SDMS Document
118356

EPA

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

I. IDENTIFICATION
01 STATE: NJ | 02 SITE NUMBER: D002173144

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site): American Cyanamid Company

02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER: Tremely Point Road

03 CITY: Linden | 04 STATE: NJ | 05 ZIP CODE: 07036 | 06 COUNTY: Union | 07 COUNTY CODE: 20 | 08 CONG DIST:

09 COORDINATES LATITUDE: 40° 35' 45" | LONGITUDE: 74° 12' 07"

Block 522, 587 Lot 27, 8

10 DIRECTIONS TO SITE (Starting from nearest public road): Route 1 north to Linden. Take a right onto Wood Avenue. Wood Avenue will become Tremely Point Road. Facility is at the foot of Tremely Point Road.

III. RESPONSIBLE PARTIES

01 OWNER (if known): American Cyanamid Company

02 STREET (Business, mailing, residential): Berdan Avenue

03 CITY: Wayne | 04 STATE: NJ | 05 ZIP CODE: 07470 | 06 TELEPHONE NUMBER: (201) 831-2000

07 OPERATOR (if known and different from owner): American Cyanamid Warners Plant

08 STREET (Business, mailing, residential): Tremely Point Road

09 CITY: Linden | 10 STATE: NJ | 11 ZIP CODE: 07036 | 12 TELEPHONE NUMBER: (201) 862-6000

13 TYPE OF OWNERSHIP (Check one):
- [x] 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):
- [x] A. RCRA 3001 DATE RECEIVED: 1980 (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
- [x] YES DATE: Numerous (MONTH DAY YEAR)
- [ ] NO

BY (Check all that apply):
- [ ] A. EPA
- [ ] B. EPA CONTRACTOR
- [x] C. STATE
- [ ] D. OTHER CONTRACTOR
- [ ] E. LOCAL HEALTH OFFICIAL
- [x] F. OTHER: Division of Criminal Justice (Specify)

CONTRACTOR NAME(S): _____

02 SITE STATUS (Check one):
- [x] A. ACTIVE
- [ ] B. INACTIVE
- [ ] C. UNKNOWN

03 YEARS OF OPERATION: 1916 (BEGINNING YEAR) | Present (ENDING YEAR) | [ ] UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
Pesticides, organics and inorganics have been released to the air, ground, and surface water.

Attachment M,N,V

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
High incidence of spills, emmissions, and odor complaints which result in releases to the ground, surface water, and atmosphere. Facility has a history of non-compliance with effluent discharge limits. Attachments G,H,I,K,L,M,N,O,P,Q,R,S,T,U,V

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)
- [x] 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: ( )

04 PERSON RESPONSIBLE FOR ASSESSMENT: Clare P. Sullivan | 05 AGENCY: NJDEP | 06 ORGANIZATION: DHWM/BPA | 07 TELEPHONE NUMBER: (609) 633-2218 | 08 DATE: 6/20/88 (MONTH DAY YEAR)

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NJ	D002173144

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- [x] A. SOLID
- [ ] B. POWDER, FINES
- [ ] C. SLUDGE
- [ ] D. OTHER _____ (Specify)
- [ ] E. SLURRY
- [x] F. LIQUID
- [ ] G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS: Unknown
CUBIC YARDS: Unknown
NO. OF DRUMS: Unknown

03 WASTE CHARACTERISTICS (Check all that apply)

- [x] A. TOXIC
- [x] B. CORROSIVE
- [ ] C. RADIOACTIVE
- [x] D. PERSISTENT
- [x] E. SOLUBLE
- [ ] F. INFECTIOUS
- [ ] G. FLAMMABLE
- [ ] H. IGNITABLE
- [x] I. HIGHLY VOLATILE
- [ ] J. EXPLOSIVE
- [x] 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	Unknown		
PSD	PESTICIDES	Unknown		
OCC	OTHER ORGANIC CHEMICALS	Unknown		
IOC	INORGANIC CHEMICALS	Unknown		
ACD	ACIDS	Unknown		
BAS	BASES			
MES	HEAVY METALS	Unknown		

