incineration Shredder Waste
☐ Pyrolysis ☐ Resource Recovery-Energy ☐ Resource Recovery-Materials ☒ Other ~~Demolition debris~~ landfill

11. Briefly describe the project including the basic process and major components:

Operation of a landfill for shredder waste and construction and demolition debris

12. Describe location of facility. (Attach a USGS Topographic Map showing the exact location of the facility)

See accompanying plans and report

13. County in which facility is located: Erie

14. Environmental Conservation Region in which facility is located: nine

15. Municipalities Served by Facility	County	No. of Municipalities
None - private landfill		

16. Describe briefly how the proposed facility relates to the Comprehensive Solid Waste Management Plan for the Municipality. Explain any deviation from that Plan.

N/A

17. If the facility is other than a sanitary landfill, describe the residues in terms of quantities and types. Also indicate the methods and locations of residue disposal or, if recyclable, indicate markets:

18. If the facility is a sanitary landfill, provide the following information: Please refer to companionate report

a. Total useable area – _____ Acres
b. Distance to nearest surface water – _____ Feet
c. Depth to nearest ground water – _____ Feet
d. Depth to nearest rock – _____ Feet
e. Distance to nearest airport – _____ miles
f. Expected life of site – _____ years
g. Is site on a flood plain? ☐ Yes _____ Year Flood ☐ No
h. Predominant type of soil on site: _____ (Use Unified Soil Classification System)

19. Anticipated construction starting and completion dates From	To	20. Estimated Population Served Current	Design
N/A		N/A	
21. Estimated Cost Initial	Annual	22. Estimated Daily ~~Tonnages~~ of Solid Waste yardage Current	Design
N/A		200-250	
23. Operating Hours per Day		24. Are attached plans and specifications in substantial conformance with "Content Guidelines for Plans and Specifications"? ☒ Yes ☐ No	

25. CERTIFICATION:

I hereby affirm under penalty of perjury that information provided on this form and attached statements and exhibits is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

5/6/80 (Date) — [signature] — Leonard Greenfield, President (Signature and Title)

CENTRAL OFFICE COPY

New York State Department of Environmental Conservation

MEMORANDUM

TO: Mr. Burke
FROM: Mr. McMahon
SUBJECT: Alltift Landfill

DATE: March 14, 1979

Arrangements have been made with the current owners of the Alltift Landfill located south of Tifft Street in Buffalo for a meeting to be held at this office at 10 a.m. on April 5, 1979.

The current owners of the Alltift site are making application under Part 360 for the utilization of the above site for the disposal of non-metalic automobile materials resulting from their automobile shredding operations.

A hydrogeologic investigation indicates that previous operations at the site result in the site being the repository of a wide range of chemical wastes (hazardous and non-hazardous) which are now evident from the leachate from the landfill.

The previous operations extended beyond the boundaries of the property transferred to the current owners and is on land owned by a third party.

It is my understanding that the site was previously owned by the City of Buffalo and that the operations were conducted by Downing Container Service. It is reported that Allied Chemical disposed of liquid materials directly in the landfill.

Your assistance in identifying the parties the Department will hold responsible for action in this situation is requested.

JCM:egb
cc: Mr. Counterman
Mr. Beecher

Attached is copy of the report. Jim

C. Gastry

New York State Department of Environmental Conservation
600 Delaware Avenue, Buffalo, New York 14202

Robert F. Flacke
Commissioner

August 5, 1981

Mr. Leonard Greenfield
Alltift, Inc.
P.O. Box 246
Buffalo, New York 14240

Re: Application for a Permit to Operate
Solid Waste Management Facility
Alltift, Inc. - Facility #15S10
Buffalo (C), Erie County

Dear Mr. Greenfield:

We have received your correspondence to this office dated May 20, 1981 and July 27, 1981, as well as a copy of a letter from the Chessie System addressed to your realtor, Mr. Cy Warnick. On February 20, 1981, this office advised you that we would grant an extension of six (6) months for the submission of a revised application. August 6, 1981 will be six (6) months from the date of your request relayed to us by your consultants, Recra Research, Inc.

This office has discussed this matter with Mr. Banaszak of Recra Research, Inc. and it has been indicated that a further extension of time will be granted, at your request, for a reasonable period of time to culminate your negotiations with the City of Buffalo and the Chessie System. This means that this office should have plans in hand by February 6, 1982 for negotiations with the two above parties, alternative plans enclosing the property currently owned by you with an impervious dike to virgin soil and the installation of an internal collection system must be submitted.

If by February 6, 1982 we do not have approvable plans, this office will have no recourse other than to disapprove the current application. It is our feeling that the time limits previously established by this Department for the completion of engineering studies have been reasonable and that the time to complete the negotiations, engineering work and submit the plans for approval have been reasonable and that this directive is within the intent of the Department's policies.

We therefore, recommend that you submit a request for an extension of time for the processing of your application to February 6, 1982.

Should you have any questions, please contact this office at 716/842-3837.

Very truly yours,

Robert J. Mitrey, P.E.
Associate Sanitary Engineer

RJM:JST:las

cc: Mr. J. Banaszak, Recra Research, Inc.
Mr. D. Campbell, Erie County Department of Environment and Planning
Mr. C. Sastry, NYSDEC-Albany, Solid Waste Section
Ms. B. Guibord, NYSDEC-Buffalo, Compliance Team
Mr. G. Soderholm, Soderholm Engineering
Mr. I. Schwartz, Intermetco, Inc.

TABLE IA

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES
AQUEOUS SAMPLES

Samples Received: 6/17/81
Report Date: 7/16/81

ACID/PHENOLICS

COMPOUND	UNITS OF MEASURE	SAMPLE IDENTIFICATION		
		81-167-01	81-167-02	81-167-03
2-chlorophenol	µg/l	<20	<20	<20
2,4-dichlorophenol	µg/l	<20	<20	≤20
2,4-dimethylphenol	µg/l	<20	<20	<20
4,6-dinitro-o-cresol	µg/l	<200	<200	<200
2,4-dinitrophenol	µg/l	<200	<200	<200
2-nitrophenol	µg/l	<20	<20	<20
4-nitrophenol	µg/l	<200	<200	<200
p-chloro-m-cresol	µg/l	<40	<40	<40
pentachlorophenol	µg/l	<40	<40	<40
phenol	µg/l	<20	<20	<20
2,4,6-trichlorophenol	µg/l	<40	<40	<40

COMMENTS: Refer to text

FOR RECRA RESEARCH, INC. Timothy R Babar

DATE 7/16/81

RA RESEARCH, INC.
#81-513

RESULTS AND DISCUSSION (cont'd.):

Solid Samples 81-167-01, 81-167-02, and 81-167-03 contained an overlying aqueous phase which was decanted prior to analysis, as requested. Aqueous Samples 81-169-01, 81-169-02, and 81-169-03 for metals analysis contained some sediment. This was also separated at the request of the client.

Detection limits for aqueous samples are, in part, a function of available sample volume. Soil samples were found to have a high level of organic interference (sample matrix). A significant portion of these interferences are believed to be due to the abundant presence of aliphatic hydrocarbons.

Values reported as "less than" (<) indicate the working detection limit for the given sample and/or parameter. Values reported as "less than or equal to" (≤) indicate the presence of a compound at a level below the working detection limit and, therefore, not subject to accurate quantification.

Compounds which are "indicated" fulfill some, but not all, of the requirements for positive identification.

Respectfully submitted,

RECRA RESEARCH, INC.

Timothy R Baker

Timothy R. Baker
GC/MS Specialist

TRB/skb

RESULTS AND DISCUSSION (cont'd.):

Volatile field blanks were not received with the samples.

The following compounds were indicated in the listed samples at levels below the detection limit:

81-167-01 (Aqueous)	-	vinyl chloride t-1,2-dichloroethylene
81-167-02 (Aqueous)	-	1,1-dichloroethane 2,4-dichlorophenol
81-167-03 (Aqueous)	-	1,1-dichloroethane 1,1,1-trichloroethane phenol
81-167-01 (Solid)	-	naphthalene 2-chloronaphthalene fluoranthene pyrene
81-167-02 (Solid)	-	pentachlorophenol
81-169-01 (Aqueous)	-	benzene
81-169-01 (Solid)	-	acenaphthene

Utilizing the present methodology, some isomeric pairs of Base/Neutral compounds (anthracene/phenanthrene and benzo(a)anthracene/chrysene) cannot be differentiated. These compounds coelute and have similar mass spectra. Positive values for these compounds are listed in the tables once per isomeric pair. For example, the value reported for anthracene in Sample 81-167-03 (Solid) should be interpreted as anthracene and/or phenanthrene. A separate value for phenanthrene is not reported in that sample.

Compounds indicated by the Gas Chromatography screening for Pesticides/PCB's Tables IVA through IVD) were at levels too low for GC/MS confirmation.

ANALYTICAL REPORT

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
PRIORITY POLLUTANT ANALYSES

Report Date: 7/16/81

INTRODUCTION:

On June 17 and 18 of 1981, fourteen samples were received at Recra Research, Inc. A request was made by the New York State Department of Environmental Conservation to have the samples analyzed for selected fractions of the Environmental Protection Agency decreed priority pollutants. Seven of the samples were aqueous in nature and seven were characterized as solids.

This report will address the results of those analyses.

METHODS:

Priority pollutant analyses were conducted according to Environmental Protection Agency (EPA) methodologies.

Organic priority pollutants were analyzed by Gas Chromatography/Mass Spectrometry (GC/MS). Pesticide priority pollutants were screened by Gas Chromatography.

RESULTS AND DISCUSSION:

The results of the priority pollutant analyses are listed in Tables IA through VB.

The following percent dry weights are associated with the solid samples:

81-167-01	-	31%
81-167-02	-	72%
81-167-03	-	60%
81-169-01	-	84%
81-169-02	-	77%
81-169-03	-	62%
81-169-04	-	71%

Alt.Pt

ANALYTICAL REPORT

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Prepared For:

New York State Department of
Environmental Conservation
Bureau of Water Research
Room 519
50 Wolf Road
Albany, NY 12233

Prepared By:

Recra Research, Inc.
P.O. Box 448
Tonawanda, NY 14150

Report Date: July 16, 1981

July 16, 1981

Mr. Jack Ryan
Assistant Laboratory Coordinator
New York State Department of
Environmental Conservation
Bureau of Water Research
Room 519
50 Wolf Road
Albany, NY 12233

Re: Analytical Report.

Dear Mr. Ryan:

Please find enclosed Recra Research, Inc.'s results of the analyses of the samples received at our laboratories on June 17 and 18 of 1981.

If you have any questions concerning these data, do not hesitate to contact the undersigned.

Sincerely,

RECRA RESEARCH, INC.

James A. Ploscyca
Laboratory Manager

TRB/JAP/skb
Enclosure

I.D. #81-513
81-514

RECRA RESEARCH, INC. P.O. Box 448 / Tonawanda, New York 14150 / (716) 838-6200
TOTAL CHEMICAL WASTE MANAGEMENT THROUGH APPLIED RESEARCH

ocean disposal in the New Jersey/New York area. Disposal is thought to have been handled by Moran Towing but this has not been confirmed.

Note that the last batch of calcium arsenate was disposed of at ChemTrol as mentioned in the questionnaire submitted November 14, 1978.

I hope these responses to your questions are of assistance to the task force.

Very truly yours,

ALLIED CHEMICAL CORPORATION

G. R. Rayer, Manager
Environmental Services

JSB/GRR/jp
Attachment
cc: P. Millock

fueled on oil after 1970. We have no record of period that site was used or quantities sent to this site.

c. Hopkins Street

No wastes from the Buffalo Dye Plant were disposed of on a site along Hopkins Street.

d. Ramco Steel Plant Site

No wastes from the Buffalo Dye Plant were disposed of in the area where the present Ramco Steel plant exists.

e. Near Plant A and Plant B

No wastes from the Buffalo Dye Plant were disposed of on the bank of the Buffalo River near Plant A and Plant B.

9. Waste from chlorophenol (di or tri) was not generated at the Buffalo Dye Plant. The plant did use trichlorophenol as an additive to various dyes which left the plant as products during the period of 1930-1975. To the best of our knowledge, dioxin would not have been generated as a contaminant in any of our waste streams.

