OMB Approval Number: 2050-0095
Approved for Use Through: 4/95

Site Name: Sun Chemical Corporation
CERCLIS ID No.: N/A
Street Address: 441 Tompkins Avenue
City/State/Zip: Rosebank, Staten Island, NY 10305

Investigator: TAMS/GZA
Agency/Organization: Consultants
Street Address: 364 Nagel Drive
City/State: Buffalo, NY

Date: 5-31-00

WASTE CHARACTERISTICS

Waste Characteristics (WC) Calculations:

1 Lead	Contaminated soil	Ref: 1	WQ value	maximum
Area	4.90E+03 sq ft		1.44E-01	1.44E-01

Area of 23% sodium hydroxide spill was approximately 70ft x 70 ft. - 4900 square feet. Confirmatory sampling was conducted after cleanup that showed elevated levels of PCBs, metals, and semi-vocs.

The samples were of subsurface soils and the source is unknown. A shooting gallery is shown on site on Sanborn Maps near the turn of the century. The site had been historically used for the manufacturing of paint pigments, which where known to contain lead.

Ref: 6,8

2 PCBs	Contaminated soil	Ref: 1	WQ value	maximum
Area	4.90E+03 sq ft		1.44E-01	1.44E-01

See above reference.

3 bis(2-eh)phthalate	Contaminated soil	Ref: 1	WQ value	maximum
Area	4.90E+03 sq ft		1.44E-01	1.44E-01

See above reference.

WQ total 4.32E-01

** Only First WC Page Is Printed ** | Waste Characteristics Score: WC = 18

Ground Water Pathway Criteria List
Suspected Release

Are sources poorly contained? (y/n/u)	Y
Is the source a type likely to contribute to ground water contamination (e.g., wet lagoon)? (y/n/u)	Y
Is waste quantity particularly large? (y/n/u)	U
Is precipitation heavy? (y/n/u)	N
Is the infiltration rate high? (y/n/u)	Y
Is the site located in an area of karst terrain? (y/n)	N
Is the subsurface highly permeable or conductive? (y/n/u)	Y
Is drinking water drawn from a shallow aquifer? (y/n/u)	Y
Are suspected contaminants highly mobile in ground water? (y/n/u)	Y
Does analytical or circumstantial evidence suggest ground water contamination? (y/n/u)	Y
Other criteria? (y/n) N	
SUSPECTED RELEASE? (y/n)	Y

Summarize the rationale for Suspected Release:

Past site operations have contaminated the site with lead, PCBs and bis(2-ethylhexyl)phthalate. In 1988,a caustic spill of about 1000 gallons of sodium hydroxide initiated the investigation into subsurface soils. Subsurface soils are permeable and groundwater is approximately 20 feet below grade.

Ref: 1

Ground Water Pathway Criteria List
Primary Targets

Is any drinking water well nearby? (y/n/u)	N
Has any nearby drinking water well been closed? (y/n/u)	N
Has any nearby drinking water well user reported foul-testing or foul-smelling water? (y/n/u)	N
Does any nearby well have a large drawdown/high production rate? (y/n/u)	N
Is any drinking water well located between the site and other wells that are suspected to be exposed to a hazardous substance? (y/n/u)	N
Does analytical or circumstantial evidence suggest contamination at a drinking water well? (y/n/u)	N
Does any drinking water well warrant sampling? (y/n/u)	N
Other criteria? (y/n)	N
PRIMARY TARGET(S) IDENTIFIED? (y/n)	N

Summarize the rationale for Primary Targets:

There are no known groundwater wells used for drinking purposes on Staten Island.

Ref: 4

GROUND WATER PATHWAY SCORESHEETS

Pathway Characteristics		Ref.
Do you suspect a release? (y/n)	Yes	
Is the site located in karst terrain? (y/n)	No	
Depth to aquifer (feet):	0	
Distance to the nearest drinking water well (feet):	0	

LIKELIHOOD OF RELEASE	Suspected Release	No Suspected Release	References
1. SUSPECTED RELEASE	550		
2. NO SUSPECTED RELEASE		0	
LR =	550	0	

Targets

TARGETS	Suspected Release	No Suspected Release	References
3. PRIMARY TARGET POPULATION 0 person(s)	0		
4. SECONDARY TARGET POPULATION Are any wells part of a blended system? (y/n) N	0	0	
5. NEAREST WELL	0	0	
6. WELLHEAD PROTECTION AREA Underlies Site	20	0	
7. RESOURCES	5	0	
T =	25	0	