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	Trichloroethene	79-01-6	Hopper/Sweepings	210	ppb
OCC	Tetrachloroethene	127-18-4	Hopper/Sweepings	210	ppb
OCC	2-Propanol	71-23-8	Hopper/Sweepings	11000	ppm
OCC	Tert-Butanol	75-65-0	Hopper/Sweepings	2900	ppm
OCC	Iso-Butanol	71-36-3	Hopper/Sweepings	1200	ppm
SOL	Methanol	67-56-1	Hopper/Sweepings	330	ppm
SOL	Ethanol	64-17-5	Hopper/Sweepings	2600	ppm
OCC	Abate *	3383968	Storm drains	180	ppb
OCC	Cygon **	60-51-5	Storm drains	490	ppb
PSD	Malathion	121-75-5	Storm drains	1600	ppb
MES	Copper	7440-50-8	Storm drains	7000	ppb
MES	Zinc	7440-66-6	Storm drains	19000	ppb
IOC	Total Cyanide	57125	Storm drains	840	ppb
IOC	Phenolics	108-95-2	Storm drains	3900	ppb
MES	Lead	7439-92-1	Storm drains	100	ppb
SOL	Chlorobenzene	108-90-7	Storm drains	860	ppb

V. FEEDSTOCKS (See Appendix for CAS Numbers)

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

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

Att. H - Storm Drain Monitoring Reports February to July 1985
Att. N - Analytical Results January 28, 1986 Search Warrant

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NJ	D002173144

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- [x] A. SOLID
- [ ] B. POWDER, FINES
- [ ] C. SLUDGE
- [ ] D. OTHER _____ (Specify)
- [ ] E. SLURRY
- [x] F. LIQUID
- [ ] G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS Unknown
CUBIC YARDS Unknown
NO. OF DRUMS Unknown

03 WASTE CHARACTERISTICS (Check all that apply)

- [x] A. TOXIC
- [x] B. CORROSIVE
- [ ] C. RADIOACTIVE
- [x] D. PERSISTENT
- [x] E. SOLUBLE
- [ ] F. INFECTIOUS
- [ ] G. FLAMMABLE
- [ ] H. IGNITABLE
- [x] I. HIGHLY VOLATILE
- [ ] J. EXPLOSIVE
- [x] 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	Unknown		
PSD	PESTICIDES	Unknown		
OCC	OTHER ORGANIC CHEMICALS	Unknown		
IOC	INORGANIC CHEMICALS	Unknown		
ACD	ACIDS	Unknown		
BAS	BASES			
MES	HEAVY METALS	Unknown		

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
PSD	Malathion	121-75-5	River water	4300	ppb
SOL	Methylene Chloride	75-09-2	River Sediment	1300	ppb
OCC	1,1,2,2-Trichloroethane	79-00-5	River Sediment	440	ppb
SOL	Toluene	108-88-3	River Sediment	690	ppb
PSD	Malathion	121-75-5	River Sediment	37000	ppb
IOC	Sulfide	999	River Sediment	27000	ppm
IOC	Total Phosphorus	7723-14-0	River Sediment	94	ppm
IOC	Sulfur	7704-34-9	River Sediment	6300	ppm
SOL	Methylene Chloride	75-09-2	Hopper/Sweepings	980	ppb
OCC	1,1-Dichloroethene	75-35-4	Hopper/Sweepings	470	ppb
OCC	1,1-Dichloroethane	75-34-3	Hopper/Sweepings	420	ppb
OCC	1,1,1-Trichloroethane	71-55-6	Hopper/Sweepings	270	ppb
SOL	Carbon Tetrachloride	56-23-5	Hopper/Sweepings	360	ppb
OCC	1,2-Dichloropropane	78-87-5	Hopper/Sweepings	500	ppb
SOL	Toluene	108-88-3	Hopper/Sweepings	35000	ppb
SOL	Chlorobenzene	108-90-7	Hopper/Sweepings	930	ppb