10. A deepwell was operated at the Buffalo Dye Plant from November, 1960 until mid-1963. The deepwell was operated in compliance with the requirements of a permit issued by the Erie County Health Department. It was 450 feet deep, and it was used to dispose of a total of approximately 3,500,000 gallons of 40% ammonium sulfate solution. Prior to injection in the deepwell, the ammonium sulfate solution was treated with carbon to remove organic material.

11. Ocean Dumping

We have not been able to find records dealing with ocean disposal of wastes. However, from the recollection of some plant employees, it was determined that calcium arsenate (and arsenite) sludge was ocean disposed during the period of the early 1940's until the mid-1960's when the process which generated the waste was shut down. The sludge was accumulated for several years prior to each shipment. Material was transported by railroad (in weighted wooden barrels) for subsequent

b. Stillbottoms, 1930-1968, and

c. Solvents and residues, 1930-1965 - Prior to 1953, some of these wastes probably left the plant in the normal process effluent and some were probably burned in pits at the weathering area. In about 1953, an incinerator was built at the dye plant and burnable solvents, stillbottoms and residues were incinerated until about 1968 when the incinerator was shut down. During the period that the incinerator was in operation, non-burnable stillbottoms, solvents and residues were probably disposed of at some of but not limited to the off-site disposal areas listed in the completed questionnaire for the dye plant. We have no specific information on quantities, haulers, or sites.

d. Lab samples, waste colors, 1930-1968 - We have no information on the quantities or means of disposal of lab samples and waste colors.

e. Wastewater treatment sludges, 1930-1968 - There were no wastewater treatment sludges prior to 1971 since the wastewater treatment plant was not in operation until that time.

f. Research and development wastes, 1930-1975 - These were collected with other dye plant wastes and sent off-site to the various disposal sites used by the dye plant. Quantities are unknown.

7. No wastes other than iron sludge were disposed of in the iron sludge pond.

8. a. Altift Realty Site or Tifft Street - We are not familiar with the site called the Altift Realty site.

Industrial wastes from the Buffalo Dye Plant were disposed of at the Tifft Street site (F. Downing Trucking). Information on this site was submitted on page 3(f) of the questionnaire submitted to you on November 14, 1978.

b. Cantwell Drive in Buffalo

This site was used for the disposal of at least some of the flyash from the coal-fired boilers at the Buffalo Dye Plant from 1930 until 1970. We estimate that approximately 4,000 tons per year were disposed of during that period. Boiler was

ii. These lead sulfite sludges were sold to the listed companies for recovery and resale:

1968	37 tons to:	Burns Metals Buffalo, New York 14240
1969	69 tons to:	Jameric, Inc 4741 First National Bank Bldg. Dallas, Texas 75235
1970	195 tons to:	United Alloys and Steel 41 Hannah Street Buffalo, New York 14240
1971	103 tons to:	Burns Metals Buffalo, New York 14240
1972	125 tons to:	Burns Metals Buffalo, New York 14240

iii. Chrome Hydroxide Sludge

Chrome hydroxide sludges were isolated and disposed of at the then available off-site disposal areas some of which are listed but not limited to those listed in the questionnaire submitted to you on November 14, 1978.

iv. Zinc Sludges

Zinc sludges were included in the miscellaneous sludges disposed of at the off-site disposal areas listed in the questionnaire submitted to you on November 14, 1978.

6. Our response to this question is limited because of the sparseness of detailed information which we have on the disposal of the materials listed in the question. Detailed records on the disposal of materials such as filtration sludges or solvents and residues are not available. The information given below is derived from the personal recollection of Buffalo Dye Plant employees.

a. Filtration sludges - Most of the available information on the disposal of filtration sludges is given in our response to Questions 4 and 5. In addition, our records show that unknown quantities of aluminum hydroxide sludge, calcium sulfate sludge and iron oxide sludge were collected and disposed of by the Buffalo Dye Plant during the period 1930-1960 at undetermined disposal sites.

c. Palladium

Spent palladium catalyst, because of its value, was not disposed of at a land disposal site but was returned by common carrier truck to Engelhard Minerals and Chemicals Corporation, Newark, New Jersey for recovery and reuse.

d. Chromium

No chromium catalyst was used at the Buffalo Dye Plant.

e. Vanadium

Vanadium was used as a catalyst component between 1930 and the mid-1960's. Waste vanadium catalyst was disposed of off-site but specific haulers and disposal sites are unknown as well as the amount of waste vanadium catalyst generated.

f. Heavy Metal Sludges

Various heavy metal sludge wastes were generated at the Buffalo Dye Plant between 1930 and 1975. Because the purchasing department records were retained for only three years, specific information on the off-site hauling and disposal of heavy metal catalysts and sludges is limited for the 1930-1960's period. Available information is listed below:

i. These copper sulfide sludges were sold to the listed companies for recovery and resale:

1966	59 tons to:	P. J. Grove 435 Braniff Bldg. Dallas, Texas 75235
1968	129 tons to:	Burns Metal Buffalo, New York
1969	35 tons to:	Watson Industries Box 774, Ellicott Sq. Station Buffalo, New York 14240
1970	230 tons to:	Morgan Chemical 1200 Niagara Street Buffalo, New York 14240
1971	75 tons to:	Morgan Chemical 1200 Niagara Street Buffalo, New York 14240
1972	97 tons to:	Morgan Chemical 1200 Niagara Street Buffalo, New York 14240

4. a. Burns Metals - Buffalo

The Buffalo Dye Plant has sold metal sludges and scrap metal to Burns Metals (see also answer 5). It is cur understanding that these metal sludges were not disposed of by Burns Metals, but were treated for recovery and resale. Listed below are the years during which the sales occurred and the quantities of metal sludge involved.

1968	129 tons copper sulfide
	37 tons lead sulfite
1971	103 tons lead sulfite
1972	125 tons lead sulfite

The above information may not be complete as we do not have records of these sales prior to 1966.

b. Casey Truck Sales

The Buffalo Dye Plant has not used Casey Truck Sales as a waste hauler.

5. Because the purchasing department records were normally retained for only three years, specific information on the off-site hauling and disposal of heavy metal catalysts and sludges is limited for the 1930-1960's period. Information which is included here is derived from various personal files and personal recollections.

a. Mercury

Mercury was used as a catalyst at the Buffalo Dye Plant during the period 1930 to 1971. During the period 1930-1975, there was no off-site disposal of mercury. The only mercury which left the plant between 1930 and 1971 was mercury which got into normal plant water effluent streams. Since 1971 mercury has not been used as a process chemical or catalyst at the Buffalo Dye Plant.

b. Nickel

Between 1949 and 1975, nickel was disposed of with other sludges at various landfill sites in the Buffalo area. Information prior to this period is not available. We estimate that approximately 1 ton per year of a catalyst consisting of a nickel salt deposited on a silica gel base was disposed of in this way.

1. A map of the former Buffalo Dye Plant is attached. It has been marked at the following sites:

   a. Weathering area - metal sludges were deposited on this area while awaiting sale for reclamation of the metals. In addition, other industrial wastes such as calcium sulfate were deposited on this site prior to off-site disposal.

   b. Lagoons - two iron-oxide settling lagoons and three wastewater treatment equalization basins.

   c. Deepwell - former deepwell used for disposal of ammonium sulfate solution from November, 1960 until mid-1963.

   d. Former incinerator

   e. No landfills are marked since industrial wastes, to the best recollection of plant employees, were not land-disposed on plant property during the 1930-1975 period.

2. The Buffalo Dye Plant was not a transporter of industrial wastes to off-site disposal areas.

3. No wastes generated at other plants have been shipped to, disposed of at, or further transferred for disposal from the Buffalo Dye Plant. Wastes from the Buffalo Research Lab were disposed of off-site along with those from the Buffalo Dye Plant.

   Waste disposal from other Allied Chemical plants is covered in their respective Interagency Task Force Questionnaires with the exception of the Elberta Plant at Ransomville which was not requested to complete a questionnaire. The Elberta Plant produces aluminum chloride.

   Since 1973, solid waste at the Elberta plant consisting of spent refractory and floor sweepings, has been disposed of at the Chem-Trol and Newco disposal sites in Niagara Falls. Prior to 1973, most of the wastes were disposed of on the Elberta Plant site with small amounts disposed of at the local Wilson Dump. Total waste was in the range of 60 tons per year consisting primarily of refractory materials with minor amounts of aluminum chloride.

Allied Chemical

Specialty Chemicals Division
PO Box 1087R
Morristown New Jersey 07960

January 12, 1979

Mr. John E. Iannotti
NY Dept. of Environmental Conservation
Interagency Task Force on Hazardous Wastes
50 Wolf Road
Albany, NY 12233

Dear Mr. Iannotti:

In your letter of December 19, 1978, you requested information on waste disposal practices at the former Allied Chemical Buffalo Dye Plant in addition to that submitted to the Interagency Task Force on Hazardous Wastes under our November 14, 1978 cover letter.

On December 29, 1978, Mr. Millock approved our request for a delay in submission of this additional information until January 12, 1979.

These questions have, to the best of our knowledge and information, been answered as completely and accurately as possible with the assistance of Buffalo Color personnel. Information in the files is sparse for the period in question because Allied Chemical, Specialty Chemicals Division normally does not keep files which are more than three years old. Most of the information has been developed from: 1) the recollection of a few key personnel employed at the plant starting in the late 1930's to mid-1940's, 2) whatever files were available, and 3) estimates of waste generation based on production information and yield and/or catalyst use knowledge.

Information on waste haulers and waste disposal sites for the period 1930 to the early 1960's is almost non-existent (e.g., old employees "think" [without having confirming records] that general plant wastes went to the Tifft Street and DePew sites and were hauled by Downing Trucking).

The following are answers numbered to match the questions in your December 19, 1978 letter.

Allied Chemical

Specialty Chemicals Division
P.O. Box 1087R
Morristown, New Jersey 07960

November 14, 1978

Mr. Peter Miller, Director
Interagency Task Force on Hazardous Wastes
M.P.O. Box 561
Niagara Falls, New York 14302

Dear Mr. Miller:

Attached is the questionnaire which John Iannotti sent to Buffalo Color Corporation and which Buffalo Color Corporation sent to Allied Chemical Corporation at Mr. Iannotti's request. We have attempted to aid you in your survey by completing the questionnaire with the assistance of Buffalo Color Corporation Personnel.

The data on waste disposal are based, in substantial part, on information developed by Buffalo Color Corporation through a search of their files and based on the best recollection of personnel familiar with the facility. Files at the Buffalo Dye Plant were part of the sale of the plant to Buffalo Color Corporation. We are in the process of reviewing some additional files at our home office. If any additional pertinent information is found, we will send it to you.

