

915040

MOBIL OIL CORPORATION

NEW YORK STATE SUPERFUND
PHASE I SUMMARY REPORT

915040

September 6, 1983

Prepared By:

Recra Research, Inc.
4248 Ridge Lea Road
Amherst, New York 14226

For:

New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233-0001

MOBIL OIL CORPORATION
NEW YORK STATE SUPERFUND
PHASE I SUMMARY REPORT

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 Executive Summary	1
2.0 Site Description	2
3.0 Preliminary Hazard Ranking System Score	
3.1 Documentation Records for Hazard Ranking System	
3.2 EPA Preliminary Assessment (Form 2070-12)	
3.3 EPA Site Inspection Report (Form 2070-13)	
4.0 Site History	4
5.0 Site Data	5
5.1 Site Area Surface Features	5
5.1.1 Topography and Drainage	5
5.1.2 Environmental Setting	5
5.2 Site Hydrogeology	6
5.2.1 Geology	6
5.2.2 Soils	6
5.2.3 Groundwater	7
5.3 Previous Sampling and Analysis	7
5.3.1 Groundwater Quality Data	7
5.3.2 Surface Water Quality Data	7
5.3.3 Air Quality Data	7

5.3.4	Other Analytical Data	7
6.0	Adequacy of Available Data	9
7.0	Proposed Phase II Work Plan	10
7.1	Objectives	10
7.2	Scope of Work	10
7.2.1	Air Monitoring	11
7.2.2	Geophysical Exploration	12
7.2.3	Subsurface Investigation	13
7.2.4	Monitoring Well Installation	15
7.2.5	Sampling and Analysis	16
7.2.5.1	Groundwater	16
7.2.5.2	Soil	18
7.2.5.3	Sediment	18
7.2.6	Chemical Analytical Methods	19
7.2.7	Quality Assurance Program	19
7.2.8	Engineering Evaluation Report/HRS Score	20
7.3	Estimated Costs	21

APPENDIX A - Data Sources and References

APPENDIX B - Revised "Hazardous Waste Disposal Site Report"

LIST OF FIGURES

Figure 1	Vicinity Map
Figure 2	Site Map
Figure 3	Sampling and Well Locations
Figure 4	Monitoring Well Construction

LIST OF TABLES

Table 1	Analytical Parameters
---------	-----------------------

1.0 Executive Summary

The Mobil Oil Refinery facility is located on Elk Street in the City of Buffalo, and was operational from 1951 to 1981. A three (3) acre swale area located on the seventy-seven (77) acre plant facility was used for the disposal of wastes such as demolition debris, tank sediments, sewer sediments, soils containing asphalt and general refuse. These wastes are believed to have been generated on-site. The quantity of waste is unknown.

Prior to Mobil's ownership of the site, the swale area, created by the redirecting of the Buffalo River, was used by the City of Buffalo for the disposal of an unknown quantity of municipal waste.

Sampling of on-site soils have revealed detectable levels of lead and various moderately toxic organic compounds.

2.0 Site Description

The Mobil Oil site is located in an industrial area adjacent to the Buffalo River. The disposal area occupies approximately three (3) acres of the total 77-acre property owned by Mobil Oil. The site is bounded on the north by a junkyard, on the west by a railroad line and on the south and southeast by the Buffalo River. Access to the area is limited by a locked chain link fence.

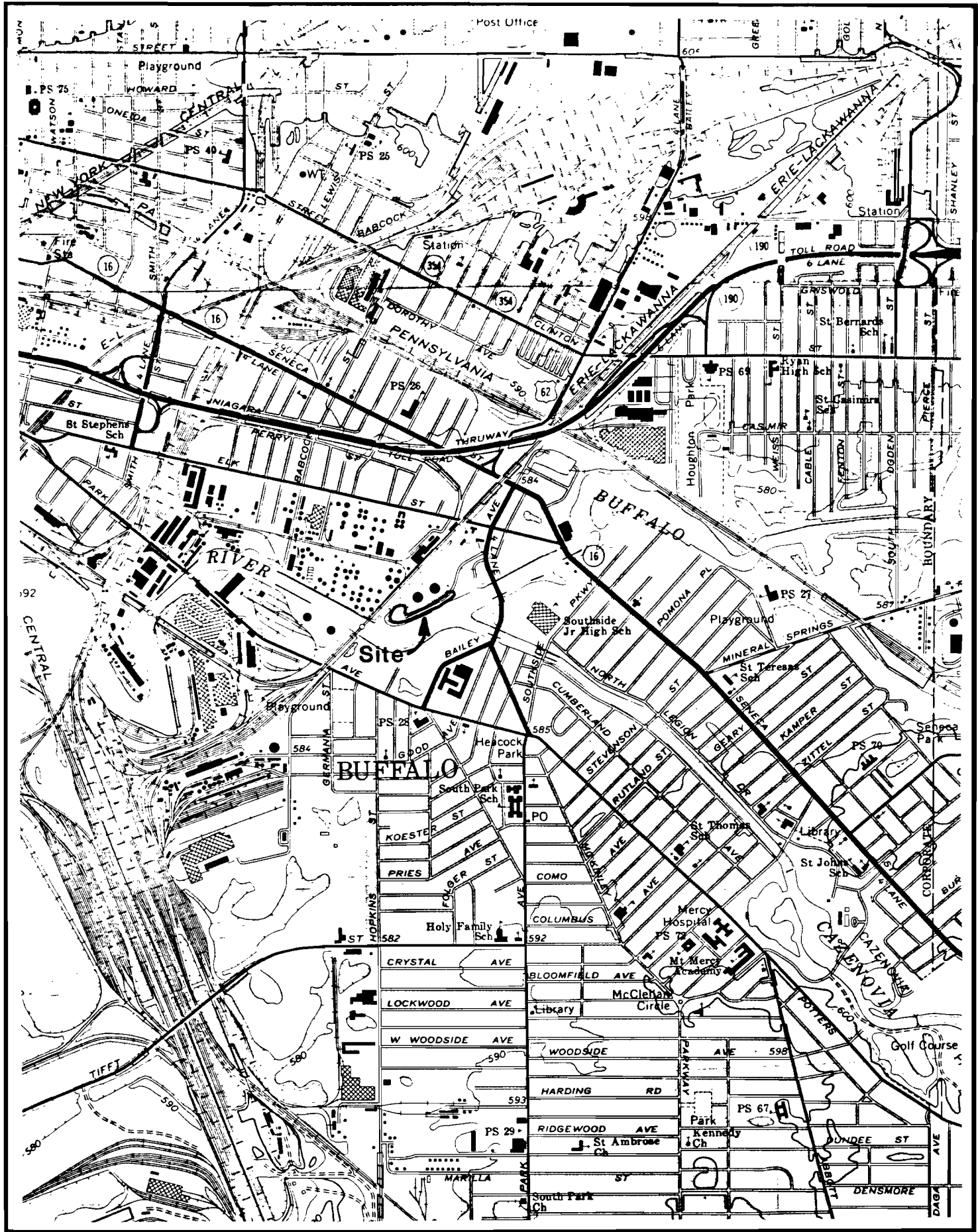
Topography in the general area is flat. Cullet dikes constructed around the two (2) holding tanks adjacent to the Buffalo River are the only surface features present.

The disposal site is located on the previously filled meander of the Buffalo River (Reference 3). Mobil Oil has filled this area with construction debris and various tank sediments (Reference 4). The disposal site has been capped with cullet to an undetermined depth. The southeast section, which lies adjacent to the Buffalo River, is covered with dirt and what appears to be a black tar-like substance.

Large concrete blocks were observed along the river shoreline. Vegetation such as shrubs, grasses and small trees were observed along the river bank.

Test borings completed in 1982 have indicated the soils to be contaminated with iron, lead, cyclohexane and aliphatic hydrocarbons (Reference