WASTE CHARACTERISTICS		
WC =	18	0

GROUND WATER PATHWAY SCORE:	3

Ground Water Target Populations

Primary Target Population Drinking Water Well ID	Dist. (miles)	Population Served	Reference	Value
None				
*** Note : Maximum of 5 Wells Are Printed ***			Total	

Secondary Target Population Distance Categories	Population Served	Reference	Value
0 to 1/4 mile	0		0
Greater than 1/4 to 1/2 mile	0		0
Greater than 1/2 to 1 mile	0		0
Greater than 1 to 2 miles	0		0
Greater than 2 to 3 miles	0		0
Greater than 3 to 4 miles	0		0
		Total	0

Apportionment Documentation for a Blended System

Surface Water Pathway Criteria List Suspected Release	
Is surface water nearby? (y/n/u)	N
Is waste quantity particularly large? (y/n/u)	U
Is the drainage area large? (y/n/u)	N
Is rainfall heavy? (y/n/u)	N
Is the infiltration rate low? (y/n/u)	Y
Are sources poorly contained or prone to runoff or flooding? (y/n/u)	Y
Is a runoff route well defined(e.g.ditch/channel to surf.water)? (y/n/u)	N
Is vegetation stressed along the probable runoff path? (y/n/u)	N
Are sediments or water unnaturally discolored? (y/n/u)	N
Is wildlife unnaturally absent? (y/n/u)	N
Has deposition of waste into surface water been observed? (y/n/u)	N
Is ground water discharge to surface water likely? (y/n/u)	N
Does analytical/circumstantial evidence suggest S.W. contam? (y/n/u)	N
Other criteria? (y/n)	N
SUSPECTED RELEASE? (y/n)	Y

Summarize the rationale for Suspected Release:

A 10,000 gallon tank of 23% sodium hydroxide spilled approximately 1000 gallons onto an adjacent school yard and was also intercepted by storm water catch basins. Storm water is collected by a combined sewer system and transported to a treatment facility before being discharged into the Atlantic Ocean. The nearest surface water is the Atlantic Ocean, located approximately 2000 feet northeast of the site.

Ref: 1,2

Surface Water Pathway Criteria List
Primary Targets

Is any target nearby? (y/n/u) If yes: Y
N Drinking water intake
Y Fishery
N Sensitive environment

Has any intake, fishery, or recreational area been closed? (y/n/u) N

Does analytical or circumstantial evidence suggest surface water contamination at or downstream of a target? (y/n/u) N

Does any target warrant sampling? (y/n/u) If yes: N
N Drinking water intake
N Fishery
N Sensitive environment

Other criteria? (y/n) N

PRIMARY INTAKE(S) IDENTIFIED? (y/n) N

Summarize the rationale for Primary Intakes:

continued -------

continued -------

Other criteria? (y/n) N

PRIMARY FISHERY(IES) IDENTIFIED? (y/n) Y

Summarize the rationale for Primary Fisheries:

Surface waters are collected by storm sewers and transported to a wastewater treatment facility which then discharges into the Lower Bay / Atlantic Ocean. There is no known overland flow directly to surface water. The nearest surface water is located 2000 ft east, the Lower Bay.

Ref: 7

Other criteria? (y/n) N

PRIMARY SENSITIVE ENVIRONMENT(S) IDENTIFIED? (y/n) N

Summarize the rationale for Primary Sensitive Environments:

SURFACE WATER PATHWAY SCORESHEETS

Pathway Characteristics		Ref.
Do you suspect a release? (y/n)	Yes	
Distance to surface water (feet):	2000	2
Flood frequency (years):	1-10	2
What is the downstream distance (miles) to:		
a. the nearest drinking water intake?	N.A.	2
b. the nearest fishery?	0.5	3
c. the nearest sensitive environment?	0.5	3

LIKELIHOOD OF RELEASE	Suspected Release	No Suspected Release	References
1. SUSPECTED RELEASE	550		
2. NO SUSPECTED RELEASE		0	
LR =	550	0	

Drinking Water Threat Targets

TARGETS	Suspected Release	No Suspected Release	References
3. Determine the water body type, flow (if applicable), and number of people served by each drinking water intake.			
4. PRIMARY TARGET POPULATION 0 person(s)	0		
5. SECONDARY TARGET POPULATION Are any intakes part of a blended system? (y/n): N	0	0	
6. NEAREST INTAKE	0	0	
7. RESOURCES	5	0	
T =	5	0	