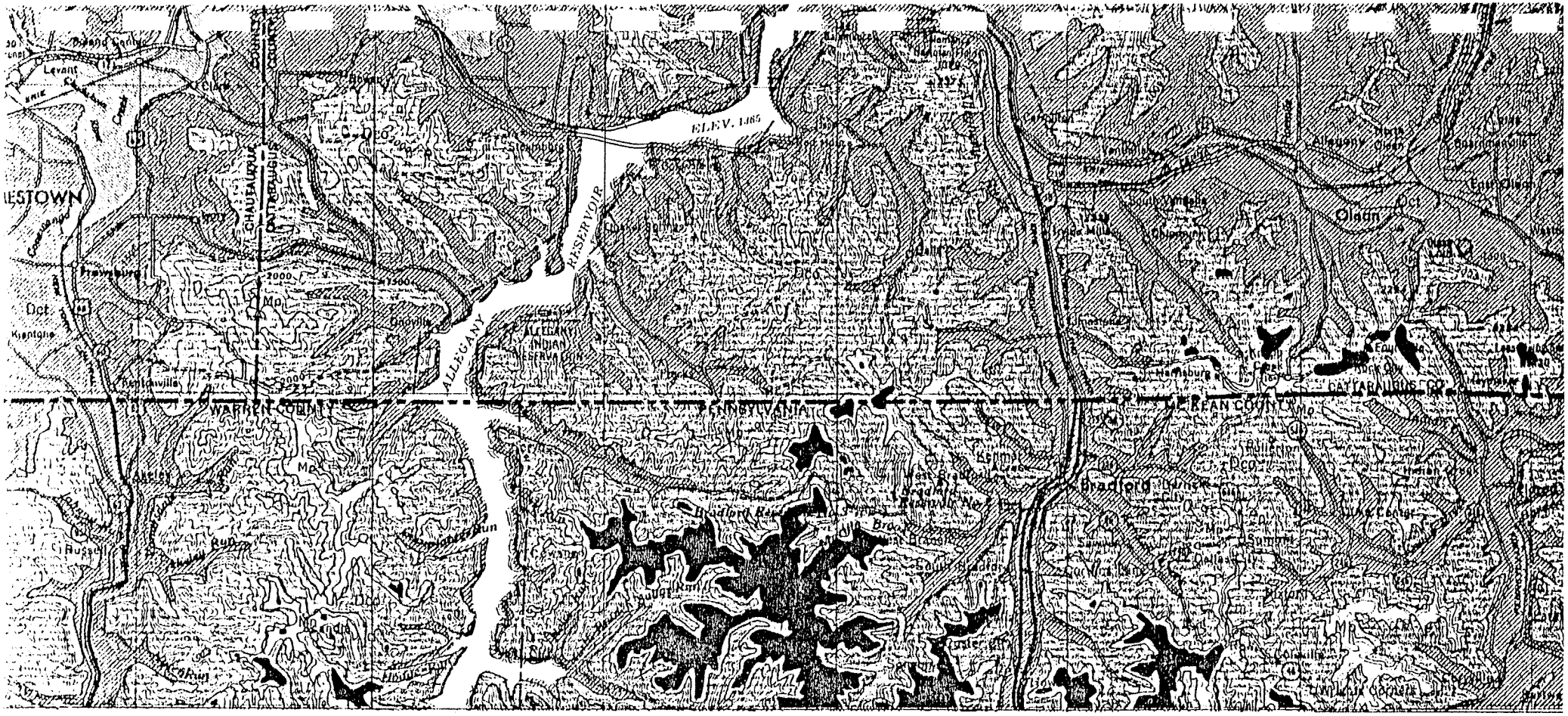
We hope this information is helpful to you in your survey.

Very truly yours,

ALLIED CHEMICAL CORPORATION

G. R. Rayer, Manager
Environmental Services

GRR/jp
Attachments
cc: J. Iannotti



GEOLOGIC MAP OF NEW YORK

1970

Niagara Sheet

Scale 1:250,000

5 0 5 10 15 Statute Miles 20

5 0 5 10 15 20 25 Kilometers 30

CONTOUR INTERVAL 100 FEET

NEW YORK STATE GEOLOGICAL ASSOCIATION

38th Annual Meeting

April 29 - May 1, 1966

GUIDEBOOK

Geology of Western New York

Edward J. Buehler, Editor

Department of Geological Sciences
State University of New York at Buffalo

Additional copies are available from the permanent secretary of the New York State Geological Association: Dr. Kurt E. Lowe, Department of Geology, City College of the City University of New York, 139th St. at Convent Ave., New York, N. Y.

NEW YORK STATE GEOLOGICAL ASSOCIATION

54th ANNUAL MEETING

October 8-10, 1982

Amherst, New York

GUIDEBOOK FOR FIELD TRIPS IN WESTERN NEW YORK, NORTHERN PENNSYLVANIA AND ADJACENT, SOUTHERN ONTARIO

Edward J. Buehler

and

Parker E. Calkin

Editors

Department of Geological Sciences
State University of New York at Buffalo

Held in Conjunction with
11th Annual Meeting Eastern
Section American Association
of Petroleum Geologists

Published by the New York State Geological Association. Guidebook available from the executive secretary: M.P. Wolf, Geology Department, Gittleson Hall, Hofstra University, Hempstead, New York 11550.

TABLE IIA

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES
AQUEOUS SAMPLES

Samples Received: 6/17/81
Report Date: 7/16/81

BASE/NEUTRALS

COMPOUND	UNITS OF MEASURE	SAMPLE IDENTIFICATION		
		81-167-01	81-167-02	81-167-03
acenaphthene	µg/l	<20	<20	<20
acenaphthylene	µg/l	<20	<20	<20
anthracene	µg/l	<20	<20	<20
benzidine	µg/l	<100	<100	<100
benzo(a)anthracene	µg/l	<20	<20	<20
benzo(a)pyrene	µg/l	<40	<40	<40
benzo(b)fluoranthene	µg/l	<20	<20	<20
benzo(g,h,i)perylene	µg/l	<100	<100	<100
benzo(k)fluoranthene	µg/l	<20	<20	<20
bis(2-chloroethoxy)methane	µg/l	<40	<40	<40
bis(2-chloroethyl)ether	µg/l	<40	<40	<40
bis(2-chloroisopropyl)ether	µg/l	<40	<40	<40
bis(2-ethylhexyl)phthalate	µg/l	<40	<40	<40
4-bromophenylphenylether	µg/l	<40	<40	<40
butylbenzylphthalate	µg/l	<40	<40	<40
2-chloronaphthalene	µg/l	<20	<20	<20
4-chlorophenylphenylether	µg/l	<100	<100	<100
chrysene	µg/l	<20	<20	<20
dibenzo(a,h)anthracene	µg/l	<100	<100	<100
1,2-dichlorobenzene	µg/l	<20	<20	<20
1,3-dichlorobenzene	µg/l	<20	<20	<20
1,4-dichlorobenzene	µg/l	<20	<20	<20
3,3'-dichlorobenzidine	µg/l	<100	<100	<100
diethylphthalate	µg/l	<40	<40	<40
dimethylphthalate	µg/l	<40	<40	<40
di-n-butylphthalate	µg/l	<40	<40	<40

(Continued)

TABLE IIA (cont'd.)

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES
AQUEOUS SAMPLES

Samples Received: 6/17/81
Report Date: 7/16/81

BASE/NEUTRALS

COMPOUND	UNITS OF MEASURE	SAMPLE IDENTIFICATION		
		81-167-01	81-167-02	81-167-03
2,6-dinitrotoluene	ug/l	<100	<100	<100
2,4-dinitrotoluene	ug/l	<100	<100	<100
di-n-octylphthalate	ug/l	<40	<40	<40
1,2-diphenylhydrazine	ug/l	<100	<100	<100
fluoranthene	ug/l	<20	<20	<20
fluorene	ug/l	<20	<20	<20
hexachlorobenzene	ug/l	<20	<20	<20
hexachlorobutadiene	ug/l	<20	<20	<20
hexachlorocyclopentadiene	ug/l	<100	<100	<100
hexachloroethane	ug/l	<40	<40	<40
indeno(1,2,3-cd)pyrene	ug/l	<100	<100	<100
isophorone	ug/l	<100	<100	<100
naphthalene	ug/l	<20	<20	<20
nitrobenzene	ug/l	<40	<40	<40
N-nitrosodimethylamine	ug/l	<100	<100	<100
N-nitrosodi-n-propylamine	ug/l	<100	<100	<100
N-nitrosodiphenylamine	ug/l	<40	<40	<40
phenanthrene	ug/l	<20	<20	<20
pyrene	ug/l	<20	<20	<20
2,3,7,8-tetrachlorodibenzo-p-dioxin	ug/l	<40	<40	<40
1,2,4-trichlorobenzene	ug/l	<20	<20	<20

COMMENTS: Refer to text

FOR RECRA RESEARCH, INC. Timothy R Baker

DATE 7/16/81

TABLE IIB

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES
SOLID SAMPLES

Samples Received: 6/17/81
Report Date: 7/16/81

BASE/NEUTRALS

COMPOUND	UNITS OF MEASURE	SAMPLE IDENTIFICATION		
		81-167-01	81-167-02	81-167-03
acenaphthene	µg/g dry	≤20	<20	41
acenaphthylene	µg/g dry	<20	<20	<20
anthracene	µg/g dry	<20	<20	≤20
benzidine	µg/g dry	<100	<100	<100
benzo(a)anthracene	µg/g dry	<20	20	≤20
benzo(a)pyrene	µg/g dry	<40	<40	<40
benzo(b)fluoranthene	µg/g dry	<20	<20	<20
benzo(g,h,i)perylene	µg/g dry	<100	<100	<100
benzo(k)fluoranthene	µg/g dry	<20	<20	<20
bis(2-chloroethoxy)methane	µg/g dry	<40	<40	<40
bis(2-chloroethyl)ether	µg/g dry	<40	<40	<40
bis(2-chloroisopropyl)ether	µg/g dry	<40	<40	<40
bis(2-ethylhexyl)phthalate	µg/g dry	<40	<40	<40
4-bromophenylphenylether	µg/g dry	<40	<40	<40
butylbenzylphthalate	µg/g dry	<40	<40	<40
2-chloronaphthalene	µg/g dry	<20	<20	<20
4-chlorophenylphenylether	µg/g dry	<100	<100	<100
chrysene	µg/g dry	<20	-	-
dibenzo(a,h)anthracene	µg/g dry	<100	<100	<100
1,2-dichlorobenzene	µg/g dry	<20	<20	<20
1,3-dichlorobenzene	µg/g dry	<20	<20	<20
1,4-dichlorobenzene	µg/g dry	<20	<20	<20
3,3'-dichlorobenzidine	µg/g dry	<100	<100	<100
diethylphthalate	µg/g dry	<40	<40	<40
dimethylphthalate	µg/g dry	<40	<40	<40
di-n-butylphthalate	µg/g dry	<40	<40	<40

(Continued)

TABLE IIB (cont'd.)

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES
SOLID SAMPLES

Samples Received: 6/17/81
Report Date: 7/16/81

BASE/NEUTRALS

COMPOUND	UNITS OF MEASURE	SAMPLE IDENTIFICATION		
		81-167-01	81-167-02	81-167-03
2,6-dinitrotoluene	µg/g dry	<100	<100	<100
2,4-dinitrotoluene	µg/g dry	<100	<100	<100
di-n-octylphthalate	µg/g dry	<40	<40	<40
1,2-diphenylhydrazine	µg/g dry	<100	<100	<100
fluoranthene	µg/g dry	<20	(41)	≤20
fluorene	µg/g dry	<20	<20	<20
hexachlorobenzene	µg/g dry	≤20	<20	<20
hexachlorobutadiene	µg/g dry	<20	<20	<20
hexachlorocyclopentadiene	µg/g dry	<100	<100	<100
hexachloroethane	µg/g dry	<40	<40	<40
indeno(1,2,3-cd)pyrene	µg/g dry	<100	<100	<100
isophorone	µg/g dry	<100	<100	<100
naphthalene	µg/g dry	<20	<20	<20
nitrobenzene	µg/g dry	<40	<40	<40
N-nitrosodimethylamine	µg/g dry	<100	<100	<100
N-nitrosodi-n-propylamine	µg/g dry	<100	<100	<100
N-nitrosodiphenylamine	µg/g dry	<40	<40	<40
phenanthrene	µg/g dry	<20	<20	-
pyrene	µg/g dry	<20	(25)	≤20
2,3,7,8-tetrachlorodibenzo-p-dioxin	µg/g dry	<40	<40	<40
1,2,4-trichlorobenzene	µg/g dry	<20	<20	<20

COMMENTS: Refer to text

FOR RECRA RESEARCH, INC. Timothy R Baker

DATE 7/16/81

TABLE IID

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES
SOLID SAMPLES

Samples Received: 6/18/81
Report Date: 7/16/81

BASE/NEUTRALS

IP ND	UNITS OF MEASURE	SAMPLE IDENTIFICATION			
		81-169-01	81-169-02	81-169-03	81-169-04
naphthene	ug/g dry	<20	<20	<20	<20
n hthylene	ug/g dry	<20	<20	<20	<20
h cene	ug/g dry	<20	<20	<20	<20
zidine	ug/g dry	<100	<100	<100	<100
z a)anthracene	ug/g dry	<20	<20	<20	<20
zo(a)pyrene	ug/g dry	<40	<40	<40	<40
z b)fluoranthene	ug/g dry	<20	<20	<20	<20
zo(g,h,i)perylene	ug/g dry	<100	<100	<100	<100
z k)fluoranthene	ug/g dry	<20	<20	<20	<20
(z-chloroethoxy)methane	ug/g dry	<40	<40	<40	<40
(' chloroethyl)ether	ug/g dry	<40	<40	<40	<40
(chloroisopropyl)ether	ug/g dry	<40	<40	<40	<40
(2-ethylhexyl)phthalate	ug/g dry	<40	<40	<40	<40
r ophenylphenylether	ug/g dry	<40	<40	<40	<40
ylbenzylphthalate	ug/g dry	<40	<40	<40	<40
h ronaphthalene	ug/g dry	<20	<20	<20	<20
hlorophenylphenylether	ug/g dry	<100	<100	<100	<100
y ne	ug/g dry	<20	<20	<20	<20
enzo(a,h)anthracene	ug/g dry	<100	<100	<100	<100
- chlorobenzene	ug/g dry	<20	<20	<20	<20
- chlorobenzene	ug/g dry	<20	<20	<20	<20
-dichlorobenzene	ug/g dry	<20	<20	<20	<20
' lichlorobenzidine	ug/g dry	<100	<100	<100	<100
thylphthalate	ug/g dry	<40	<40	<40	<40
e wlphthalate	ug/g dry	<40	<40	<40	<40
n-butylphthalate	ug/g dry	<40	<40	<40	<40