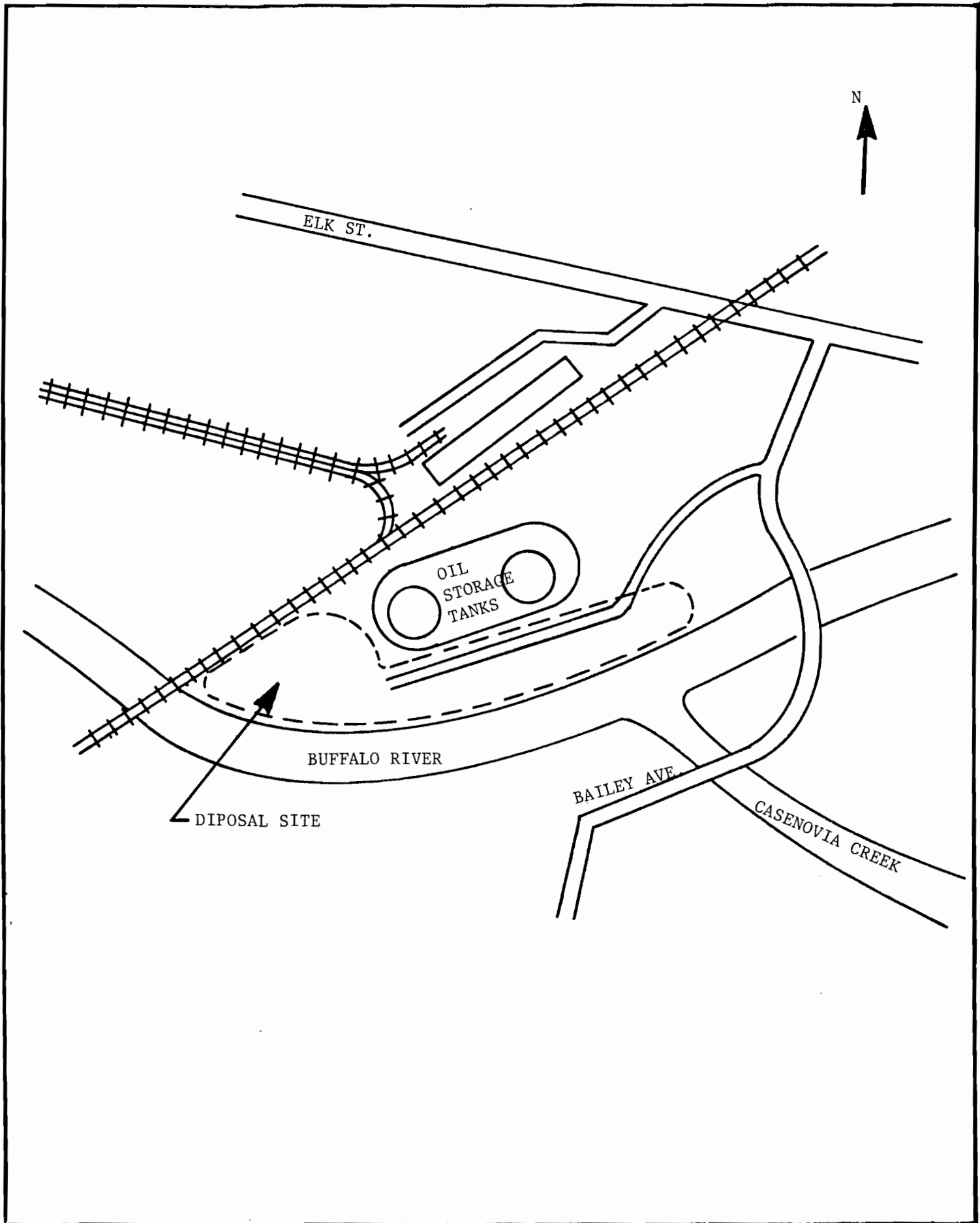
5). A tar-like substance was observed in two (2) of the subsurface boring holes (Reference 3).



USGS TOPOGRAPHIC MAP
 BUFFALO SE, NE, N.Y. 1965

VICINITY MAP
 MOBIL OIL CORPORATION

FIGURE 1



NOT TO SCALE

SITE MAP
MOBIL OIL CORPORATION

FIGURE 2

3.0 PRELIMINARY HAZARD RANKING SYSTEM SCORE

Factory name	<u>Mobil Oil Corporation</u>	
Location:	<u>635 Elk St., Buffalo, NY 14240</u>	
EPA Region	<u>9</u>	
Person(s) in charge of the facility:	<u>Donald McNeerney, Terminal Superintenedant</u>	
	<u>635 Elk St.</u>	
	<u>Buffalo, NY 14240</u>	
Name of Reviewer:	<u>Recra Research, Inc.</u>	Date: <u>9/6/83</u>
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.)		
<u>The three (3) acre disposalsite was operated by Mobil Oil from 1951</u>		
<u>to 1976, received solid industrial fill, and various tank sediments,</u>		
<u>cracking and reforming catalysts, caustic sludge and general refuse.</u>		
<u>Soil samples indicate detectable levels of lead cyclohexane and</u>		
<u>allphatic hydrocarbons</u>		
Scores: $S_M = 1.8$ ($S_{gw} = 2.1$ $S_{sw} = 2.4$ $S_a = 0$)		
$S_{FE} = 0$		
$S_{DC} = 41.7$ Range 1.8 to 20		

Ground Water Route Work Sheet						
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)	
1 Observed Release	0 45	1	0	45	3.1	
If observed release is given a score of 45, proceed to line 4 . If observed release is given a score of 0, proceed to line 2 .						
2 Route Characteristics					3.2	
Depth to Aquifer of Concern	0 1 2 3	2	2	6		
Net Precipitation	0 1 2 3	1	1	3		
Permeability of the Unsaturated Zone	0 1 2 3	1	3	3		
Physical State	0 1 2 3	1	1	3		
Total Route Characteristics Score			7	15		
3 Containment	0 1 2 3	1	3	3	3.3	
4 Waste Characteristics					3.4	
Toxicity/Persistence	0 3 6 9 12 15 18	1	18	18		
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	8		
Total Waste Characteristics Score			19	26		
5 Targets					3.5	
Ground Water Use	0 1 2 3	3	3	9		
Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	1	0	40		
Total Targets Score			3	49		
6 If line 1 is 45, multiply 1 x 4 x 5			1197	57,330		
If line 1 is 0, multiply 2 x 3 x 4 x 5						
7 Divide line 6 by 57,330 and multiply by 100			S _{gw} = 2.09			

FIGURE 2
GROUND WATER ROUTE WORK SHEET

Surface Water Route Work Sheet						
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)	
1 Observed Release	0 45	1	0	45	4.1	
If observed release is given a value of 45, proceed to line 4 . If observed release is given a value of 0, proceed to line 2 .						
2 Route Characteristics					4.2	
Facility Slope and Intervening Terrain	0 1 2 3	1	0	3		
1-yr. 24-hr. Rainfall	0 1 2 3	1	2	3		
Distance to Nearest Surface Water	0 1 2 3	2	6	6		
Physical State	0 1 2 3	1	1	3		
Total Route Characteristics Score			9	15		
3 Containment	0 1 2 3	1	3	3	4.3	
4 Waste Characteristics					4.4	
Toxicity/Persistence	0 3 6 9 12 15 18	1	18	18		
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	8		
Total Waste Characteristics Score			19	26		
5 Targets					4.5	
Surface Water Use	0 1 2 3	3	3	9		
Distance to a Sensitive Environment	0 1 2 3	2	0	6		
Population Served/Distance to Water Intake Downstream	} 0 4 6 8 10 } 12 16 18 20 } 24 30 32 35 40	1	0	40		
Total Targets Score			3	55		
6 If line 1 is 45, multiply 1 x 4 x 5			1539	64,350		
If line 1 is 0, multiply 2 x 3 x 4 x 5						
7 Divide line 6 by 64,350 and multiply by 100			$S_{sw} = 2.39$			

FIGURE 7
SURFACE WATER 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		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					$S_a = 0$	

FIGURE 9
AIR ROUTE WORK SHEET

	s	s ²
Groundwater Route Score (S _{gw})	2.09	4.37
Surface Water Route Score (S _{sw})	2.31	5.71
Air Route Score (S _a)	0	0
$S_{gw}^2 + S_{sw}^2 + S_a^2$		10.08
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		3.17
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M$		1.84

FIGURE 10
WORKSHEET FOR COMPUTING S_M

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

FIGURE 11
FIRE AND EXPLOSION WORK SHEET

Direct Contact Work Sheet						
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)	
1 Observed Incident	0 45	1	0	45	8.1	
If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2						
2 Accessibility	0 1 2 3	1	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	20	20		
Distance to a Critical Habitat	0 1 2 3	4	0	12		
Total Targets Score			20	32		
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			9000	21,600		
7 Divide line 6 by 21,600 and multiply by 100			SDC = 41.66			

FIGURE 12
DIRECT CONTACT WORK SHEET

3.1 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: Mobil Oil Corp.

LOCATION: 635 Elk St., Buffalo, NY 14240

GROUND WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected (5 maximum):

LEAD
IRON
CYCLOHEXANE
ALIPHATIC HYDROCARBONS (REF 5)

Rationale for attributing the contaminants to the facility:

ANALYSIS OF SOIL SAMPLES
(REF 5)

* * *

2 ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifers(s) of concern:

ONONDAGA LIMESTONE & CAMILLUS SHALE
(REF 8)

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

UNKNOWN

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):

32 INCHES (Ref12)

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

27 INCHES (REF.12)

Net precipitation (subtract the above figures):

5 INCHES

Permeability of Unsaturated Zone

Soil type in unsaturated zone:

INDUSTRIAL FILL (REF 4)

Permeability associated with soil type:

Physical State

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

SOLID (REF 4)

* * *

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

NONE

Method with highest score:

3

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated: LEAD, CYCLOHEXANE, ALIPHATIC
HYDROCARBONS
(REF 5)

Compound with highest score:

LEAD 18

Hazardous Waste Quantity

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

UNKNOWN

Basis of estimating and/or computing waste quantity:

N/A

* * *

5 TARGETS

Ground Water Use

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

THE ONLY DOCUMENTED USE OF GROUNDWATER IS INDUSTRIAL. ENTIRE AREA IS SERVICED BY MUNICIPAL WATER DRAWN FROM LAKE ERIE (REF B)

Distance to Nearest Well

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

Distance to above well or building:

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:

ALL RECORDED WELLS ARE USED FOR INDUSTRIAL PURPOSES ONLY

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):

NA

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

NA

SURFACE WATER ROUTE

1 OBSERVED RELEASE

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

No sampling of surface waters performed

Rationale for attributing the contaminants to the facility:

* * *

2 ROUTE CHARACTERISTICS

Facility Slope and Intervening Terrain

Average slope of facility in percent:

0% (REF 9)

Name/description of nearest downslope surface water:

BUFFALO RIVER, CLASS "D" WATER RESOURCE (Ref 10)

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

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 INCHES (REF 12)

Distance to Nearest Downslope Surface Water

< 10 FEET (REF. 9)

Physical State of Waste

SOLID (REF 4)

* * *

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

NO CONTAINMENT

Method with highest score:

3 No containment

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated

LEAD
CYCLOHEXANE
ALIPHATIC HYDROCARBONS (REF 5)

Compound with highest score:

LEAD

Hazardous Waste Quantity

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

UNKNOWN

Basis of estimating and/or computing waste quantity:

NA

* * *

5 TARGETS

Surface Water Use

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

THIS SECTION OF THE BUFFALO RIVER IS RATED AS CLASS D. THESE WATERS ARE SUITABLE FOR SECONDARY CONTACT RECREATION AND WILL NOT SUPPORT THE PROPAGATION OF FISH. (REF 10)

Is there tidal influence?