Drinking Water Threat Target Populations

Intake Name	Primary (y/n)	Water Body Type/Flow	Population Served	Ref.	Value
None					

Total Primary Target Population Value	0
Total Secondary Target Population Value	0

*** Note : Maximum of 6 Intakes Are Printed ***

Apportionment Documentation for a Blended System

Human Food Chain Threat Targets

TARGETS	Suspected Release	No Suspected Release	References
8. Determine the water body type and flow for each fishery within the target limit.			
9. PRIMARY FISHERIES	0		
10. SECONDARY FISHERIES	210	0	
T =	210	0	

Human Food Chain Threat Targets

Fishery Name	Primary (y/n)	Water Body Type/Flow	Ref.	Value
1 Lower Bay	N	Coastal,ocean,Gr.Lake		12
		Total Primary Fisheries Value		0
		Total Secondary Fisheries Value		210

*** Note : Maximum of 6 Fisheries Are Printed ***

Environmental Threat Targets

TARGETS	Suspected Release	No Suspected Release	References
11. Determine the water body type and flow (if applicable) for each sensitive environment.			
12. PRIMARY SENSITIVE ENVIRONMENTS	0		
13. SECONDARY SENSITIVE ENVIRONS.	0	0	
T =	0	0	

Environmental Threat Targets

Sensitive Environment Name	Primary (y/n)	Water Body Type/Flow	Ref.	Value
None				

Total Primary Sensitive Environments Value	0
Total Secondary Sensitive Environments Value	0

*** Note: Maximum of 6 Sensitive Environments Are Printed ***

Surface Water Pathway Threat Scores

Threat	Likelihood of Release (LR) Score	Targets (T) Score	Pathway Waste Characteristics (WC) Score	Threat Score LR x T x WC / 82,500
Drinking Water	550	5	18	1
Human Food Chain	550	210	18	25
Environmental	550	0	18	0

SURFACE WATER PATHWAY SCORE:	26

Soil Exposure Pathway Criteria List
Resident Population

Is any residence, school, or daycare facility on or within 200 feet of an area of suspected contamination? (y/n/u)	Y
Is any residence, school, or daycare facility located on adjacent land previously owned or leased by the site owner/operator? (y/n/u)	N
Is there a migration route that might spread hazardous substances near residences, schools, or daycare facilities? (y/n/u)	Y
Have onsite or adjacent residents or students reported adverse health effects, exclusive of apparent drinking water or air contamination problems? (y/n/u)	U
Does any neighboring property warrant sampling? (y/n/u)	Y
Other criteria? (y/n)	Y
RESIDENT POPULATION IDENTIFIED? (y/n)	Y

Summarize the rationale for Resident Population:

Residential properties are located to the west, north, east and south of the site. A playground is located to the west of the site, and St. Josephs School is adjacent to the south. The school's yard was impacted by the sodium hydroxide spill. No information was obtained as to the exact location of the sampling locations that showed elevated levels of lead and semi-volatile organic compounds. The samples where taken in the area of the spill, and are assumed to be on or near the St. Josephs school yard.
Former and current locations of USTs, drum and bag storage, were located adjacent to the southern property boundaries.
A shooting gallery was noted to be on the southern portion of the site during 1898. This may be a source of lead found in the soils.
A FOIL response (June 1999) from the NYS Department of Health is still being processed and has not yet been received.

Ref: 1,8

SOIL EXPOSURE PATHWAY SCORESHEETS

Pathway Characteristics		Ref.
Do any people live on or within 200 ft of areas of suspected contamination? (y/n)	Yes	6
Do any people attend school or daycare on or within 200 ft of areas of suspected contamination? (y/n)	Yes	6
Is the facility active? (y/n):	Yes	6

LIKELIHOOD OF EXPOSURE	Suspected Contamination	References
1. SUSPECTED CONTAMINATION LE =	550	

Targets

2. RESIDENT POPULATION 30 resident(s) 200 school/daycare student(s)	0	8
3. RESIDENT INDIVIDUAL	0	
4. WORKERS 1 - 100	0	
5. TERRES. SENSITIVE ENVIRONMENTS	0	
6. RESOURCES	0	
T =	0	