(Continued)

TABLE IIIA

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES
AQUEOUS SAMPLES

Samples Received: 6/17/81
Report Date: 7/16/81

VOLATILES

COMPOUND	UNITS OF MEASURE	SAMPLE IDENTIFICATION		
		81-167-01	81-167-02	81-167-03
acrolein	µg/l	<300	<300	<300
acrylonitrile	µg/l	<300	<300	<300
benzene	µg/l	<10	<10	<10
bromodichloromethane	µg/l	<10	<10	<10
bromoform	µg/l	<10	<10	<10
bromomethane	µg/l	<5	<5	<5
carbon tetrachloride	µg/l	<5	<5	<5
chlorobenzene	µg/l	<5	<5	<5
chloroethane	µg/l	<5	<5	<5
2-chloroethylvinyl ether	µg/l	<10	<10	<10
chloroform	µg/l	<5	<5	<5
chloromethane	µg/l	<5	<5	<5
dibromochloromethane	µg/l	<5	<5	<5
dichlorodifluoromethane	µg/l	<5	<5	<5
1,1-dichloroethane	µg/l	<5	<5	<5
1,2-dichloroethane	µg/l	<5	<5	<5
1,1-dichloroethylene	µg/l	<5	<5	<5
trans-1,2-dichloroethylene	µg/l	<5	<5	<5
1,2-dichloropropane	µg/l	<5	<5	<5
cis-1,3-dichloropropene	µg/l	<5	<5	<5
trans-1,3-dichloropropene	µg/l	<5	<5	<5
ethylbenzene	µg/l	<5	<5	<5
methylene chloride	µg/l	<5	<5	<5

(Continued)

TABLE IIIA (cont'd.)

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES
AQUEOUS SAMPLES

Samples Received: 6/17/81
Report Date: 7/16/81

VOLATILES

COMPOUND	UNITS OF MEASURE	SAMPLE IDENTIFICATION		
		81-167-01	81-167-02	81-167-03
1,1,2,2-tetrachloroethane	µg/l	<5	<5	<5
tetrachloroethylene	µg/l	<5	<5	<5
toluene	µg/l	<10	<10	<10
1,1,1-trichloroethane	µg/l	<5	<5	<5
1,1,2-trichloroethane	µg/l	<5	<5	<5
trichloroethylene	µg/l	<5	<5	<5
trichlorofluoromethane	µg/l	<5	<5	<5
vinyl chloride	µg/l	<5	<5	<5

COMMENTS: Refer to text

FOR RECRA RESEARCH, INC. Timothy R Baber

DATE 7/16/81

TABLE IVA

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
GAS CHROMATOGRAPHY
PRIORITY POLLUTANT ANALYSES
AQUEOUS SAMPLES

Samples Received: 6/17/81
Report Date: 7/16/81

PESTICIDES/PCB'S

COMPOUND	UNITS OF MEASURE	SAMPLE IDENTIFICATION		
		81-167-01	81-167-02	81-167-03
Aldrin	µg/l	<0.02	<0.02	<0.1
α-BHC	µg/l	<0.01	0.02	<0.1
β-BHC	µg/l	<0.04	<0.04	<0.2
δ-BHC	µg/l	<0.05	<0.05	<0.2
γ-BHC	µg/l	0.01	<0.02	<0.05
Chlordane	µg/l	<0.2	<0.3	<0.3
4,4'-DDD	µg/l	<0.02	<0.01	<0.05
4,4'-DDE	µg/l	0.09	0.09	<0.04
4,4'-DDT	µg/l	0.06	<0.02	<0.02
Dieldrin	µg/l	<0.04	<0.01	<0.04
α-Endosulfan	µg/l	0.09	<0.02	<0.02
β-Endosulfan	µg/l	<0.02	<0.01	<0.05
Endosulfan sulfate	µg/l	<0.09	<0.08	<0.08
Endrin	µg/l	<0.06	<0.01	<0.05
Endrin aldehyde	µg/l	<0.01	<0.01	<0.02
Heptachlor	µg/l	<0.04	<0.02	<0.1
Heptachlor epoxide	µg/l	<0.04	<0.02	<0.02
PCB-1016	µg/l	<0.5	<0.5	<0.8
PCB-1221	µg/l	<1	<1	<2
PCB-1232	µg/l	<0.5	<0.5	<0.8
PCB-1242	µg/l	<0.5	<0.5	<0.8
PCB-1248	µg/l	<0.5	<0.5	<0.8
PCB-1254	µg/l	<0.1	<0.1	<0.1
PCB-1260	µg/l	<0.1	<0.1	<0.1
Toxaphene	µg/l	<0.2	<0.2	<0.3

COMMENTS: Refer to text

FOR RECRA RESEARCH, INC. Larry E Rosengrant

DATE 7/16/81

CRA RESEARCH, INC.

#81-513

TABLE IVB

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
GAS CHROMATOGRAPHY
PRIORITY POLLUTANT ANALYSES
SOLID SAMPLES

Samples Received: 6/17/81
Report Date: 7/16/81

PESTICIDES/PCB's

COMPOUND	UNITS OF MEASURE	SAMPLE IDENTIFICATION		
		81-167-01	81-167-02	81-167-03
Aldrin	µg/g dry	<0.1	<0.05	<1
α-BHC	µg/g dry	<0.1	<0.05	<1
β-BHC	µg/g dry	<0.3	<0.05	<1
δ-BHC	µg/g dry	<0.2	<0.07	<1
γ-BHC	µg/g dry	<0.1	<0.05	<1
Chlordane	µg/g dry	<2	<0.2	<10
4,4'-DDD	µg/g dry	<0.3	<0.05	<1
4,4'-DDE	µg/g dry	<0.4	0.07	<1
4,4'-DDT	µg/g dry	<0.6	<0.05	<2
Dieldrin	µg/g dry	<0.1	<0.05	<2
α-Endosulfan	µg/g dry	<0.3	<0.08	<2
β-Endosulfan	µg/g dry	<0.1	<0.05	<1
Endosulfan sulfate	µg/g dry	<0.5	<0.1	<1
Endrin	µg/g dry	<0.1	<0.05	<2
Endrin aldehyde	µg/g dry	<0.1	<0.05	<1
Heptachlor	µg/g dry	<0.1	<0.05	<1
Heptachlor epoxide	µg/g dry	<0.1	<0.05	<1
PCB-1016	µg/g dry	<1	<1	<5
PCB-1221	µg/g dry	<2	<2	<10
PCB-1232	µg/g dry	<1	<1	<5
PCB-1242	µg/g dry	<1	<1	<5
PCB-1248	µg/g dry	<1	<1	<5
PCB-1254	µg/g dry	<1	<0.5	<5
PCB-1260	µg/g dry	<1	<0.5	<5
Toxaphene	µg/g dry	<4	<0.2	<20

COMMENTS: Refer to text

FOR RECRA RESEARCH, INC. Larry E. Rosengrant

DATE 7/16/81

TABLE VA

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ATOMIC ABSORPTION
PRIORITY POLLUTANT ANALYSES
AQUEOUS SAMPLES

Samples Received: 6/17/81
Report Date: 7/16/81

METALS

COMPOUND	UNITS OF MEASURE	SAMPLE IDENTIFICATION		
		81-167-01	81-167-02	81-167-03
Total antimony	mg/l	<0.2	<0.2	<0.2
Total arsenic	µg/l	<3	<3	12
Total beryllium	mg/l	<0.005	<0.005	<0.005
Total cadmium	mg/l	<0.02	<0.02	<0.02
Total chromium	mg/l	0.012	0.016	0.116
Total copper	mg/l	0.044	0.012	0.052
Total lead	mg/l	<0.06	<0.06	0.12
Total mercury	µg/l	<15	<15	<15
Total nickel	mg/l	<0.04	<0.04	<0.04
Total selenium	µg/l	<3	<3	<3
Total silver	mg/l	<0.01	<0.01	<0.01
Total thallium	mg/l	<0.2	<0.2	<0.2
Total zinc	mg/l	0.660	0.028	0.058

COMMENTS: Refer to text

FOR RECRA RESEARCH, INC. R. V. Zimm

DATE 7/16/81

RECRA RESEARCH, INC.
4248 Ridge Lea Road
Amherst, New York 14226

SUPPLEMENTAL HYDROGEOLOGIC INVESTIGATION

ALLTIFT - 1982

3/20/68

Chas. Infantino

A. Rootaer - South Buffalo District Office

Tifft Street Dump - dumping of toxic matter from National Aniline, Div. of Allied Chemical Co.

Approximate weights and types of chemicals being disposed of at the Tifft Street Dump by the National Aniline Division of Allied Chemical Co. as reported to Mr. Roetzer by Mr. Ferber - National Aniline.

Approximate weights per month

100,000 lbs. - water.

1,000 lbs. - miscellaneous organic materials.

50,000 lbs. - inorganic materials (including filtering materials).

50,000 lbs. - chrome sludge.

2 000 lbs. - copper sulfate.

100 lbs. - nitro benzene.

600 lbs. - mono chloro benzene.

1 000 lbs. - napthalene.

3500 gallon tank disposed of daily.

For any further information regarding this matter contact Mr. Ferber - National Aniline, Division of Allied Chemical Co.

15510 - Fiscal Mgmt. - Rm. 630

New York State Department of Environmental Conservation
600 Delaware Avenue, Buffalo, New York 14202

Robert F. Flacke
Commissioner

To LEAB CS F&A

ENVIR. CONSERVATION
FISCAL MANAGEMENT

'80 DEC -2 A11 :48

RECEIVED

November 17, 1980

BUREAU OF MANAGEMENT
PROGRAMS

Mr. Leonard Greenfield
Alltift Company, Inc.
105 Dorothy Street
Buffalo, New York 14206

Re: Application for a Permit to Operate a Sanitary Landfill
DEC #915-01-0239
Buffalo (C), Erie County

Dear Mr. Greenfield:

Attached is a copy of a SEQR negative declaration, notice of determination of nonsignificance and notice of complete application for the above project.

Please be advised that although we are issuing a notice of complete application, this Department still has serious concerns regarding the generation and disposition of leachate from previously deposited material on the site. The previous landfill operation, as you are well aware, extended beyond the property boundaries currently owned by you, that is property on the east side and the Baltimore and Ohio Railroad right-of-way on the south and southwest of the site.

Before the application can be considered to be technically complete, information must be provided by you and/or your engineers on the method to be taken to control the leachate exiting and entering on the Abbey Street side or Baltimore and Ohio Railroad side.

If you should have any questions, please do not hesitate to contact the writer at 716/842-3837.

Very truly yours,

John S. Tygert, P.E.
Senior Sanitary Engineer

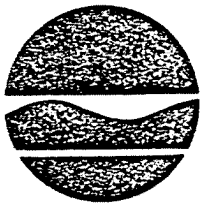
JST:las
Attachment
cc: Mr. Campbell, ECDEP

RECEIVED

DEC 4 1980

P.D.E.S. PERMIT SECTION

New York State Department of Environmental Conservation
600 Delaware Avenue, Buffalo, New York 14202



Robert F. Flacke
Commissioner

Identifying Number 915-01-0239

SEQR
NEGATIVE DECLARATION

NOTICE OF DETERMINATION OF NON-SIGNIFICANCE

Date: November 14, 1980

This notice is issued pursuant to Part 617 of the implementing regulations pertaining to Article 8 (State Environmental Quality Review) of the Environmental Conservation Law.