NO

Distance to a Sensitive Environment

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

NA

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

NA

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

NA

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:

NO INTAKES WITHIN 3 MILES

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

NA

Total population served:

NA

Name/description of nearest of above water bodies:

NA

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

NA

AIR ROUTE

1 OBSERVED RELEASE

Contaminants detected:

NO RECORDS OF INCIDENTS OR POTENTIAL
FOR AIR CONTAMINATION

Date and location of detection of contaminants

Methods used to detect the contaminants:

Rationale for attributing the contaminants to the site:

* * *

2 WASTE CHARACTERISTICS

Reactivity and Incompatibility

Most reactive compound:

Most incompatible pair of compounds:

Toxicity

Most toxic compound:

Hazardous Waste Quantity

Total quantity of hazardous waste:

Basis of estimating and/or computing waste quantity:

* * *

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

Distance to a Sensitive Environment

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

NA

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

NA

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

NA

Land Use

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

SITE IS LOCATED IN AN URBAN, INDUSTRIAL AREA

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

NA

Distance to residential area, if 2 miles or less:

1300 FEET

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

NA


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

NA

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

NO

3.2 EPA Preliminary Assessment (Form 2070-12)

 <p style="text-align: center;">POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT PART 1 - SITE INFORMATION AND ASSESSMENT</p>		<p>I. IDENTIFICATION</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">01 STATE</td> <td style="width: 50%;">02 SITE NUMBER</td> </tr> </table>		01 STATE	02 SITE NUMBER
01 STATE	02 SITE NUMBER				
II. SITE NAME AND LOCATION					
01 SITE NAME (Legal, common or descriptive name of site) MOBIL OIL CORPORATION		02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER 635 ELK ST			
03 CITY BUFFALO	04 STATE NY	05 ZIP CODE 14240	06 COUNTY ERIE		
09 COORDINATES LATITUDE		LONGITUDE			
10 DIRECTIONS TO SITE (Starting from nearest public road) I-190 SOUTH TO SENECA STREET EXIT, RIGHT AT YIELD SIGN TO 635 ELK					
III. RESPONSIBLE PARTIES					
01 OWNER (if known) MOBIL OIL		02 STREET (business, making residential) 635 ELK ST			
03 CITY BUFFALO	04 STATE NY	05 ZIP CODE 14240	06 TELEPHONE NUMBER (716) 827-5244		
07 OPERATOR (if known and different from owner)		08 STREET (business, making residential)			
09 CITY		10 STATE	11 ZIP CODE		
12 TELEPHONE NUMBER ()					
13 TYPE OF OWNERSHIP (Check one)					
<input checked="" type="checkbox"/> A. PRIVATE <input type="checkbox"/> B. FEDERAL: _____ (Agency name) <input type="checkbox"/> C. STATE <input type="checkbox"/> D. COUNTY <input type="checkbox"/> E. MUNICIPAL <input type="checkbox"/> F. OTHER: _____ (Specify) <input type="checkbox"/> G. UNKNOWN					
14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)					
<input type="checkbox"/> A. RCRA 3001 DATE RECEIVED: ____/____/____ MONTH DAY YEAR <input type="checkbox"/> B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: ____/____/____ MONTH DAY YEAR <input type="checkbox"/> C. NONE					
IV. CHARACTERIZATION OF POTENTIAL HAZARD					
01 ON SITE INSPECTION BY (Check all that apply)					
<input type="checkbox"/> YES DATE ____/____/____ MONTH DAY YEAR <input type="checkbox"/> A. EPA <input type="checkbox"/> B. EPA CONTRACTOR <input type="checkbox"/> C. STATE <input type="checkbox"/> D. OTHER CONTRACTOR <input type="checkbox"/> NO <input type="checkbox"/> E. LOCAL HEALTH OFFICIAL <input type="checkbox"/> F. OTHER: _____ (Specify)					
CONTRACTOR NAME(S): _____					
02 SITE STATUS (Check one)		03 YEARS OF OPERATION			
<input type="checkbox"/> A. ACTIVE <input checked="" type="checkbox"/> B. INACTIVE <input type="checkbox"/> C. UNKNOWN		BEGINNING YEAR ENDING YEAR _____ 1976 <input type="checkbox"/> UNKNOWN			
04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED					
05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION					
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)					
<input type="checkbox"/> A. HIGH (inspection required promptly) <input type="checkbox"/> B. MEDIUM (inspection required) <input type="checkbox"/> C. LOW (inspect on time available basis) <input type="checkbox"/> D. NONE (no further action needed, complete current disposition form)					
VI. INFORMATION AVAILABLE FROM					
01 CONTACT RICHARD L. CROUCH		02 OF (Agency/Organization) RCRA RESEARCH INC			
03 TELEPHONE NUMBER (716) 838-6200					
04 PERSON RESPONSIBLE FOR ASSESSMENT DAANE M. WERNEIWSKI		05 AGENCY RCRA			
06 ORGANIZATION		07 TELEPHONE NUMBER ()			
08 DATE 08 30 83		MONTH DAY YEAR			



POTENTIAL HAZARDOUS WASTE SITE
 PRELIMINARY ASSESSMENT
 PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE | 02 SITE NUMBER

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 _____
 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			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

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

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION

V. FEEDSTOCKS (See Appendix for CAS Numbers)

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

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



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS

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

POTENTIAL FOR GROUNDWATER CONTAMINATION IS PRESENT. SOIL SAMPLES ANALYZED INDICATE HIGH LEVELS OF LEAD, CYCLOHEXANE + SEVERAL ALIPHATIC HYDROCARBONS. HOWEVER, ENTIRE AREA IS SERVICED BY MUNICIPAL WATER, THEREFORE NOT DIRECTLY AFFECTED.

01 B SURFACE WATER CONTAMINATION
02 OBSERVED (DATE _____) POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 710,000 04 NARRATIVE DESCRIPTION

DUE TO THE PROXIMITY OF THE SITE TO THE BUFFALO RIVER & CAZENOVIA CREEK CONTAMINANTS IN THE SOIL HAVE THE POTENTIAL TO LEACH INTO SURROUNDING SURFACE WATERS

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

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

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

01 F. CONTAMINATION OF SOIL
02 OBSERVED (DATE 8-29-83) POTENTIAL ALLEGED
03 AREA POTENTIALLY AFFECTED: _____ (Acres) 04 NARRATIVE DESCRIPTION

SAMPLES COLLECTED BY USGS INDICATE HIGH LEVELS OF LEAD, CYCLOHEXANE AND SEVERAL ALIPHATIC HYDROCARBONS

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

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



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

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS *(continued)*

01 J. DAMAGE TO FLORA
04 NARRATIVE DESCRIPTION

02 OBSERVED (DATE: _____) POTENTIAL ALLEGED

01 K. DAMAGE TO FAUNA
04 NARRATIVE DESCRIPTION *(include names) of species*

02 OBSERVED (DATE: _____) POTENTIAL ALLEGED

01 L. CONTAMINATION OF FOOD CHAIN
04 NARRATIVE DESCRIPTION

02 OBSERVED (DATE: _____) POTENTIAL ALLEGED

01 M. UNSTABLE CONTAINMENT OF WASTES
(Spills/runoff/standing liquids/leaking drums)
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

02 OBSERVED (DATE: _____) POTENTIAL ALLEGED

01 N. DAMAGE TO OFFSITE PROPERTY
04 NARRATIVE DESCRIPTION

02 OBSERVED (DATE: _____) POTENTIAL ALLEGED

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

02 OBSERVED (DATE: _____) POTENTIAL ALLEGED

01 P. ILLEGAL/UNAUTHORIZED DUMPING
04 NARRATIVE DESCRIPTION

02 OBSERVED (DATE: 8-29-89) POTENTIAL ALLEGED

Evidence of recent dumping of household refuse (rugs, building debris) observed on site.