WASTE CHARACTERISTICS

WC = 18

RESIDENT POPULATION THREAT SCORE: 100

NEARBY POPULATION THREAT SCORE: 1

Population Within 1 Mile: 1 - 10,000

SOIL EXPOSURE PATHWAY SCORE: 100

Soil Exposure Pathway Terrestrial Sensitive Environments

Terrestrial Sensitive Environment Name	Reference	Value
None		
Total Terrestrial Sensitive Environments Value		

*** Note : Maximum of 7 Sensitive Environments Are Printed ***

Air Pathway Criteria List
Suspected Release

Are odors currently reported? (y/n/u)	N
Has release of a hazardous substance to the air been directly observed? (y/n/u)	N
Are there reports of adverse health effects (e.g., headaches, nausea, dizziness) potentially resulting from migration of hazardous substances through the air? (y/n/u)	N
Does analytical/circumstantial evidence suggest release to air? (y/n/u)	N
Other criteria? (y/n) N	
SUSPECTED RELEASE? (y/n)	N

Summarize the rationale for Suspected Release:

AIR PATHWAY SCORESHEETS

Pathway Characteristics

		Ref.
Do you suspect a release? (y/n)	No	
Distance to the nearest individual (feet):	0	

LIKELIHOOD OF RELEASE	Suspected Release	No Suspected Release	References
1. SUSPECTED RELEASE	0		
2. NO SUSPECTED RELEASE		500	
LR =	0	500	

Targets

TARGETS	Suspected Release	No Suspected Release	References
3. PRIMARY TARGET POPULATION 0 person(s)	0		
4. SECONDARY TARGET POPULATION	0	0	
5. NEAREST INDIVIDUAL	0	0	
6. PRIMARY SENSITIVE ENVIRONS.	0		
7. SECONDARY SENSITIVE ENVIRONS.	0	0	
8. RESOURCES	5	0	
T =	5	0	

WASTE CHARACTERISTICS

WC =	18	0

AIR PATHWAY SCORE: 1

Air Pathway Secondary Target Populations

Distance Categories	Population	References	Value
Onsite	0		0
Greater than 0 to 1/4 mile	0		0
Greater than 1/4 to 1/2 mile	0		0
Greater than 1/2 to 1 mile	0		0
Greater than 1 to 2 miles	0		0
Greater than 2 to 3 miles	0		0
Greater than 3 to 4 miles	0		0
	Total Secondary Population Value		0

Air Pathway Primary Sensitive Environments

Sensitive Environment Name	Reference	Value
None		
Total Primary Sensitive Environments Value		

*** Note : Maximum of 7 Sensitive Environments Are Printed***

Air Pathway Secondary Sensitive Environments

Sensitive Environment Name	Distance	Reference	Value
None			
Total Secondary Sensitive Environments Value			

SITE SCORE CALCULATION	SCORE
GROUND WATER PATHWAY SCORE:	3
SURFACE WATER PATHWAY SCORE:	26
SOIL EXPOSURE PATHWAY SCORE:	100
AIR PATHWAY SCORE:	1
SITE SCORE:	52

SUMMARY

1. Is there a high possibility of a threat to any nearby drinking water well(s) by migration of a hazardous substance in ground water? No

   If yes, identify the well(s).

   If yes, how many people are served by the threatened well(s)? 0

2. Is there a high possibility of a threat to any of the following by hazardous substance migration in surface water?
   - A. Drinking water intake — No
   - B. Fishery — No
   - C. Sensitive environment (wetland, critical habitat, others) — No

   If yes, identity the target(s).

3. Is there a high possibility of an area of surficial contamination within 200 feet of any residence, school, or daycare facility? Yes

   If yes, identify the properties and estimate the associated population(s)
   Soil contamination was found in the area of the caustic spill. The spill migrated onto the school yard. Sample locations are not specific.

4. Are there public health concerns at this site that are not addressed by PA scoring considerations? Yes

   If yes, explain:
   There are numerous potential source areas at this site that could impact human health.

REFERENCE LIST

1. NYSDEC - Division of Hazardous Waste Remediation Hazardous Substance Waste Disposal Site - Description; Prepared by David K. Harrington July 1994

2. Bureau of Waste Water Control - Alejandra Lamaorche

3. Department of Interior Fish and Wildlife Services

4. New York City Department of Environmental Planning - Robert Kejoich

5. New York State Wellhead Protection Program

6. Final Field Activities Plan Preliminary Site Assessment (Multi-Site)

7. The Narrows, NY-NJ, USGS Quadrangle 1966

8. EDR Sanborn Mapping 1898 to 1990