The Department of Environmental Conservation, as lead agency, has determined that the proposed action described below will not have a significant effect on the environment.

TITLE OF ACTION: Application for a Permit to Operate a Solid Waste Management Facility.

SEQR STATUS: Type I, disturbance of more than ten (10) acres for non-residential facilities.

DESCRIPTION OF ACTION: Operation of a landfill for automobile shredder wastes and construction and demolition debris.

LOCATION: City of Buffalo, Erie County, bounded on the north by Tifft Street, on the east by Abbey Street, and on the south and west by the Baltimore and Ohio Railroad Right-of-Way.

REASONS SUPPORTING THIS DETERMINATION: The proposed project will consist of covering with non-putrescible material a previously used and unregulated landfill where assorted municipal, commercial and industrial wastes are deposited. The proposed project will minimize present potential environmental problems. Upon completion, the area will be covered with soil, a vegetative cover crop and available for use by indegenous species of vegetation and wildlife, as well as recreation and open space area.

FOR FURTHER INFORMATION, CONTACT: Robert J. Mitrey, P.E.
Associate Sanitary Engineer
NYSDEC
600 Delaware Avenue
Buffalo, New York 14202
716/842-4311

412-4 (5/80)

New York State Department of Environmental Conservation

NOTICE OF COMPLETE APPLICATION

THIS IS NOT A PERMIT

TO: Applicant Alltift Company, Inc. Date 11-14-80

Address 105 Dorothy Street App. Nos. 915-01-0239

Buffalo, New York 14206

Permit(s) applied for: Part 360 (6 NYCRR 360) Operate a Solid Waste Management Facility

Project Description and Site Location: ~~XXXXX~~ Buffalo (C) County Erie

Landfill for automobile shredder wastes and construction and demolition debris in an area generally bounded on the north by Tifft Street, on the east by Abbey Street, and on the south and west by the Baltimore and Ohio Railroad right-of-way.

PUBLIC COMMENT: Applications may be reviewed at the address listed below and specific comments on the project, or a request to become a party-in-interest if a public hearing is held, must be submitted in writing to the contact person named

below no later than December 15, 1980

(By law, this date must be at least 14 days (30 days for a SPDES Permit) from the date the notice will appear in the Environmental Notice Bulletin.)

LEAD AGENCY: Department of Environmental Conservation

SEQR DETERMINATION: (check appropriate box)

- ☐ SEQR-1 Project is not subject to SEQR because it is exempt, excluded, or a Type II action.
- ☐ SEQR-2 Project is a Type 1 action; it has been determined that the project (may, will not) (circle appropriate) have a significant effect on the environment. A Negative Declaration has been prepared and is on file.
- ☒ SEQR-3 Project is an unlisted action; it has been determined that the project will not have a significant effect on the environment.
- ☐ SEQR-4 A draft environmental impact statement has been prepared on this project and is on file.
- ☐ SEQR-5 A final environmental impact statement has been prepared on this project and is on file.

CONTACT: (name, agency, address, telephone number)

Robert J. Mitrey, P.E.
Associate Sanitary Engineer
New York State Department of Environmental Conservation
600 Delaware Avenue
Buffalo, New York 14202 Telephone No.: 716/842-4311

TO THE APPLICANT: This is to advise that your application is complete and a review has commenced. Additional information may be requested from you at a future date, if deemed necessary in order to process the application.
The project has been classified non-minor. Accordingly, a decision will be made within 90 days of the date of this notice. If a public hearing is necessary, you will be notified within 60 days, and the hearing will commence with 90 days of the date of this notice. If a hearing is held, the final decision will be made within 60 days after the hearing is completed.

cc: Chief Executive Officer
Environmental Notice Bulletin, Room 509, 50 Wolf Road, Albany, N. Y. 12233
File

15510 Lake Marine

To DOT CHB

New York State Department of Environmental Conservation
600 Delaware Avenue, Buffalo, NY 14202

Robert F. Flacke
Commissioner

January 12, 1981

Mr. Leonard Greenfield
Alltift Company, Inc.
105 Dorothy Street
Buffalo, New York 14206

RE: Application for a Permit to
Operate a Solid Waste Management
Facility
Buffalo (C), Erie County

Dear Mr. Greenfield:

This will confirm a conference held in our offices on January 8, 1981. Present in addition to yourself, were Mr. Irving Schwartz, representing Intermetco, Mr. John Banaszak, representing Recra Research and Alltift, Mr. Ronald Koczaja of the Erie County Department of Environment and Planning, Mr. Glenn Bailey of Environmental Conservation, and the writer.

A general discussion of the present status of the application was held. The following items were specifically discussed:

1. The present application is for the placement of automobile shredder wastes within the property owned by Alltift. Prior property owners have disposed of wastes both to the east (over Abbey Street, a Buffalo paper street) and to the west on property belonging to the Baltimore and Ohio Railroad. It was indicated, in as much as approximately 50 feet of shredder waste would be placed on top of the present property, that we cannot condone this action without one of the two following alternatives:

   a. A clay cut-off wall inside Alltift's property line with a leachate collection system conveying any leachate generated within the site to a location where it may be properly treated and disposed of, or

   b. Acquisition of the adjacent property for obtaining an easement to remove disposed material to virgin soil, then covering the bank with a minimum of two feet of clay coupled with the installation of a leachate collection system inside the clay cap.

2. We have requested that your engineers provide us with estimates for proper closing of the site in the event that the site should become no longer operable. You indicated that a sum of $20,000.00 was being kept aside for closure in a separate account. If your engineers can justify this sum of money as being that which is required to properly close the site, we can accept this providing that the money is placed in an escrow account or other financial undertaking which would require release from the Department of Environmental Conservation prior to its withdrawal.

3. You advised us that you have negotiated with Adrian Realty, agents for B&O Railroad, and are deciding on a sale price for the land presently owned by the Railroad. You also indicated that you would be negotiating with the City for the auction of Abbey Street. We will require confirmation of these two undertakings.

4. In addition to a peripheral leachate collection system we will require leachate monitoring wells located at proper sites within the landfill to permit:

a. determination of the elevation of leachate within the landfill, and

b. the chemical and physical characteristics of such leachate, should it collect.

As was mentioned to you at the time of our meeting, we have a number of technical questions which will be discussed in the near future with your consultants, Gordon Soderholm and Recra Research.

If you have any questions relative to the above, please do not hesitate to contact the writer.

Very truly yours,

John S. Tygert, P.E.
Senior Sanitary Engineer

JST:dc

cc: Erie County DEP
Mr. Banasnak
Mr. Soderholm
Mr. Barber
Mr. Mafrici, SW, Albany
Mr. Baily

Mr. Sastry - FYI

New York State Department of Environmental Conservation
600 Delaware Avenue, Buffalo, New York 14202

15510

Robert F. Flacke
Commissioner

February 20, 1981

Mr. Leonard Greenfield
Alltift Company, Inc.
105 Dorothy Street
Buffalo, New York 14206

Re: Request for Time Extension - Revised Application
Alltift Company, Inc. - Buffalo (C), Erie County

Dear Mr. Greenfield:

This will acknowledge a letter dated February 6, 1981, from Mr. Banaszak of Recra Research, Inc., requesting an extension of six (6) months for the submission of a revised application. It is understood at this time that this revised application will address the adjacent properties to the east and west of the present Alltift holdings.

As indicated in Mr. Banaszak's letter, if efforts to arriveat a mutually satisfactory arrangement with the City of Buffalo and Alltift as well as between Adrian Realty and Alltift within three (3) months are not successful, you will advise this office and alternative courses of action will be investigated.

If you have any questions or comments, please do not hesitate to contact the writer at 716/842-3837.

Very truly yours,

John S. Tygert

John S. Tygert, P.E.
Senior Sanitary Engineer

JST:las

cc: Mr. Banaszak, Recra Research, Inc.
Mr. Campbell, Erie County Dept. of Environment and Planning
Mr. Sastry, NYSDEC, Albany Central Office
Ms. Guibord, NYSDEC, Region 9 Headquarters
Mr. Soderholm, Soderholm Engineering

APPENDIX B

NYS REGISTRY FORM

HAZARDOUS WASTE DISPOSAL SITES REPORT
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Code: _____

Site Code: 915054

Name of Site: Alltift Realty (Tifft Rd. RDA) Region: 9

County: Erie Town/City Buffalo (C)

Street Address Tifft Street

Status of Site Narrative:

Site previously received dye plant and other chemical waste from Allied Chemical. Also, Chevrolet sent core sand and F,N. Burt used site also.

Site currently receiving construction and auto demolition shredder waste. Part 360 Permit to operate pending.

Type of Site: Open Dump ☐ Treatment Pond(s) ☐ Number of Ponds _____
Landfill ☒ Lagoon(s) ☐ Number of Lagoons _____
Structure ☐

Estimated Size 25 Acres

Hazardous Wastes Disposed? Confirmed ☒ Suspected ☐

*Type and Quantity of Hazardous Wastes:

TYPE	QUANTITY (Pounds, drums, tons, gallons)
Dye sludges	16,000 tons
Core sand and foundry sand	
Waste sands	unknown
Fly ash	

* Use additional sheets if more space is needed.

APPENDIX C

GENERIC HEALTH AND SAFETY PLAN

APPENDIX C

HEALTH AND SAFETY PLAN OUTLINE

I. PURPOSE

The purpose of this plan is to assign responsibilities, establish personnel protection standards, mandatory operating procedures, and provide for contingencies that may arise while operations are being conducted at the site.

II. APPLICABILITY

The provisions of the plan are mandatory for all on-site investigation personnel and personnel under contract while initial site reconnaissance and/or preliminary investigation activities are being conducted at the site. These activities include investigation, sampling, and monitoring undertaken on the site or at any off-site areas which may be affected by contamination from the site.

III. RESPONSIBILITY

1. Principal Investigator (PI)

   a. The PI shall direct on-site investigation efforts for each discipline. At the site, the PI, assisted by the Team Safety Officer, has the primary responsibility for:

      1) Assuring that appropriate personnel protection equipment is available and properly utilized by all on-site personnel and subcontractor personnel.
      2) Assuring that personnel are aware of the provisions of this plan, are instructed in the work practices necessary to

ensure safety, and in planned procedures for dealing with emergencies (Provisions, Work Practices and Emergency Procedures) appropriate to this investigation.

3) Assuring that personnel are aware of the potential hazards associated with site operations.
4) Supervising the monitoring of safety performance by all personel to ensure that required work practices are employed.
5) Correcting any work practices or conditions that may result in injury to personnel or exposure to hazardous substances.

HEALTH AND SAFETY PRELIMINARY SITE INVESTIGATION

Based on the appropriate listed field activity plans, as well as other site information (such as waste types and chemistry) as learned from the data collecting and analysis, the Principal Investigator/Team Safety Officer will develop an appropriate health and safety plan for the site.

Planning for Site Entry

In order to determine whether it is safe for the investigative team to proceed with the study and/or to determine what appropriate level of protective clothing and equipment should be used, the nature and extent of the on-site hazards will be assessed prior to site inspection. An on-site reconnaissance utilizing appropriate monitoring equipiment will check for:

- exposivity
- atmospheric concentrations of hazardous vapors, bases, fumes, and dusts
- oxygen deficiencies
- physical hazards posed by site features/topography

If during the initial site reconnaissance, the monitoring equipment detects evidence of fire or explosion potential or high levels of radiation, further entry into the site will not be allowed. The site inspection will be delayed until such problems can be resolved appropriately.

The initial site reconnaissance will be performed by team personnel equipped with the level of protective clothing and any additional gear

that is required for their safe entry to the site. In order to provide sufficient lead time to "fine tune" safety and data gathering plans, this initial site reconaissance should be performed at least one week before the scheduled site investigation.