V. FEEDSTOCKS (See Appendix for CAS Numbers)

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

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

Att. H - Storm Drain Monitoring Reports February to July 1985
Att. N - Analytical Results January 28, 1986 Search Warrant

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NJ	D002173144

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- [x] A. SOLID
- [ ] B. POWDER, FINES
- [ ] C. SLUDGE
- [ ] D. OTHER _____ (Specify)
- [ ] E. SLURRY
- [x] F. LIQUID
- [ ] G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS unknown
CUBIC YARDS unknown
NO. OF DRUMS unknown

03 WASTE CHARACTERISTICS (Check all that apply)

- [x] A. TOXIC
- [x] B. CORROSIVE
- [ ] C. RADIOACTIVE
- [x] D. PERSISTENT
- [x] E. SOLUBLE
- [ ] F. INFECTIOUS
- [ ] G. FLAMMABLE
- [ ] H. IGNITABLE
- [x] I. HIGHLY VOLATILE
- [ ] J. EXPLOSIVE
- [x] 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	unknown		
PSD	PESTICIDES	unknown		
OCC	OTHER ORGANIC CHEMICALS	unknown		
IOC	INORGANIC CHEMICALS	unknown		
ACD	ACIDS	unknown		
BAS	BASES			
MES	HEAVY METALS	unknown		

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	1,1,1 Trichloroethane	71-55-6	storm drains	13060	ppb
OCC	Cytrolane ***	61-82-5	storm drains	170	ppb
ACD	Sulfuric Acid	7664-93-9	ground/surface water	unknown	

V. FEEDSTOCKS (See Appendix for CAS Numbers)

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

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

Registered Product Names - Principal Components
* 0,0-Dimethyl Phosphorothioate - 0,0 - Diester with 4,4'-Thiodiphenol.
** Dimethoate
*** Aminotriazole
Att. H. Storm Drain Monitoring Reports February to July 1985

EPA FORM 2070-13 (7-81)

Att. N. Analytical Results January 28, 1988 Search Warrant

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NJ	D002173144

II. HAZARDOUS CONDITIONS AND INCIDENTS

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

Due to numerous spills and high ground water table, the potential exists for contamination of groundwater.

Attachment C, V

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

Permitted and unpermitted discharges as well as numerous spills and releases have resulted in the contamination of both the Arthur Kill and Rahway River.

Attachments G,H,I,K,L,M,N,O,P,Q,R,S,T,U,V

01 [X] C. CONTAMINATION OF AIR — 02 [ ] OBSERVED (DATE: 1984) — [ ] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Elevated concentrations of malathion were found in samples collected after a release in October 1984. Additionally, the facility has a replete history of odor complaints.

Attachment R, V

01 [X] D. FIRE EXPLOSIVE CONDITIONS — 02 [X] OBSERVED (DATE: Numerous) — [ ] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Numerous explosions have resulted in the release of hazardous materials to the grounds, air, and surface water.

Attachment V

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

The potential exists for direct contact via air borne releases of hazardous materials. The site is fenced and protected by on-site security.

Attachment V

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

The potential exist for soil to have been contaminated through numerous spills and releases to the ground.

Attachment V

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

No private wells exist in the vicinity. The closest public supply well is located 4.6 miles from the facility at a depth of 325 feet.

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

Workers have sought medical attention in response to on site releases.

Attachment V

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

Nearby populations have sought medical attention and some have been hospitalized in response to facility releases.

Attachment V

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NJ	D002173144

II. HAZARDOUS CONDITIONS AND INCIDENTS *(Continued)*

01 [X] J. DAMAGE TO FLORA — 02 [ ] OBSERVED (DATE: _____) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION
Spills and releases have impacted nearby areas. The potential exists for damage to flora.