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

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

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

3.3 EPA Site Inspection Report (Form 2070-13)

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 1 - SITE LOCATION AND INSPECTION INFORMATION				I. IDENTIFICATION	
				01 STATE	02 SITE NUMBER
II. SITE NAME AND LOCATION					
01 SITE NAME (Legal common or descriptive name of site) MOBIL OIL CORP			02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER 635 ELK ST		
03 CITY BUFFALO		04 STATE NY	05 ZIP CODE 14240	06 COUNTY ERIE	07 COUNTY CODE
09 COORDINATES LATITUDE 47° 57' 20.0 LONGITUDE -18° 49' 30.0		10 TYPE OF OWNERSHIP (Check one) <input type="checkbox"/> A. PRIVATE <input type="checkbox"/> B. FEDERAL <input type="checkbox"/> C. STATE <input type="checkbox"/> D. COUNTY <input type="checkbox"/> E. MUNICIPAL <input type="checkbox"/> F. OTHER			
III. INSPECTION INFORMATION					
01 DATE OF INSPECTION 08.29.83 <small>MONTH DAY YEAR</small>		02 SITE STATUS <input type="checkbox"/> ACTIVE <input checked="" type="checkbox"/> INACTIVE		03 YEARS OF OPERATION 1976 <small>BEGINNING YEAR ENDING YEAR</small> UNKNOWN	
04 AGENCY PERFORMING INSPECTION (Check all that apply)					
<input type="checkbox"/> A. EPA		<input type="checkbox"/> B. EPA CONTRACTOR		<input type="checkbox"/> C. MUNICIPAL	
<input type="checkbox"/> E. STATE		<input type="checkbox"/> F. STATE CONTRACTOR		<input type="checkbox"/> D. MUNICIPAL CONTRACTOR	
				<input type="checkbox"/> G. OTHER	
05 CHIEF INSPECTOR DIANE M. WERNEWSKI		06 TITLE GEOLOGIST		07 ORGANIZATION Recre Research Inc	
09 OTHER INSPECTORS MARY PAT BOCK		10 TITLE GEOLOGIST		08 TELEPHONE NO. (716) 838-6200	
				11 ORGANIZATION "	
				12 TELEPHONE NO. ()	
				()	
				()	
				()	
				()	
				()	
13 SITE REPRESENTATIVES INTERVIEWED		14 TITLE		15 ADDRESS	
17 ACCESS GAINED BY (Check one) <input type="checkbox"/> PERMISSION <input type="checkbox"/> WARRANT		18 TIME OF INSPECTION 10:00 AM		19 WEATHER CONDITIONS Sunny, warm	
IV. INFORMATION AVAILABLE FROM					
01 CONTACT RICHARD L. CROUCH		02 OF (Agency Organization) RECRA RESEARCH, INC			03 TELEPHONE NO. (716) 838-6200
04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM DIANE M. WERNEWSKI		05 AGENCY RECRA	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE 08.30.83 <small>MONTH DAY YEAR</small>



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

I. IDENTIFICATION
01 STATE 02 SITE NUMBER

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)
02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)
03 WASTE CHARACTERISTICS (Check all that apply)

III. WASTE TYPE

Table with 5 columns: CATEGORY, SUBSTANCE NAME, 01 GROSS AMOUNT, 02 UNIT OF MEASURE, 03 COMMENTS. Rows include SLU (SLUDGE), OLW (OILY WASTE), SOL (SOLVENTS), PSD (PESTICIDES), OCC (OTHER ORGANIC CHEMICALS), IOC (INORGANIC CHEMICALS), ACD (ACIDS), BAS (BASES), MES (HEAVY METALS).

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

Table with 6 columns: 01 CATEGORY, 02 SUBSTANCE NAME, 03 CAS NUMBER, 04 STORAGE/DISPOSAL METHOD, 05 CONCENTRATION, 06 MEASURE OF CONCENTRATION.

V. FEEDSTOCKS (See Appendix for CAS Numbers)

Table with 6 columns: CATEGORY, 01 FEEDSTOCK NAME, 02 CAS NUMBER, CATEGORY, 01 FEEDSTOCK NAME, 02 CAS NUMBER. Rows are pre-filled with 'FDS'.

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

Large empty box for providing sources of information.



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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 <input type="checkbox"/> A. GROUNDWATER CONTAMINATION 03 POPULATION POTENTIALLY AFFECTED: <u>710,000</u>	02 <input type="checkbox"/> OBSERVED (DATE: _____) <input checked="" type="checkbox"/> POTENTIAL <input type="checkbox"/> ALLEGED 04 NARRATIVE DESCRIPTION <i>Potential for groundwater contamination is present. Soil samples analyzed indicate elevated levels of several contaminants. However, the entire area is serviced by municipal water, therefore not directly affected.</i>
01 <input type="checkbox"/> B. SURFACE WATER CONTAMINATION 03 POPULATION POTENTIALLY AFFECTED: <u>710,000</u>	02 <input type="checkbox"/> OBSERVED (DATE: _____) <input checked="" type="checkbox"/> POTENTIAL <input type="checkbox"/> ALLEGED 04 NARRATIVE DESCRIPTION <i>Due to the proximity of the site to the BUFFALO RIVER AND CAZEJOVIA CREEK - CONTAMINANTS IN SOIL HAVE THE POTENTIAL TO LEACH INTO SURROUNDING SURFACE WATERS.</i>
01 <input type="checkbox"/> C. CONTAMINATION OF AIR 03 POPULATION POTENTIALLY AFFECTED: _____	02 <input type="checkbox"/> OBSERVED (DATE: _____) <input type="checkbox"/> POTENTIAL <input type="checkbox"/> ALLEGED 04 NARRATIVE DESCRIPTION
01 <input type="checkbox"/> D. FIRE/EXPLOSIVE CONDITIONS 03 POPULATION POTENTIALLY AFFECTED: _____	02 <input type="checkbox"/> OBSERVED (DATE: _____) <input type="checkbox"/> POTENTIAL <input type="checkbox"/> ALLEGED 04 NARRATIVE DESCRIPTION
01 <input type="checkbox"/> E. DIRECT CONTACT 03 POPULATION POTENTIALLY AFFECTED: _____	02 <input type="checkbox"/> OBSERVED (DATE: _____) <input type="checkbox"/> POTENTIAL <input type="checkbox"/> ALLEGED 04 NARRATIVE DESCRIPTION
01 <input type="checkbox"/> F. CONTAMINATION OF SOIL 03 AREA POTENTIALLY AFFECTED: _____ <small>(Acres)</small>	02 <input checked="" type="checkbox"/> OBSERVED (DATE: <u>5/83</u>) <input type="checkbox"/> POTENTIAL <input type="checkbox"/> ALLEGED 04 NARRATIVE DESCRIPTION <i>SAMPLES COLLECTED BY USGS SHOW ELEVATED LEVELS OF LEAD, CYCLOHEXANE AND SEVERAL ALIPHATIC HYDROCARBONS.</i>
01 <input type="checkbox"/> G. DRINKING WATER CONTAMINATION 03 POPULATION POTENTIALLY AFFECTED: _____	02 <input type="checkbox"/> OBSERVED (DATE: _____) <input type="checkbox"/> POTENTIAL <input type="checkbox"/> ALLEGED 04 NARRATIVE DESCRIPTION
01 <input type="checkbox"/> H. WORKER EXPOSURE/INJURY 03 WORKERS POTENTIALLY AFFECTED: _____	02 <input type="checkbox"/> OBSERVED (DATE: _____) <input type="checkbox"/> POTENTIAL <input type="checkbox"/> ALLEGED 04 NARRATIVE DESCRIPTION
01 <input type="checkbox"/> I. POPULATION EXPOSURE/INJURY 03 POPULATION POTENTIALLY AFFECTED: _____	02 <input type="checkbox"/> OBSERVED (DATE: _____) <input type="checkbox"/> POTENTIAL <input type="checkbox"/> ALLEGED 04 NARRATIVE DESCRIPTION



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

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 J. DAMAGE TO FLORA
04 NARRATIVE DESCRIPTION

02 OBSERVED (DATE: _____) POTENTIAL ALLEGED

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

02 OBSERVED (DATE: _____) POTENTIAL ALLEGED

01 L. CONTAMINATION OF FOOD CHAIN
04 NARRATIVE DESCRIPTION

02 OBSERVED (DATE: _____) POTENTIAL ALLEGED

01 M. UNSTABLE CONTAINMENT OF WASTES
(Spills/Runoff/Standing liquids/Leaking drums)

02 OBSERVED (DATE: _____) POTENTIAL ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 N. DAMAGE TO OFFSITE PROPERTY
04 NARRATIVE DESCRIPTION

02 OBSERVED (DATE: _____) POTENTIAL ALLEGED

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

02 OBSERVED (DATE: _____) POTENTIAL ALLEGED

01 P. ILLEGAL/UNAUTHORIZED DUMPING
04 NARRATIVE DESCRIPTION

02 OBSERVED (DATE: 8-29-03) POTENTIAL ALLEGED

SEVERAL AREAS WERE LOCATED WHERE ILLEGAL DUMPING HAD OCCURRED
GENERALLY CONSISTING OF OLD FURNITURE, BUILDING DEBRIS AND MUNICIPAL REFUSE

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

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

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



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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. PERMIT INFORMATION

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

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL <i>(Check all that apply)</i>	02 AMOUNT	03 UNIT OF MEASURE	04 TREATMENT <i>(Check all that apply)</i>	05 OTHER
<input type="checkbox"/> A. SURFACE IMPOUNDMENT <input type="checkbox"/> B. PILES <input type="checkbox"/> C. DRUMS, ABOVE GROUND <input type="checkbox"/> D. TANK, ABOVE GROUND <input type="checkbox"/> E. TANK, BELOW GROUND <input checked="" type="checkbox"/> F. LANDFILL <input type="checkbox"/> G. LANDFARM <input type="checkbox"/> H. OPEN DUMP <input type="checkbox"/> I. OTHER <i>(Specify)</i>	_____	_____	<input type="checkbox"/> A. INCENERATION <input type="checkbox"/> B. UNDERGROUND INJECTION <input type="checkbox"/> C. CHEMICAL/PHYSICAL <input type="checkbox"/> D. BIOLOGICAL <input type="checkbox"/> E. WASTE OIL PROCESSING <input type="checkbox"/> F. SOLVENT RECOVERY <input type="checkbox"/> G. OTHER RECYCLING/RECOVERY <input type="checkbox"/> H. OTHER <i>(Specify)</i>	<input type="checkbox"/> A. BUILDINGS ON SITE 06 AREA OF SITE _____ <i>(Acres)</i>

07 COMMENTS

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.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: YES NO

02 COMMENTS

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



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

I. IDENTIFICATION

01 STATE _____ 02 SITE NUMBER _____

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY
(Check as applicable)

SURFACE WELL
 COMMUNITY A. B.
 NON-COMMUNITY C. D.