Based on this information regarding the associated conditions, a detailed plan providing for the safety of field personnel and the public will be developed in accordance with EPA and OSHA and regulations and USAF operating procedures. This plan may address such factors as (dependent on specific site/waste conditions):

- Types of exposures to hazardous materials (e.g., inhalation, skin absorption, ingestion, and eye contact), and the potential effects of each exposure pathway for each hazardous waste.
- High risk areas (surface contamination, exposed containers, or areas containing concentrations of chemical vapor, oxygen deficiency, explosive or flammable potential or radioactivity).
- Required protective and related equipment and procedures to adequately protect field personnel from perceived hazards on site.
- Decontamination procedures.
- Procedures for the prevention of accidental releases of hazardous substances to the air, soil, or surface water and procedures for implementation of proper contingency plans if such releases do occur.
- Procedures for the proper disposal of hazardous wastes generated in the course of the site inspection.
- Equipment and procedures for handling special site inspection conditions (e.g., prolonged operations, weather extremes, etc.).
- Emergency procedures.
- Arrangements with local hospitals and other local authorities.

The site-specific safety plan should be sufficient to provide the site inspection team with all applicable information assure health and safety. However, additional procedures may need to be considered and developed given site-specific conditions identified both before and during the site inspection.

Site Entry and Field Activities

Three sequential stages are identified to constitute the field activities:

- Initial setup
- Exploration and sampling
- Demobilization

Initial Setup

The main functions in this step are to secure entry and establish safety criteria. All operations will be managed from a central point, including:

- General supervision of area activities
- Decontamination process coordination
- Field communication
- Safety and medical coordination
- Equipment staging
- Recordkeeping
- Other functions as required

Exploration and Sampling

During this stage most field activities will be performed by pairs or small groups of team members. These tasks will include the following:

- Observation of visible spills, leachate seeps, etc., and sampling water and/or soils at these areas.
- Photography.
- Geophysical surveys (Electromagnetic or Metal Detection).
- Electrical resistivity measurements to detect ground-water contamination.
- Soil sampling using hand-operated equipment and drilling rigs.
- Ground-water sampling and water level measurements from existing wells.
- Surface water sampling.

Demobilization

This is the final stage of field activities in which field personnel will:

- Decontaminate used equipment.
- Transfer equipment and samples obtained to the decontamination staging area.
- Undergo personnel decontamination procedures.
- Load all equipment and samples on to the project vehicle(s).

The PI will supervise all the above steps through its conclusion. Field team members should not depart until all subcontractors personnel and equipment have left the site.

APPENDIX D

GENERAL FIELD PROCEDURES

APPENDIX D

General Field Procedures

Installation of Groundwater Quality Monitoring Wells

To investigate the groundwater quality within the aquifer of concern, groundwater monitoring wells will be installed. To accomplish the purposes of the monitoring wells a series of separate field procedures have been prepared. These include:

A - Drilling Procedures
B - Monitoring Well Construction Procedures
C - Water Sampling Procedures

The field program will be under the overall direction of the geologist in charge. Detailed supervision of the field work will be the responsibility of the field geologist. In particular, the field geologist will have the following responsibilities.

- Supervision of all drilling work and well construction
- Maintenance of the boring log for each boring
- Collection, labeling, and identification of formation samples, including rock cores.
- Conducting in cooperation with the driller, required in situ falling head tests and pumping tests.
- Performance of the water sampling program.
- Maintenance of pertinent notes in his/her field notebook and on daily field memos.

Health and safety procedures as set forth by the site Health and Safety Plan will be adhered to for all field operations.

A. Drilling Procedures

General Procedures

A qualified drilling subcontractor will be selected to provide all the equipment materials and skilled labor necessary to advance the test borings to the depths specified by the field geologist.

Order of Drilling Wells — All wells will be drilled in numerical sequence from what is considered the upgradient location (least contaminated) to the downgradient (most contaminated) with the upgradient boring being labeled "B-1".

Method of Drilling — Minimum of 4" ID hollow stem augers. If formational materials preclude the use of augers rotary drilling methods will be employed (e.g. for coring of bedrock).

Formational Sampling — Samples will be collected at a minimum of every 5 feet in the borings and at each lithographic change noted. A D&M sampler will be used to obtain one sample from each major layer in each boring. Other samples will be obtained with a standard split spoon sampler. Bedrock will be sampled continuously by coring with an NX double tube core barrel. All sampling equipment will be thoroughly cleaned after obtaining each sample.

The cleaning method employed will be dependent upon the type of contaminant suspected to be present at that location.

Measurements — The depth to the water level in each boring being drilled should be measured each morning and just prior to installation of any monitoring devices into a boring. The depth of the boring should be measured and recorded on the boring log upon reaching final depth.

Decontamination Requirements

All downhole equipment and above hole equipment that may come in contact with subsurface materials will be steam cleaned at the drilling location prior to initiating any drilling and between each boring and at the conclusion of the drilling program. The steam cleaning rinse water will be allowed to discharge to the ground surface at the well site. Care will be taken to assure this water does not come in contact with any surface water source.

Site Cleanup

All drill cuttings remaining after well installation will be removed for proper disposal.

All debris, paper, etc. will be removed and all depressions resulting from drilling operations will be filled in.

Drilling Procedures for Bedrock Boring

1. Sample formation every 5 feet and at every major lithologic change.

2. Drill and sample the unconsolidated formations until bedrock is encountered.

3. Ream the hole to at least 6 inches in diameter.

4. Make ready an appropriate length of steel casing by cleaning.

5. Place enough volclay pellets in the hole to make a layer of about one-foot thickness at the bottom of the boring.

6. Place the steel casing in the hole, and bottom it snugly into the bentonite. Once the casing is set, it should not be lifted until the completion of the well.

7. Circulate the drilling fluid; drill a few inches below the bottom of the volclay layer and circulate for a few minutes to clean the boring of most of the bentonite. Clean out this part of the boring by circulating clean water.

8. Drill into the bedrock the required depth using the NX double-tube core barrel.

9. Store the rock cores in specially constructed wooden rock-core boxes, for inspection and description by the field geologist.

10. Measure water level in boring.

11. Construct well in the boring

Drilling Procedures for Soil Borings

1. Sample formation every 5 feet and at every major lithologic change.

2. Drill to the depth estimated.

3. Measure water level in boring.

4. Construct well in boring.

Procedure for Abandoning a Boring

A cement slurry containing about 5 lbs. bentonite and one bag of cement per 8 to 10 gallons of water should be pumped into the hole to the ground surface.

B. MONITORING WELL CONSTRUCTION PROCEDURES

General Specifications and Procedures

Casing and Well Screen:	2-inch I.D. Schedule 40 PVC with flush screw joints or 2-inch I.D. stainless steel with flush screw joints.
Screen Slot Size:	Based upon materials encountered in boring.
Storage of Casing and Screen:	The casing and screen lengths will not be stored directly on the ground. The well string shall be prepared on a clean plastic sheet spread out over level ground.
Cleaning of Casing and Screen:	Casing and screen shall be cleaned before installing in the boring.
Bottom Cap and Blank Casing:	A length of blank casing of about two feet complete with a bottom cap shall be placed below the well screen in all cases.
Gravel Pack:	The gravel pack material will be 90 percent by weight larger than the screen size and should have a uniformity coefficient of 2.5 or less.
Placement of the Gravel Pack:	The gravel pack should be emplaced so that it extends to three feet above the top of the well screen. This should be confirmed by measuring down the annular space with a weighted tape or with a measured small-diameter pipe. The volume of gravel pack material emplaced should be compared with the volume computed as required, based on the screen diameter and length. The gravel pack may be poured directly down the annular space provided the well is pressurized and an upward flow of pure water is maintained in the annular space by introducing the water at a low rate through the well casing which would enter the annular space through the well screen openings.

Bentonite Seal:

A bentonite seal shall be placed in the annular space above the gravel pack in each well by emplacing 1/4-inch diameter volclay pellets in the annular space during which time the low flow rate up the annular space in maintained. This bentonite seal should be at least 2 feet thick. The bentonite shall be compacted with a donut shaped weight that slides over the well casing.

Well Development:

Each well should be developed for about 30 minutes to one hour using an air-lift surging method. Appropriate piping should be assembled for the discharge water so as to discharge it and dispose of it in a manner to limit contamination of the surrounding area. The discharge during development should be estimated by using a 5-gallon bucket and a stop watch. In the course of development, if a well turns out to have a very low specific capacity, it may prove necessary to add some clean water in order to remove as many fines as possible from the vicinity of the well screen. Development should be continued until all but a trace amount of fines and suspended solids appear in the discharge water. Following development, the air line hose or pipe and associated fittings should be thoroughly cleaned and then rinsed.

Grouting Annular Space:

A bentonite-cement grout (5 lbs. bentonite and one bag of cement to 8-10 gallons of water) will be pumped into the annular space to fill the space from the top of the volclay bentonite seal to the ground surface.

Protective Casing:

A length of 6-inch I.D. steel casing with a lockable cap should be placed over the well casing in each case to protect it. It should be set about one foot into the bentonite cement grout in the annular space, and should stick up above ground about 2 to 3 feet.

Well Labeling: The full number of each monitoring well should be painted on the protective casing and cap.

Surveying: A level survey will be performed in which the elevation of the top of the inside casing of each well will be determined 0.01 ft. and the reference point marked.

The Construction site makes it impossible to prescribe one single Deep or Shallow well construction configuration. Therefore a generic well construction configuration for both deep and shallow wells has been developed.

Deep Well Construction

1. Place well screen so as to screen entire thickness of lower sand and gravel layer (if it exists), unless the layer exceeds 20 feet in thickness; the well screen should extend about two feet into the top of bedrock.

2. If a clay layer immediately overlies the bedrock and the overlying surficial sand and gravel is less than 30 feet, place the screen in only the upper five feet of bedrock.

3. If no significant clay/lacustrine layer exists and if the surficial sand and gravel layer is greater than 20 feet thick place screen in lower 15 to 20 feet of the sand and gravel layer, extending also two feet into bedrock.

4. If no significant clay/lacustrine layer exists and if the surficial sand and gravel layer is less than 20 feet in thickness screen entire saturated thickness, in addition to about 5 feet above the summer static water level and about two feet into the underlying bedrock.

5. After installation of the well screen and casing, and the gravel pack, emplace volclay pellets to form a 2 to 4 foot thick seal in the annular space above the gravel pack. Use 1/4-inch diameter pellets and maintain a low flow rate up the annular space during emplacement so as to insure that they settle in place evenly around the annular space. Measure the depth to the top of the seal.

6. Using a bentonite-cement grout (described in the foregoing section), pump grout into the annular space so as to grout up to the top of the clay layer.

7. Jack the 6-inch casing out of the hole.

8. Develop the well and complete it as described under the foregoing section.

Shallow Well Construction

1. Place the well screen so that it extends from the top of any clay layer (if it exists) to about 5 feet above the summer static water level, unless the saturated thickness is greater than 20 feet, in which case the screen should be placed opposite the upper 20 feet of the saturated part of the unit, extending as well about 5 feet above the summer static water level. In the case of shallower wells less than 20 feet deep, place screen from bottom of hole to within 5 feet of land surface. For very shallow water table, the top of screen should be two feet above the estimated high water table or no closer than two feet to the land surface.

2. Emplace the volclay pellets as described above for the deep wells. A one-foot thick bentonite seal should be adequate.

3. Develop and complete the well as described under General Specifications Procedures.

C. GROUNDWATER SAMPLING PROCEDURES

Following the installation of the well, individual groundwater samples will be collected according to the procedures included below from each well for analyses. These samples will be collected using a positive displacement sampling device made entirely from stainless steel and teflon. This procedure will permit us to collect a sample that is more representative of the aquifer water and to limit the possibility of degassing and volatilization. The well storage water will be evacuated with a submersible pump or air lift system whereby the air is not permitted to come in direct contact with the aquifer. The

sampling pump will be cleaned between wells by immersion into a solvent, followed by a distilled deionized water rinse. A quantity of each of these will be pumped through the pump and teflon tubing.

As a part of our ongoing QA program, field blanks, consisting of distilled deionized water from the discharge of the pump following cleaning will be taken between selected wells to monitor the effectiveness of the cleaning procedures. Two typed of trip blanks will also be taken. The first type consists of a sample bottle filled with distilled, deionized water that will be capped and accompany the samples at all times. The second type will consist of a sample bottle filled with distilled, deionized water and set aside open to the atmosphere, during the sampling of the wells. The purpose of these trip blanks is to evaluate the potential for atmospheric contamination, and to assure that proper sample bottle preparation and handling techniques have been employed.