02 STATUS

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

03 DISTANCE TO SITE

A. _____ (mi)
 B. _____ (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY *(Check one)*

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

02 POPULATION SERVED BY GROUND WATER 0

03 DISTANCE TO NEAREST DRINKING WATER WELL _____ (mi)

04 DEPTH TO GROUNDWATER

05 DIRECTION OF GROUNDWATER FLOW

06 DEPTH TO AQUIFER OF CONCERN _____ (ft)

07 POTENTIAL YIELD OF AQUIFER _____ (gpd)

08 SOLE SOURCE AQUIFER
 YES NO

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

10 RECHARGE AREA

YES COMMENTS
 NO

11 DISCHARGE AREA

YES COMMENTS
 NO

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
_____	<input type="checkbox"/>	_____ (mi)
_____	<input type="checkbox"/>	_____ (mi)
_____	<input type="checkbox"/>	_____ (mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE TWO (2) MILES OF SITE THREE (3) MILES OF SITE
 A. 710,000 B. _____ C. _____
 NO. OF PERSONS NO. OF PERSONS NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION

_____ (mi)

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

04 DISTANCE TO NEAREST OFF-SITE BUILDING

_____ (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)*



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

I. IDENTIFICATION
01 STATE 02 SITE NUMBER

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

_____ (ft)

04 DEPTH OF CONTAMINATED SOIL ZONE

_____ (ft)

05 SOIL pH

06 NET PRECIPITATION

_____ (in)

07 ONE YEAR 24 HOUR RAINFALL

_____ (in)

08 SLOPE

SITE SLOPE _____ %

DIRECTION OF SITE SLOPE _____

TERRAIN AVERAGE SLOPE _____ %

09 FLOOD POTENTIAL

SITE IS IN 100 YEAR FLOODPLAIN

10

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

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE

A. _____ (mi)

OTHER

B. _____ (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

_____ (mi)

ENDANGERED SPECIES: _____

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL

A. 2.1 (mi)

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

B. 2.2 (mi)

AGRICULTURAL LANDS
PRIME AG LAND AG LAND

C. _____ (mi) D. _____ (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

NATURAL SOILS WERE NEVER OBSERVED ON SITE. AREA HAS BEEN COMPLETED FILLED WITH INDUSTRIAL FILL.
TOPOGRAPHY IS FLAT
THE STUDY AREA WAS AT ONE TIME A MEANDER OF THE BUFFALO RIVER

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



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

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER			
SURFACE WATER			
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL	4	U.S. GEOLOGICAL SURVEY	
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS

IV. PHOTOGRAPHS AND MAPS

01 TYPE GROUND AERIAL

02 IN CUSTODY OF _____
(Name of organization or individual)

03 MAPS YES NO

04 LOCATION OF MAPS _____

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

Blank area for narrative description of other field data collected.

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

Blank area for sources of information.



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

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

II. CURRENT OWNER(S)

PARENT COMPANY (if applicable)

01 NAME MOBIL OIL CORPORATION	02 D+B NUMBER	08 NAME	09 D+B NUMBER		
03 STREET ADDRESS (P.O. Box, RFD #, etc.) 635 ELY ST.	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE		
05 CITY BUFFALO	06 STATE NY	07 ZIP CODE 14240	12 CITY	13 STATE	14 ZIP CODE

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER		
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE		
05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER		
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE		
05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER		
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE		
05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE

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

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

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER		
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE		
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER		
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE		
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER		
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE		
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

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



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

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

II. CURRENT OPERATOR <i>(Provide # different from owner)</i>					OPERATOR'S PARENT COMPANY <i>(If applicable)</i>				
01 NAME			02 D+B NUMBER		10 NAME			11 D+B NUMBER	
03 STREET ADDRESS <i>(P.O. Box, RFD #, etc.)</i>				04 SIC CODE	12 STREET ADDRESS <i>(P.O. Box, RFD #, etc.)</i>				13 SIC CODE
05 CITY		06 STATE	07 ZIP CODE		14 CITY		15 STATE	16 ZIP CODE	
08 YEARS OF OPERATION		09 NAME OF OWNER							
III. PREVIOUS OPERATOR(S) <i>(List most recent first; provide only # different from owner)</i>					PREVIOUS OPERATORS' PARENT COMPANIES <i>(If applicable)</i>				
01 NAME			02 D+B NUMBER		10 NAME			11 D+B NUMBER	
03 STREET ADDRESS <i>(P.O. Box, RFD #, etc.)</i>				04 SIC CODE	12 STREET ADDRESS <i>(P.O. Box, RFD #, etc.)</i>				13 SIC CODE
05 CITY		06 STATE	07 ZIP CODE		14 CITY		15 STATE	16 ZIP CODE	
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD							
01 NAME			02 D+B NUMBER		10 NAME			11 D+B NUMBER	
03 STREET ADDRESS <i>(P.O. Box, RFD #, etc.)</i>				04 SIC CODE	12 STREET ADDRESS <i>(P.O. Box, RFD #, etc.)</i>				13 SIC CODE
05 CITY		06 STATE	07 ZIP CODE		14 CITY		15 STATE	16 ZIP CODE	
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD							
01 NAME			02 D+B NUMBER		10 NAME			11 D+B NUMBER	
03 STREET ADDRESS <i>(P.O. Box, RFD #, etc.)</i>				04 SIC CODE	12 STREET ADDRESS <i>(P.O. Box, RFD #, etc.)</i>				13 SIC CODE
05 CITY		06 STATE	07 ZIP CODE		14 CITY		15 STATE	16 ZIP CODE	
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD							

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



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

I. IDENTIFICATION
01 STATE 02 SITE NUMBER

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER	
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		
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE		
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER		
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE		
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER		
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE		
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER		
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE		
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

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



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

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

II. PAST RESPONSE ACTIVITIES

01 A. WATER SUPPLY CLOSED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 B. TEMPORARY WATER SUPPLY PROVIDED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 C. PERMANENT WATER SUPPLY PROVIDED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 D. SPILLED MATERIAL REMOVED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 E. CONTAMINATED SOIL REMOVED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 F. WASTE REPACKAGED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 G. WASTE DISPOSED ELSEWHERE
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 H. ON SITE BURIAL
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 I. IN SITU CHEMICAL TREATMENT
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 J. IN SITU BIOLOGICAL TREATMENT
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 K. IN SITU PHYSICAL TREATMENT
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 L. ENCAPSULATION
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 M. EMERGENCY WASTE TREATMENT
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 N. CUTOFF WALLS
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 O. EMERGENCY DIKING/SURFACE WATER DIVERSION
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 P. CUTOFF TRENCHES/SUMP
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 Q. SUBSURFACE CUTOFF WALL
04 DESCRIPTION

02 DATE _____

03 AGENCY _____



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

L IDENTIFICATION
01 STATE | 02 SITE NUMBER

II PAST RESPONSE ACTIVITIES (Continued)

01 R. BARRIER WALLS CONSTRUCTED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 S. CAPPING/COVERING
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 T. BULK TANKAGE REPAIRED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 U. GROUT CURTAIN CONSTRUCTED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 V. BOTTOM SEALED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 W. GAS CONTROL
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 X. FIRE CONTROL
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 Y. LEACHATE TREATMENT
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 Z. AREA EVACUATED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 1. ACCESS TO SITE RESTRICTED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 2. POPULATION RELOCATED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 3. OTHER REMEDIAL ACTIVITIES
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

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



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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
----------	----------------

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)*

4.0 Site History

The Mobil Oil Corporation, located on Elk Street in Buffalo, New York, began oil refining operations in 1951. Prior to Mobil's acquisition of the seventy-seven (77) acre site, the property was used for various oil refining processes by several companies.

From 1951 to 1976, Mobil Oil Corporation used a three (3) acre swale area located on the facility property along the Buffalo River bank for the disposal of waste materials. These waste materials included: construction debris, tank sediments, cracking and reforming catalysts, sewer sediment, caustic sludges and general refuse. The swale area was created as a result of redirecting the Buffalo River in 1920. Previous to Mobil's usage of the site for disposal, the City of Buffalo partially filled in the area with an undetermined amount of municipal refuse.

In 1981, Mobil Oil Corporation shut down its refining operation at the Buffalo Plant; however, several tanks are still utilized for the storage of crude oil.

A sampling and analytical program of on-site soils was conducted by the U.S. Geological Survey in May 1983. The analytical results revealed the presence of such contaminants as lead and various moderately toxic aliphatic hydrocarbons.

5.0 Site Data

5.1 Site Area Surface Features

5.1.1 Topography and Drainage - The surrounding topography in the vicinity of Mobil Oil can be generally characterized as flat. The disposal area was originally a meander of the Buffalo River which was redirected in the 1920's. Slope of the Mobil Oil site is close to 0% as determined from the U.S.G.S. Buffalo Southeast quadrangle (Reference 9). Drainage is assumed to be in a southerly direction towards the Buffalo River which is a class "D" water resource (Reference 10).

5.1.2 Environmental Setting - Mobil Oil is located in an urban/industrial district of the City of Buffalo with a densely populated residential area located within one-quarter mile of the site. The site lies within the 100-year floodplain zone of the Buffalo River as designated by the Federal Emergency Management Agency (Reference 11). The Times Beach protected wetland is located approximately two and one-half miles downstream (Reference 9). There are no endangered species or wildlife refuges in the area. The Buffalo River and Cazenovia Creek are the only surface waters in the area.

5.2 Site Hydrogeology

5.2.1 Geology - Bedrock underlying the Mobil Oil site is the Marcellus Formation of the Hamilton Group. In Erie County, this formation is represented by the Oatka Creek Shale Member. In the immediate site area, Oatka Creek Shale is encountered twenty (20) to fifty (50) feet below the ground surface. This unit is characterized as a dense, black fissile shale with a petroliferous odor and some gray shale interbedded. Overall thickness of the Oatka Creek Shale is thirty (30) to fifty-five (55) feet. Regional dip of the bedrock is to the south at approximately 0.5° (Reference 7).

5.2.2 Soils - The surficial soils of Mobil Oil are completely covered with fill material to an undetermined depth. The U.S. Department of Agriculture Soil Conservation Service classifies the Mobil Oil overburden material as the Teel-Middlebury Unit. These soils are formed in recent alluvial deposits consisting mostly of silts. Characteristically, both soils are nearly level and moderately well drained to somewhat poorly drained. The high water table is probably influenced by the seasonal water level of the Buffalo River. Permeability of these soils is considered moderate. Commonly, these soils are associated with floodplains, valleys and lowlands (Reference 6). U.S.G.S. test borings profile the specific on-site soils as: fill, gravel and fine to medium sand 0-1.5 feet; dark gray-green sand

11.5-16.5 feet (Reference 5).

5.2.3 Groundwater - Groundwater wells are not frequently used in the area around Mobil Oil except for industrial purposes. Well depths average approximately 130 feet and draw from the Onondaga Limestone and Camillus Shale aquifers. Yield of wells in these units range from 30 to 300 gpm; however, high hydrogen sulfide content limits usage (Reference 8). Groundwater flow is in a southerly direction towards the Buffalo River (Reference 7). The seasonal high groundwater table is reported to be at approximately three (3) feet below ground surface. This water table fluctuates with the influence of the water level in adjacent surface waters.

5.3 Previous Sampling and Analysis

5.3.1 Groundwater Quality Data - No sampling of this nature was performed.

5.3.2 Surface Water Quality Data - No sampling of this nature was performed.

5.3.3 Air Quality Data - No sampling of this nature was performed.

5.3.4 Other Analytical Data - Soil samples were collected by the U.S. Geological Survey in 1982 and 1983. Analyses have indicated detectable levels of iron, lead, cyclohexane and aliphatic

hydrocarbons. Complete analytical results are presented in the following pages.

Table ---Analyses of substrate samples from Mobil Oil, Buffalo, N.Y.
 (Locations shown in fig. . Concentrations are in ug/Kg; dashes indicate
 that constituent or compound was not found, LT indicates it was found but
 below the quantifiable detection limit.)

DRAFT

Sample number and depth below land surface (ft)

	1	2	3	4
First sampling (06-06-82)	8.0	6.0	9.0	6.5

Inorganic Constituents

Iron	150,000	110,000	3,500,000	72,000
Lead	--	30,000	920,000*	--

Sample Number

	1A	2A	3A	4A
Second sampling (05-20-83)				

Organic Compounds

Priority pollutants

Methylene chloride	790	300	--	--
Eethylbenzene	--	95	--	--
Fluorotrichloromethane	--	47	--	--
Toluene	--	13	--	11
Aldrin	--	--	--	LT
a-BHC-hexachlorocyclohexane	--	LT	--	--
Fluoranthene	1,500	38,000	--	1,100
Benzo(a)anthracene	1,000	15,000	--	520
Benzo(a)pyrene	1,000	15,000	--	520
Benzo(b)fluoranthene	LT	LT	--	--
Benzo(k)fluoranthene	LT	15,000	--	--
Phenanthrene	1,000	46,000	--	730
Pyrene	LT	31,000	--	930
Chrysene	1,000	15,000	--	730
Naphthalene	--	LT	--	--
Acenaphthalene	--	15,000	--	--
Anthracene	--	11,000	--	--
Benzo(ghi)perylene	--	LT	--	--
Fluorene	--	11,000	--	--

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

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

Table --Analyses of substrate samples from Mobil Oil, Buffalo, N.Y.
 (Locations shown in fig. . Concentrations are in $\mu\text{g}/\text{Kg}$; dashes indicate
 that constituent or compound was not found, LT indicates it was found but
 below the quantifiable detection limit.)-continued

DRAFT

	Sample Number			
Second sampling (05-20-83)	1A	2A	3A	4A
<u>Organic Compounds (continued)</u>				
Nonpriority pollutants				
2-Methylnaphthalene	--	LT	--	--
Carbondisulfide	--	LT	--	--
2-Methylbutane ¹	--	45,000	--	--
Cyclohexane ¹	--	100,000	--	--
Benzo(k)fluoranthene	--	--	--	600,000
Methylcyclohexane ¹	--	550,000	--	--
1,2-Dimethyl, cis-cyclohexane ¹	--	360,000	--	--
3-Hepten-2-one ¹	--	80,000	--	--
1-Methylpyrene ¹	--	--	--	600,000
Possibly naturally occurring compound				
Hydrocarbons ¹	--	870,000	--	--

6.0 Adequacy of Available Data

In compiling the hazardous ranking score for the Mobil Oil disposal area, the site was found to have a migration potential (S_m) of 1.8. However, due to the data inadequacies, a certain degree of subjectivity was involved in scoring; therefore, a range for migration potential was developed. For the Mobil Oil Disposal Site, this range was found to be 1.8 to 2.0. The data inadequacies are as follows:

- o Lack of analytical data regarding groundwater and surface water quality.
- o Lack of records regarding quantity of waste disposed.
- o Insufficient data regarding the lateral and vertical extent of the fill material.
- o Insufficient data regarding hydrogeological and geological features for the site area.
- o No air quality data.

7.0 PROPOSED PHASE II WORK PLAN

7.1 Objectives

As per the inadequacies of the data base that were itemized in the preceding section, a work plan has been developed which, to the extent practical, will provide the information required to address the following:

- o Potential environmental effects of the landfill.
- o The extent and magnitude of contamination, based on site specific hydrogeologic conditions.
- o The data inputs necessary to effectuate the development and recommendation of cost effective remedial actions.

Detailed descriptions of the elements of this work plan are herein provided.

7.2 Scope of Work

The primary purpose of this work element is to fill the data gaps identified in the preliminary assessment so as to permit a complete site characterization/ranking (HRS) and engineering evaluation of remedial alternatives. The preliminary field investigation includes the following items:

- o Air Monitoring
- o Geophysical Exploration
- o Subsurface Investigation
- o Monitoring Well Installation
- o Sampling and Analysis

Throughout the investigative effort, field activities will be performed in strict accordance with established safety protocol, presented in Recra Research, Inc.'s Operation Manual - Field and Analytical Services (previously submitted to NYSDEC by Recra as part of a pre-qualifying submission).

7.2.1 Air Monitoring - Prior to implementation of the various field investigative techniques associated with this element, an initial site screening will be conducted using a Century Organic Vapor Analyzer (OVA) and/or an HNU photoionizer. Based upon described site characteristics, Recra team personnel engaged in this activity will enter the site equipped with level 3 respiratory protection. A grid pattern will be established at the site and readings taken and recorded at each grid point. This survey will determine the initial level of protection necessary for workers' safety. In addition, upgradient and downgradient air monitoring stations will be established at both sites.

If the results are indicative of air quality problems, additional testing will be initiated at specified distances away from the site.

During actual field investigative work, ambient and worker air monitoring will be conducted periodically using appropriate instrumentation, such as the photoionizer and/or OVA. When deemed necessary from actual readings, the level of respiratory protection will be adjusted to meet existing conditions. All disposable equipment necessary for worker safety will be placed daily into covered on-site drums provided by Recra, and removed from the site and disposed of either upon reaching full capacity or upon completion of all field work.

7.2.2 Geophysical Exploration - After initial assessment of the ambient air quality at the site, a geophysical program will be performed to determine the limits of the disposal area. It will also aid in determining the possibility and extent of groundwater contamination. The geophysical method proposed is the VLF-EM Terrain Conductivity survey. This method is considered sufficient to define the bedrock surface, the depth of the fill material and any possible contaminant plume on the site.

The VLF-EM Terrain Conductivity survey will be performed by recording continuous conductivity measurements on an EM-31

terrain conductivity meter equipped with a strip chart recorder. These measurements will be taken on a grid pattern established using a tape and level, in the area of the disposal site.

7.2.3 Subsurface Investigation - In order to facilitate additional information concerning possible groundwater contamination, preliminary findings indicate a need for subsurface investigations. This investigation will include:

- A. One (1) exploratory boring north of the fill to determine the nature of the in-situ soil. Permeability tests will be performed on specific horizons of soil at this time. This boring will be located northeast of the site, which is assumed upgradient of groundwater flow, and will be extended to bedrock to determine the specific on-site geology.