The samples collected from these sampling efforts will be analyzed for indicator parameters identified during the Phase I.

WATER SAMPLING PROCEDURES.

1. Open well and trip blank and record initial static water levels.

2. Wash down pump:

- For organics use hexane followed by methanol and finally distilled water

- Collect wash solvents and rinse in a bucket, etc. (a 5 gal. container w/ a large funnel works well)

- Wash pump inside and outside

3. Install pump in well: Use stainless steel pump and teflon tubing

- Each well should have its own tubing. Tubing should be cleaned and thoroughly rinsed between sampling events.

- Pump should have a check valve, preventing water having been in internal contact with the pump and the tubing from draining back into the well.

4. Pump at least two exchanges of water

- Care should be taken so as not to over pump, whereby excessive concentrations are drawn into the well. The number of exchanges pumped should be based upon the soil typed, flow patterns and aquifer properties of each well.

5. Take a sample:

- From pump discharge: Insert discharge tube to bottom of jar. Withdraw tube ahead of the sample so that aeration and turbulence is minimized.

- Some samples must be filtered in the field. This should be done prior to filling the sample container.

- For volatile organics samples should not be taken from the pump discharge. Aeration from the pump will destroy organic volatiles.

6. Immediately perform field tests such as temperature, pH, specific conductivity and D.O.

7. Refrigerate samples at $4^{o}C$.

8. Cap well and trip blank.

9. Wash all equipment.

NOTES: - The sampling procedures should reflect the sample parameters. Those parameters subject to change with changes in pH, D.O. may need to be sampled using stainless steel bailers.

- Some sample parameters require filtering in the field.

- For accountability and traceability of the samples, two forms are included which are examples of what we presently use.

EQUIPMENT BLANKS:

- Wash pump with solvents, collecting solvent rinse. Care must be taken in the selection of solvents, so damage to the pump will not occur. Rinse with distilled water.

- Take a sample of "clean" water,

- Turn on pump, sample first "slug" of water from the pump

- Pump volume equivalent to amount typically pumped from the well. DO NOT recirculate the water.

- Take sample from pump at end of pumping period

- Refrigerate samples.

APPENDIX E

QUALITY ASSURANCE

APPENDIX E

OUTLINE OF QUALITY ASSURANCE PROCEDURES

1.0 GROUND-WATER SAMPLING

1.1 General Requirements

(a) Obtain representative ground-water quality samples
  (1) Wells located properly
  (2) Sampling zone defined
  (3) Well constructed properly
  (4) Well developed properly
(b) Select sampling method in accordance with analyses of interest and well characteristics, see Figure B.1.
(c) Sampling procedures should not materially alter sample, see Figure B.2.
(d) Storage/shipment procedure must not alter sample

1.2 Procedures for Monitoring Well Development

(a) Perform prior to each sampling effort
(b) Measure water level
(c) Determine volume of water stored in casing
(d) Remove three to five volumes of water from well
  (1) Bail
  (2) Pump
(e) Insure that device does not introduce contaminants into well
(f) Measure water level recovery
(g) Sample after complete recovery
(h) Perform in-situ tests
  (1) Flow direction & velocity (Flow Meter®)
  (2) Quality (Hydrolab®)
  (3) Permeability
(i) Insure that in-place testing does not contaminate well prior to sample acquisition

1.3 Sampler Construction Material

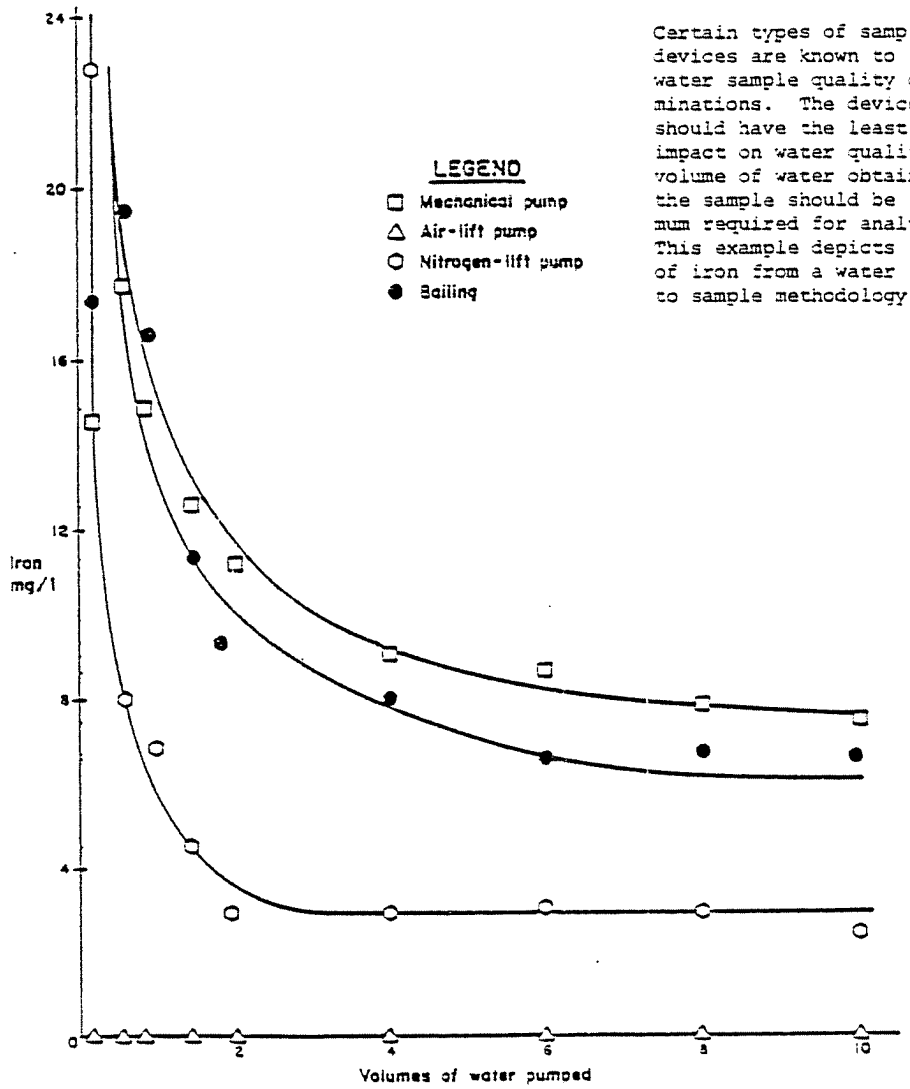
A major point to consider is the type of contaminants anticipated in the ground-water system. A sampling device should be constructed of inert materials that will not alter the trace concentrations of chemical parameters. Sampler construction materials are listed in order of preference.

Sampler Construction Materials:

(a) Glass
(b) Teflon®

FIGURE E.1

Effects of Various Sampling Methodologies on Water Quality



Certain types of sampling devices are known to impact water sample quality determinations. The device selected should have the least negative impact on water quality. The volume of water obtained for the sample should be the minimum required for analysis. This example depicts the loss of iron from a water sample due to sample methodology.

SOURCE: "Monitoring Well Sampling and Preservation Techniques," Proceedings of the Sixth Annual Research Symposium / Disposal of Hazardous Waste, March, 1980.

FIGURE E.2

SAMPLING EQUIPMENT SELECTION

Diameter Casing	Bailer	Peristaltic Pump	Vaccum Pump	Airlift	Diaphragm "Trash" Pump	Submersible Diaphragm Pump	Submersible Electric Pump	Submersible Electric Pump w/Packer
1.25-inch								
Water level <20 ft.		X	X	X	X			
Water level >20 ft.				X				
2-inch								
Water level <20 ft.	X	X	X	X	X	X	X	
Water level >20 ft.	X			X		X	X	
4-inch								
Water level <20 ft.	X	X	X	X	X	X	X	X
Water level >20 ft.	X			X		X	X	X
6-inch								
Water level <20 ft.				X	X		X	X
Water level >20 ft.				X			X	X
8-inch								
Water level <20 ft.				X	X		X	X
Water level >20 ft.				X			X	X

(c) Stainless Steel
(d) PVC
(e) Other dense plastics

Note: Do not use rubber or synthetic rubber such as that used in packers or older bladder pumps.

1.4 Sampling

1.4.1 Typical Ground-Water Sampling Devices

(a) Bailers
  Kemmerer
  Tube
(b) Suction Lift Pump
  Peristaltic
  Hand operated diaphragm
(c) Submersible Pump
(d) Air-lift Device
(e) Tomson Pump (all glass)
(f) Gas Operated Bladder Pump
(g) Gas Driven Piston Pump
(h) Specialized Organic Material Samplers
  Grab Sampler
  Continuous Sampler
  Microbiological Sampler
  Soil-Water Sampler

Detailed discussion of the above listed sampling devices is given in the Manual of Ground-Water Sampling Procedures, pp. 45-54.

1.4.4 Specialized Organic Material Samplers

(a) Grab Sampler (at well head) for non-volatile organics may be used with peristaltic pumps (ground-water depth 20 ft)® or non-contaminating submersible pumps. A Teflon bailer may be used for volatile organic sample acquisition.

(b) Continuous Sampler (at well head) uses a peristaltic pump (shallow conditions) or a non-contaminating submersible pump to force a continuous stream of water through a fixing column using selected adsorbents to concentrate organic materials.

(c) Microbiological Sampler (at well head) uses a vacuum pumping system to draw water samples from shallow depths. Samples to be tested for microbial agents may be collected in a flask; samples to be tested for viruses of pathogenic bacteria may be collected on filters installed in the system.

(d) Soil-Water Sampler (unsaturated zone) can be used to obtain small unsaturated zone samples drawn through a collection trap in shallow applications.

A detailed discussion of these devices and their utilization is presented in the Manual of Ground-Water Sampling Procedures, pp 53-60.

1.5 Field Tests and Sample Preservation

1.5.1 Field Testing

Many parameters are relatively stable. Others such as pH, temperature, etc., will begin to alter immediately upon collection. In order to mitigate this unwanted modification of water quality, testing of sensitive parameters must be performed in the field. Testing may be performed at the well head following sample removal or in-situ by use of a Hydrolab or similar down-hole device.

Samples requiring more complicated analysis procedures must be preserved and transported to a laboratory. Preservation must be performed in the field, contingent upon analytical parameters of interest. Laboratory analyses should be performed as soon as possible in accordance with EPA Guidelines.

1.5.2 Sample Preservation

1.5.2.1 General typical preservatives currently employed, actions and applications are given:

Preservative	Action	Applicable to:
$HgCl_2$	Bacterial Inhibitor	Nitrogen forms, phosphorus forms
Acid (HNO_3)	Metals solvent, prevents precipitation	Metals
Acid (H_2SO_4)	Bacterial Inhibitor	Organic samples (COD, oil and grease, organic carbon)
	Salt formation with organic bases	Ammonia, amines
Alkali (NaOH)	Salt formation with volatile compounds	Cyanides, organic acids

Preservative	Action	Applicable to:
Refrigeration	Bacterial Inhibitor	Acidity - alkalinity, organic materials, BOD, color, odor, organic P, organic N, carbon, etc., biological organism (coliform, etc.)

1.5.2.2 Organic Parameters

The general method of preserving samples for organic analysis is to exclude air, pack in ice, and transport promptly. Specific recommendations are furnished in the Manual of Ground Water Sampling Procedures, p. 62.

1.5.2.3 Microbiological Parameters

Due to the complicated nature of this type of sampling, reference is made to the Manual of Ground-Water Sampling Procedures, p. 62.

1.5.2.4 Sampling and Preservation Requirements

The following Table B.1, presented from the Manual of Ground-Water Quality Sampling Procedures, pp 63-66, is included to provide specific collection and preservation data in accordance with the analyses of interest. It may be quickly observed that numerous variations occur in volume of sample required per test, type of container, preservative, and holding time. Preservation techniques must be chosen to be consistent with the selected analyses.

TABLE E.1.