- B. Three (3) exploratory borings around the periphery of the site as shown in Figure 3. The first boring will be located northwest of the fill area which is assumed to be upgradient of groundwater flow. The remaining two (2) borings will be located in the southern section of the fill which is assumed to be downgradient of groundwater flow. These borings will be extended to twenty feet below the base of the fill materials.

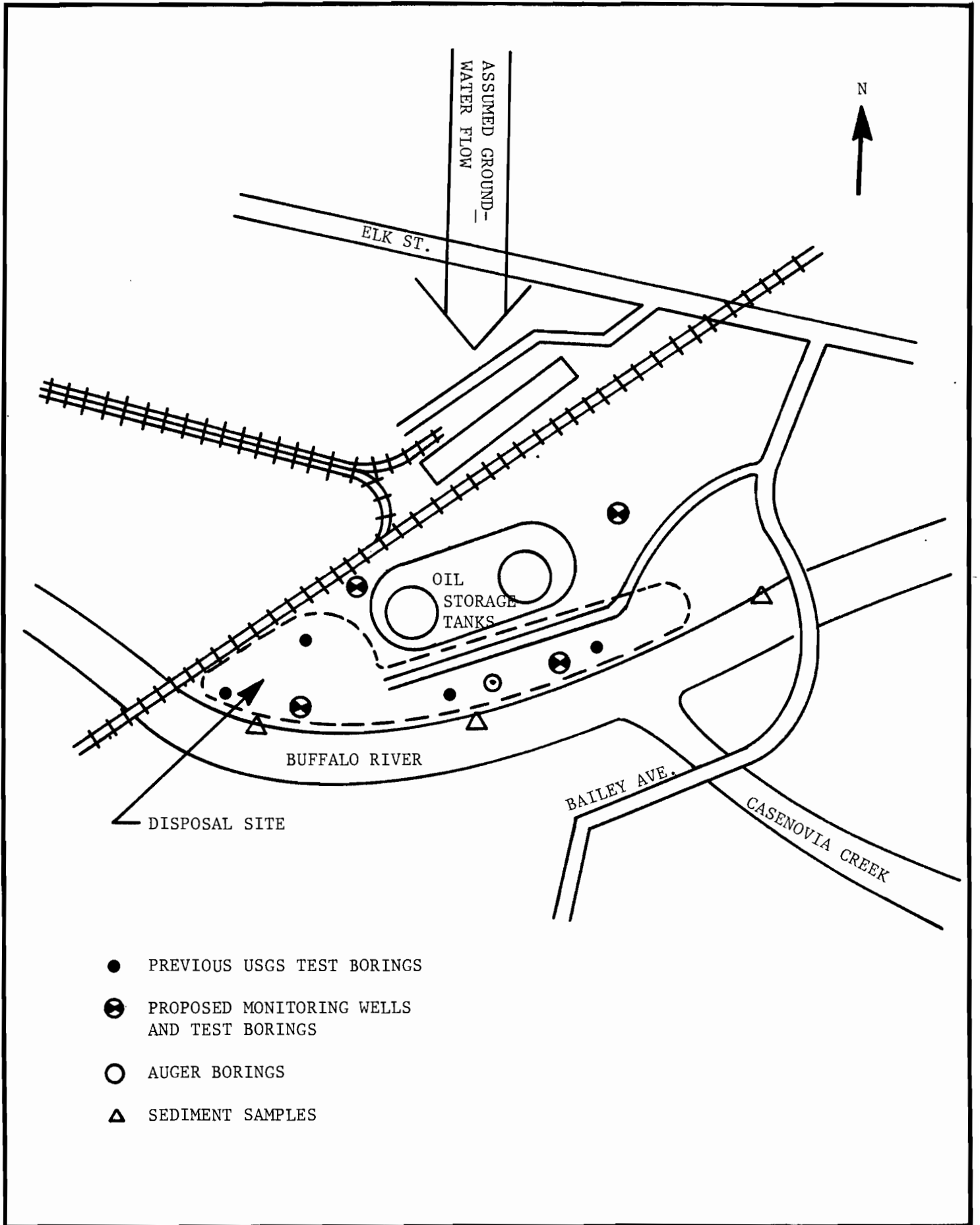
All borings will be completed as groundwater monitoring wells and will be constructed within the first encountered water bearing zone.

C. Three (3) sediment samples from the bank of the Buffalo River on the southern side of the site.

Well and sampling locations are illustrated in Figure 3.

All exploratory borings will be drilled with a truck, trailer, and/or all-terrain-mounted auger rig using hollow stem augers. During construction of the borings, split spoon samples will be continuously obtained in the one (1) boring extended to bedrock. In the other borings, split spoon samples will be obtained at five (5) foot intervals and/or when noticeable changes in lithology or drilling characteristics occur. If the unconsolidated material is found to be extremely heterogeneous, all borings will be continuously sampled. Also, if a confining layer is encountered, Shelby tube samples will be obtained to determine its undisturbed permeability.

The acquired samples will be visually identified in the field following the procedure set forth in ASTM-D-2488, noted appropriately on the boring logs with the sample number and recorded standard penetration test results (ASTM-D-1586), and placed in precleaned, teflon-lined, screw-cap glass jars for



NOT TO SCALE

SAMPLING AND WELL LOCATIONS
MOBIL OIL CORPORATION

FIGURE 3

return to Recra Research, Inc.'s Tonawanda, New York laboratory.

In order to avoid possible cross-contamination during construction of the exploratory borings, the apparent upgradient borings will be completed first; then the downgradient holes will be drilled. Between each boring, the augers will be cleaned with water obtained from a known non-contaminated source. Also, between each split spoon sample, the split spoon will be cleaned with water, acetone and distilled water. All spent water/acetone liquid accumulated during this process will be disposed of in an on-site drum. Upon completion of the boring to bedrock, the boring will be backfilled with cement bentonite grout to the base of the first encountered water level. This procedure will prevent the vertical migration of possible contaminated groundwater from the first encountered water-bearing zone to bedrock. Prior to leaving the site, the drill rig will be decontaminated using high pressure water.

7.2.4 Monitoring Well Installation - The monitoring wells will be constructed of two-inch I.D. cast iron riser pipe with a five-foot long galvanized, wire-wound-wrapped steel screen. The screen will be placed just below the encountered water table. The annulus between the casing/screen and boring well will be properly sand-packed and sealed (cement/bentonite and cement) to the ground surface and the well provided with a locking cap.

A typical monitoring well in unconsolidated material is illustrated in Figure 4.

Upon completion of well construction, all monitoring wells will be properly developed, and all test borings and/or top of well casings will be surveyed to determine their location and elevation above sea level. At that time, variable head tests will be performed on the wells around the site to estimate the in-situ permeability of the screened interval.

All field activity will be under the direct supervision of a qualified geologist and/or hydrogeologist.

7.2.5 Sampling and Analysis - The following procedures will encompass the sampling of groundwater from the newly installed wells, the analysis of samples obtained from these wells, the analysis of selected soil samples from the exploratory borings, as well as the sampling and analysis of surficial waters and sediments. If desired, all samples will be split with the owner of the site. Also, upon completion of the analytical program, the owner will be notified of the results if he so requests. All samples will be analyzed for the parameters listed in Table 1.

7.2.5.1 Groundwater - Following equilibrium of water levels within the installed wells, water elevations will be measured to determine the water table surface. Representative ground-

Figure 4
MONITORING WELL DETAIL
In Unconsolidated Formation

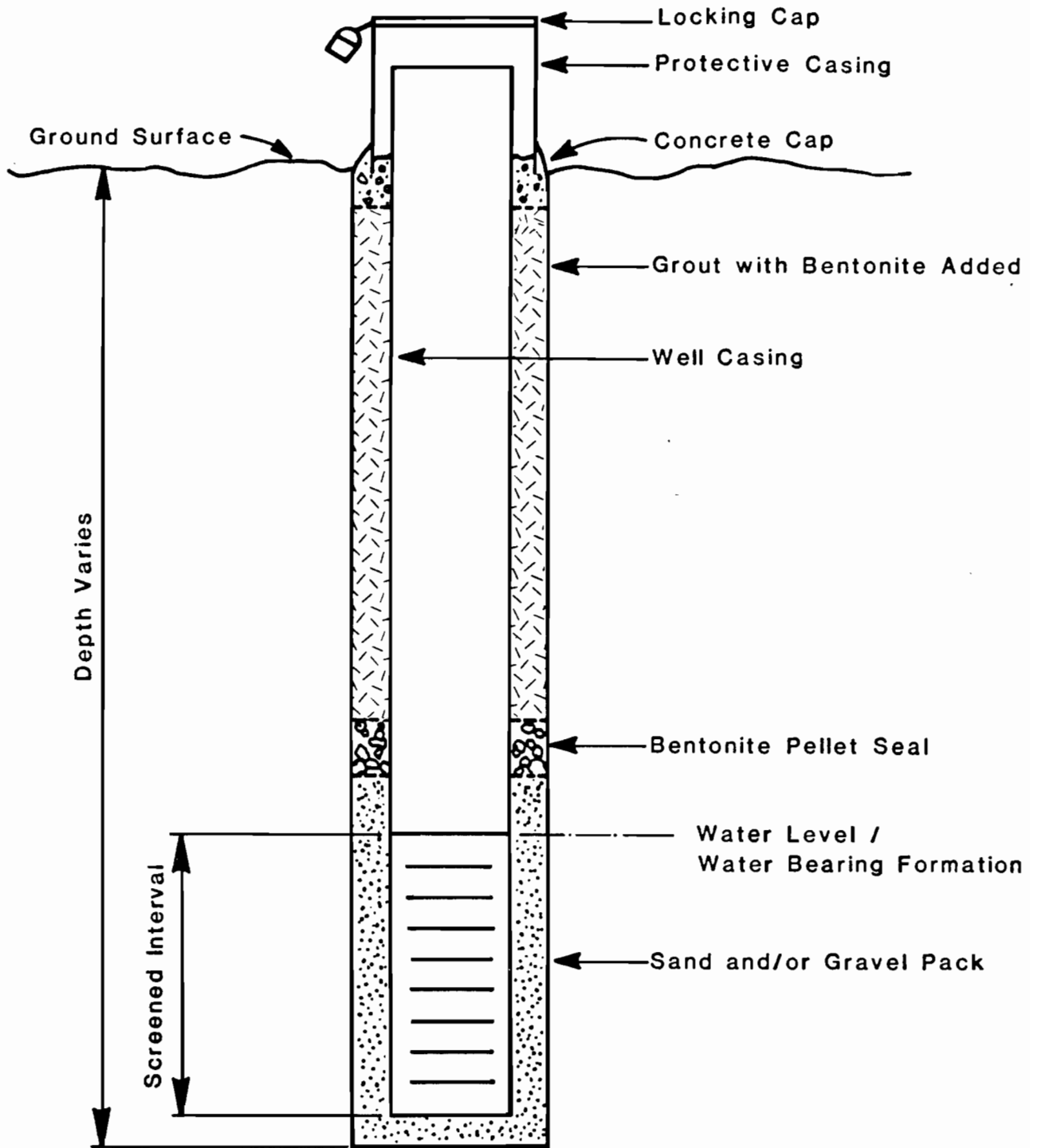


TABLE 1: ANALYTICAL PARAMETERS

Parameters	Surface Water	Groundwater
pH	.	.
Specific Conductance	.	.
Chloride	.	.
Sulfate	.	.
Total Organic Carbon	.	.
Cadmium	.	.
Chromium (Total)	*	o
Chromium (Hexavalent)	*	o
Copper	*	o
Iron	*	o
Lead	*	o
Mercury	*	o
Nickel	*	o
Silver	*	o
Zinc	*	o
Total Recoverable Phenolics	.	.
Oils & Greases	.	.
Toluene	.	.
Volatile Organic Scan (VOS)	.	.
Halogenated Organic Scan (HOS)	.	.
Volatile Halogenated Organic Scan	.	.
Dry Weight	.	.

o = Soluble Metals

* = Total Metals

VOS is a screening procedure to identify the presence or absence of volatile chlorinated organic compounds. Analyses are performed via purge and trap concentration, gas, liquid chromatography and an electrolytic conductivity detector.

HOS is a screening procedure to identify the presence or absence of halogenated organics. Analyses are performed via solvent extraction concentration gas liquid chromatography and an electron capture detector.

water samples will then be collected after the wells have been fully evacuated or a volume of three (3) times the well contents have been removed.

Evacuation of water from the wells and the acquisition of the samples will be accomplished with an ISCO Model 1580 peristaltic pump, using separate low-density polyethylene tubing for each well and changing the silicon rubber tubing within the ISCO between wells. An exception to this procedure will be employed when obtaining the required volume of sample for volatile organic analysis. This will be accomplished using small volume galvanized steel bailers that have been separately designated for each well.

Upon collection of the samples, field pH, temperature and conductivity measurements will be recorded. The samples will be placed in appropriate precleaned bottles/septa vials, labelled, chilled and immediately returned to Recra's Tonawanda, New York laboratory for preservation and analyses of previously listed chemical parameters. If the samples cannot be returned to Recra's laboratory in a timely fashion due to the distance between the site and Recra's laboratory, field preservation will be performed prior to chilling.

7.2.5.2 Soil - Selected subsurface soil samples will undergo both physical and chemical analyses. The remaining samples will be archived by Recra Research, Inc. for a period of six (6) months after completion of the contract.

The physical analysis will aid in the characterization of the underlying unconsolidated material. The physical parameters of concern during this investigation are grain size distribution (ASTM-D-422), Atterberg limits (ASTM-D-423 and 424) and classification (ASTM-D-248). The number of samples to undergo analysis for the above parameters is dependent on the homogeneity of the subsurface conditions underlying the bottom of the uncontrolled landfill. The results from these tests, in conjunction with Standard Penetration Test results, will aid in the design and evaluation of remedial programs.

Chemical analyses of selected samples will be used to characterize attenuation by on-site soils. A sample from the unsaturated zone and a sample from the saturated zone will generally be utilized from each boring.

7.2.5.3 Sediment - This sampling will entail collecting sediments from the bank of the Buffalo River located south of the fill area. Three (3) sediment samples will be taken. General locations of sampling are illustrated in Figure 3.

These sediment samples will be taken using a two (2) foot gravity type sampler. All sediment samples will be placed in precleaned, teflon-lined, screw capped glass jars, labelled, chilled and returned to Recra for analysis. The same procedures as determined for soils will be followed after acquisition of the sediment samples. All samples will be analyzed for the previously listed parameters.

7.2.6 Chemical Analytical Methods - The procedures to be utilized for analysis of water, stream sediment and soil samples during this investigation are in basic accordance with one or more of the following reference texts:

- Methods for Chemical Analysis of Water and Wastes, United States Environmental Protection Agency,
- NIOSH Manual of Analytical Methods, 2nd Edition, United States Department of Health, Education and Welfare,
- Standard Methods for the Examination of Water and Wastewater, 14th Edition, APHA, AWWA, WPCF.

7.2.7 Quality Assurance Program - An overall Quality Assurance Program is essential for the production of high-quality analytical data. Such a program requires precise control of laboratory activities. For the Quality Assurance Program in effect at the laboratories of Recra Research, Inc., the reader is referred to a document previously submitted by Recra Research,

Inc. to NYSDEC, entitled "Operations Manual - Field and Analytical Services".

7.2.8 Engineering Evaluation Report/HRS Score - The purpose of this evaluation report is to compile all existing and newly-developed information concerning the site, and utilize this information to:

- Evaluate feasible remedial alternatives at the site and prepare budget-level cost estimates for these alternatives.
- Based upon this evaluation, recommend the most cost-effective and environmentally sound course of remedial action.
- Prepare a Hazard Ranking System (HRS) score for the site.

It is presently anticipated that the output from this Evaluation Report will consist of a single bound report, subdivided into at least the following sections:

- HRS Score - Utilizing USEPA's formal method of presentation (Federal Register/Vol. 47, No. 137/Friday, July 16, 1982), the following completed work sheets will be included in this opening section: HRS Cover Sheet; Groundwater Route Work Sheet; Surface Water Route Work

Sheet; Air Route Work Sheet; Fire and Explosion Work Sheet; and Direct Contact Work Sheet.

- Background
- Summary of Project Activities
- Identification and Evaluation of Remedial Alternatives
- Recommendations
- Appendix - Complete Site Data Base

7.3 Estimated Costs

The estimated costs per individual element of the preceding scope of work are listed as follows:

o	Preliminary Field Investigation	\$12,118
o	Sampling and Analysis	7,547
o	Engineering Evaluation	<u>4,624</u>
	Total	\$24,289

APPENDIX A

DATA SOURCES AND REFERENCES

- 1.) Interagency Task Force on Hazardous Wastes, Draft Report; March 1979.
- 2.) Telephone conversation with Doug Carroll, City of Buffalo Department of Public Works; August 29, 1983.
- 3.) Site visit and personal interview with Don McNerney, Mobil Oil Site Representative; August 29, 1983.
- 4.) Waste Type and Quantity report submitted to DEC, document acquired July 1983.
- 5.) U.S.G.S. sampling program; May 1983.
- 6.) U.S. Department of Agriculture Soil Conservation Service, General Soils Map and Interpretation for Erie County, New York; May 1979.
- 7.) Geology of Erie County, New York; Edward J. Buelher and Irving H. Tesmer, Buffalo Society of Natural Sciences Bulletin; Vol. 21, No. 3; 1963.
- 8.) New York State Water Resources Commission, Erie-Niagara Basin Groundwater Resources; ENB-3; 1973.
- 9.) U.S.G.S. Topographic Map; Buffalo Southeast Quadrangle, 1965.
- 10.) Codes, Rules and Regulations of the State of New York; Vol. 6(C), Section 837.4, pg. 1625; 1966.
- 11.) Telephone conversation with Ted Myers of the NYSDEC regarding floodplain

information; August 1, 1983.

12.) Mitre Inc., Hazard Ranking System; July 16, 1982.

APPENDIX B

HAZARDOUS WASTE DISPOSAL SITE REPORT

REVISED

Code: B

Site Code: 915040

Name of Site: Mobil Oil Corporation

Region: 9

County: Erie

Town/City: Buffalo

Street Address: 635 Elk Street

Status of Site:

- o Inactive landfill, operated from 1951 to 1976.
- o Located in an industrial area.
- o Waste disposed of: demolition debris, various tank sediments.
- o Surficial soils overlain by unknown fill material.

Type of Site: Landfill

Hazardous Waste Disposed?

Type and Quantity of Hazardous Waste:

Present Owner: Mobil Oil Corporation, Buffalo, New York

Time Period Site Was Used: 1951 to 1976

Type of Samples: Soils

Remedial Action: None

Status of Legal Action: None

Permits Issued: None

Assessment of Environmental Problems:

Person Completing this Form: Diane Werneiwski, Recra Research, Inc.

Date: September 6, 1983.