RECOMMENDATION FOR SAMPLING AND PRESERVATION OF SAMPLES ACCORDING TO MEASUREMENT[a]

Measurement	Vol. Req. (ml)	Container[b]	Preservative	Holding[c] Time
Physical Properties				
Color	50	P, G	Cool, 4°C	24 Hrs.[d]
Conductance	100	P, G	Cool, 4°C	24 Hrs.[d]
Hardness	100	P, G	Cool, 4°C HNO_3 to pH<2	6 Mos.[e]
Odor	200	G only	Cool, 4°C	24 Hrs.
pH	25	P, G	Det. on site	6 Hrs.
Residue				
Filterable	100	P, G	Cool, 4°C	7 Days
Non-Filterable	100	P, G	Cool, 4°C	7 Days
Total	100	P, G	Cool, 4°C	7 Days
Volatile	40	P, G	Cool, 4°C	7 Days
Settleable Matter	1000	P, G	None Req.	24 Hrs.
Temperature	1000	P, G	Det. on site	No Holding
Turbidity	100	P, G	Cool, 4°C	7 Days
Metals				
Dissolved	200	P, G	Filter on site HNO_3 to pH<2	6 Mos.[e]
Suspended	200		Filter on site	6 Mos.
Total	100	P, G	HNO_3 to pH<2	6 Mos.[e]
Mercury				
Dissolved	100	P, G	Filter on site HNO_3 to pH<2	38 Days (Glass) 13 Days (Hard Plastic)
Total	100	P, G	HNO_3 to pH<2	38 Days (Glass) 13 Days (Hard Plastic)

TABLE E.1 (Continued)

Measurement	Vol. Req. (ml)	Container[b]	Preservative	Holding Time[c]
Inorganics, Non-Metallics				
Acidity	100	P, G	None Req.	24 Hrs.
Alkalinity	100	P, G	Cool, 4°C	24 Hrs.
Bromide	100	P, G	Cool, 4°C	24 Hrs.
Chloride	50	P, G	None Req.	7 Days
Chlorine	200	P, G	Det. on site	No Holding
Cyanides	500	P, G	Cool, 4°C NaOH to pH 12	24 Hrs.
Fluoride	300	P, G	None Req.	7 Days
Iodide	100	P, G	Cool, 4°C	24 Hrs.
Nitrogen				
Ammonia	400	P, G	Cool, 4°C	24 Hrs.
Kjeldahl, Total	500	P, G	H_2SO_4 to pH<2 Cool, 4°C	24 Hrs.[f]
Nitrate plus Nitrite	100	P, G	H_2SO_4 to pH<2 Cool, 4°C	24 Hrs.[f]
Nitrate	100	P, G	H_2SO_4 to pH 2 Cool, 4°C	24 Hrs.
Nitrite	50	P, G	Cool, 4°C	48 Hrs.
Dissolved Oxygen				
Probe	300	G only	Det. on site	No Holding
Winkler	300	G only	Fix on site	4-8 Hrs.
Phosphorus	50	P, G	Filter on site Cool, 4°C	24 Hrs.
Ortho-phosphate, Dissolved				
Hydrolyzable	50	P, G	Cool, 4°C	24 Hrs.[f]
Total	50	P, G	H_2SO_4 to pH<2 Cool, 4°C H_2SO_4 to pH<2	24 Hrs.[f]

TABLE E.1 (Continued)

Measurement	Vol. Req. (ml)	Container[b]	Preservative	Holding Time[c]
Total, Dissolved	50	P, G	Filter on site Cool, 4°C H_2SO_4 to pH<2	24 Hrs.[f]
Silica	50	P only	Cool, 4°C	7 Days
Sulfate	50	P, G	Cool, 4°C	7 Days
Sulfide	500	P, G	2 ml zinc acetate	24 Hrs.
Sulfite	50	P, G	Det. on site	No Holding
Routine Organics				
BOD	1000	P, G	Cool, 4°C	24 Hrs.
COD	50	P, G	H_2SO_4 to pH<2	7 Days[f]
Oil & Grease	1000	G only	Cool, 4°C H_2SO_4 or HCL to pH<2	24 Hrs.
Organic Carbon	25	P, G	Cool, 4°C H_2SO_4 or HCL to pH<2	24 Hrs.
Phenolics	500	G only	Cool, 4°C H_3PO_4 to pH<4 1.0 g $CuSO_4$/l	24 Hrs.
MBAS	250	P, G	Cool, 4°C	24 Hrs.
NTA	50	P, G	Cool, 4°C	24 Hrs.

a. A general discussion on sampling of water and industrial wastewater may be found in ASTM, Part 31, p. 72-82 (1976) Method D-3370.

b. Plastic (P) or Glass (G). For metals polyethylene with a polypropylene cap (no liner) is preferred.

c. It should be pointed out that holding times listed above are recommended for properly preserved samples based on currently available data. It is recognized that for some sample types, extension of these times may be possible while for other

types, these times may be too long. Where shipping regulations prevent the use of the proper preservation technique or the holding time is exceeded, such as the case of a 24-hr composite, the final reported data for these samples should indicate the specific variance procedures.

d. If the sample is stabilized by cooling, it should be warmed to 25°C for reading, or temperature correction made and results reported at 25°C.

e. Where HNO_3 cannot be used because of shipping restrictions, the sample may be initially preserved by icing and immediately shipped to the laboratory. Upon receipt in the laboratory, the sample must be acidified to a pH <2 with HNO_3 (normally 3 ml 1:1 HNO_3/liter is sufficient). At the time of analysis, the sample container should be thoroughly rinsed with 1:1 HNO_3 and the washings added to the sample (volume correction may be required).

f. Data obtained from National Enforcement Investigations Center-Denver, Colorado, support a four-week holding time for this parameter in Sewerage Systems. (SIC 4952).

2.0 SAMPLING SUBSURFACE SOLIDS (Earth Materials)

2.1 General

The sampling and testing of earth materials may be necessary to augment a ground-water quality study as contamination typically occurs in the unsaturated zone first, before entering the saturated zone. Several reasons exist for solids testing:

(a) Study effects of alteration
(b) Determine actual extent of contamination - not just in saturated zones
(c) Obtain accurate evaluation of microbial populations that may alter pollutants
(d) Solids provide best samples of aquifer microorganisms (samples obtained from saturated zone).

2.2 Sampling Procedures

Sampling of subsurface solids may be conducted by split spoon by Standard Penetration Test (ASTM D-1586-67) equipped with non-contaminating soil sample retainer or by undisturbed methods (ASTM D-1587-67). In any event, sampling, sample extrusion, preservation, shipment and testing must be accomplished in a sterile environment.

Due to the complex nature of the task, the possibility of introducing cross-contamination and the difficulty involved in sample processing, reference is made to the Manual of Ground-Water Sampling Procedures, pp. 72-79, which provides detailed guidelines for soil sample handling.

3.0 SAMPLE RECORDS AND CHAIN-OF-CUSTODY

3.1 General

The maintenance of complete sample records is critical to the monitoring process. The following is a basic guideline for development of sample records and chain-of-custody procedures:

3.2 Sample Records

(a) Sample description--type (ground water, surface water), volume;

(b) Sample source--well number, location;

(c) Sampler's identity--chain of evidence should be maintained; each time transfer of a sample occurs, a record including signatures of parties involved in transfer should be made. (This procedures has legal significance.);

(d) Time and date of sampling;

(e) Significant weather conditions;

(f) Sample laboratory number;

(g) Pertinent well data--depth, depth to water surface, pumping schedule, and method;

(h) Sampling method--vacuum, bailer, pressure;

(i) Preservatives, (if any)--type and number (e.g., NaOH for cyanide, H_3PO and $CuSO_4$ for phenols, etc.);

(j) Sample containers--type, size, and number (e.g., three liter glass-stoppered bottles, one gallon screw-cap bottle, etc.);

(k) Reason for sampling--initial sampling of new landfill, annual sampling, quarterly sampling, special problem sampling in conjunction with contaminant discovered in nearby domestic well, etc.;

(l) Appearance of sample--color, turbidity, sediment, oil on surface, etc.;

(m) Any other information which appears to be significant--(e.g., sampled in conjunction with state, county, local regulatory authorities; samples for specific conductance value only; sampled for key indicator analysis; sampled for extended analysis; resampled following engineering corrective action, etc.);

(n) Name and location of laboratory performing analysis;

(o) Sample temperature upon sampling;

(p) Thermal preservaton--(e.g., transportation in ice chest);

(q) Analytical determinations (if any) performed in the field at the time of sampling and results obtained--(e.g., pH, temperature, dissolved oxygen, and specific conductance, etc.);

(r) Analyst's identity and affiliation.

3.3 Chain-of-Custody

(a) As few people as possible should handle the sample.

(b) Samples should be obtained by using standard field sampling techniques, if available.

(c) The chain-of-custody records should be attached to the sample container at the time the sample is collected, and should contain the following information: sample number, date and time taken, source of the sample (include type of sample and name of firm), the preservative and analysis required, name of person taking sample, and the name of witness. The prefilled side of the card should be signed, timed, and dated by the person sampling. The sample container should then be sealed, containing the regulatory agency's designation, date, and sampler's signature. The seal should cover the string or wire tie of the chain of custody record, so that the record or tag cannot be removed and the container cannot be opened without breaking the seal. The tags and seals should be filled out in legible handwriting. When transferring the possession of samples, the transferee should sign and record the date and time on the chain-of-custody record. Custody transfers, if made to a sample custodian in the field, should be recorded for each individual sample. To prevent undue proliferation of custody records, the number of custodians in the chain of possession should be as few as possible. If samples are delivered to the laboratory when appropriate personnel are not there to receive them, the samples should be locked in a designated area within the laboratory so that no one can tamper with them.

(d) Blank samples should be collected in containers, with and without preservatives, so that the laboratory analysis can be performed to show that there was no container contamination.

(e) A field book or log should be used to record field measurements and other pertinent information necessary to refresh the sampler's memory in the event he later becomes a witness in an enforcement proceeding. A separate set of field notebooks should be maintained for each survey and stored in a safe place where they can be protected and accounted for at all times. A standard format should be established to minimize field entries and should include the types of information listed above. The entries should then be signed by the field sampler. The responsibility for preparing and retaining field notebooks during and after the survey should be assigned to a survey coordinator or his designated representative.

(f) The field sampler is responsible for the care and custody of the samples collected until properly dispatched to the receiving laboratory or turned over to an assigned custodian. He must assure that each container is in his physical possession or in his view at all times or stored in a locked place where no one can tamper with it.

(g) Photographs can be taken to establish exactly where the particular samples were obtained. Written documentation on the back of the photograph should include the signature of the photographer, the time, date, and site location.

(h) Each laboratory should have a sample custodian to maintain a permanent log book in which he records for each sample the person delivering the sample, the person receiving the sample, date and time received, source of sample, sample number, method of transmittal to the lab, and a number assigned to each sample by the laboratory. A standardized format should be established for log-book entries. The custodian should insure that heat-sensitive or light-sensitive samples or other sample materials having unusual physical characteristics or requiring special handling are properly stored and maintained. Distribution of samples to laboratory personnel who are to perform analyses should be made only by the custodian. The custodian should enter into the log the laboratory sample number, time, date, and the signature of the person to whom the samples were given. Laboratory personnel should examine the seal on the container prior to opening and should be prepared to testify that their examination of the containers indicated that it had not been tampered with or opened.

TABLE IB

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES
SOLID SAMPLES

Samples Received: 6/17/81
Report Date: 7/16/81

ACID/PHENOLICS

COMPOUND	UNITS OF MEASURE	SAMPLE IDENTIFICATION		
		81-167-01	81-167-02	81-167-03
2-chlorophenol	µg/g dry	<1	<1	<1
2,4-dichlorophenol	µg/g dry	≤1	≤1	≤1
2,4-dimethylphenol	µg/g dry	<1	<1	≤1
4,6-dinitro-o-cresol	µg/g dry	<10	<10	<10
2,4-dinitrophenol	µg/g dry	<10	<10	<10
2-nitrophenol	µg/g dry	<1	<1	<1
4-nitrophenol	µg/g dry	<10	<10	<10
p-chloro-m-cresol	µg/g dry	<2	<2	<2
pentachlorophenol	µg/g dry	≤2	<2	<2
phenol	µg/g dry	≤1	<1	≤1
2,4,6-trichlorophenol	µg/g dry	≤2	<2	<2

COMMENTS: Refer to text

FOR RECRA RESEARCH, INC. Timothy R Bibon

DATE 7/16/81

RA RESEARCH, INC.
#81-513