01 [X] K. DAMAGE TO FAUNA — 02 [X] OBSERVED (DATE: _____) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION *(Include name(s) of species)*
Effluent testing in 1960s and 1970s indicate a severe toxicity in bioassays. Numerous releases have impacted nearby waterways. The breakdown products of malathion in water may result in products more toxic and persistant than parent compound.
Attachment G,H,I,K,L,M,N,O,P,Q,V

01 [X] L. CONTAMINATION OF FOOD CHAIN — 02 [ ] OBSERVED (DATE: _____) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION Effluent testing in 1960s and 1970s indicate a severe toxicity in bioassays. Numerous releases have impacted nearby waterways. The breakdown of malathion in water may result in products more toxic and persistant than parent compound.
Attachment G,H,I,K,L,M,N,O,P,Q,V

01 [X] M. UNSTABLE CONTAINMENT OF WASTES *(Spills/Runoff/Standing liquids, Leaking drums)* — 02 [X] OBSERVED (DATE: Numerous) [ ] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
Numerous spills and ruptures have caused the release of hazardous materials to the ground, air, and water.
Attachment V

01 [X] N. DAMAGE TO OFFSITE PROPERTY — 02 [X] OBSERVED (DATE: 1984) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION
During the release of malathion on October 6, 1984, two passing ships were contaminated.
Attachment V

01 [X] O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 [X] OBSERVED (DATE: 1985) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION
There has been documented releases of hazardous materials to the Arthur Kill and Rahway River through on site storm drains.
Attachment H

01 [X] P. ILLEGAL/UNAUTHORIZED DUMPING — 02 [X] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION
Investigations by the Office of Attorney General revealed at least 37 negligent discharges of pollutants without a NJPDES permit for the period from May 1982 to November 1985. Attachment M, N

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)*

Att. C - Memo Re: Area Geology
Att. G - NJPDES Compliance Evaluation Inspection
Att. H - Storm Drain Monitoring Reports
Att. I - Memo Re: Cyanide Discharge Limits

EPA FORM 2070-13 (7-81)

Att. K - Memo Re: Ames Testing

V. SOURCES OF INFORMATION CONTINUED

Att. L - State v. American Cyanamid Co.
Att. M - January 26, 1986 Search Warrant
Att. N - Analytical Results Search Warrant
Att. O - Memo Re: Amended Consent Judgement April 1978
Att. P - Memo Re: Historical Effluent Sampling
Att. Q - ACO, May 1983
Att. R - ACO, January 1985
Att. S - AO and Notice of Civil Administrative Penalty Assessment November 1986
Att. T - AO and Notice of Civil Administrative Penalty Assessment July 1987
Att. V - Spills and Violations

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NJ	D002173144

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	NJ0001058	11/1/84	10/31/89	Discharge to surface water
☐ B. UIC				
☐ C. AIR	Approximately	80 active	permits on	site
☒ D. RCRA				
☒ E. RCRA INTERIM STATUS				
☐ F. SPCC PLAN				
☐ G. STATE (Specify)				
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
☐ J. NONE				

III. SITE DESCRIPTION Attachment D,E

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☐ A. SURFACE IMPOUNDMENT		
☐ B. PILES		
☒ C. DRUMS, ABOVE GROUND	Variable	
☒ D. TANK, ABOVE GROUND	5 active	Tanks
☒ E. TANK, BELOW GROUND	10	Tanks
☐ F. LANDFILL		
☐ G. LANDFARM		
☐ H. OPEN DUMP		
☐ I. OTHER (Specify)		

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

05 OTHER
- ☒ A. BUILDINGS ON SITE

06 AREA OF SITE: 32 (Acres)

07 COMMENTS

Hazardous and non-hazardous wastes stored in non-segregated drums. These are currently stored in a building of poor quality. Hazardous wastes are also stored and treated in above ground tanks. Updated containment is proposed. Underground storage tanks are used to store raw materials and fuel. The tanks containing raw materials are located within vaults.

Treatment in tanks consists of phase separation.

IV. CONTAINMENT Attachment A,B,F,U,W

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.

Inadequate containment exists for tanks but is scheduled for upgrading. Containerized storage is currently located in a poor quality building with no secondary containment. Punctured and corroded drums have been observed.

V. ACCESSIBILITY Attachment A,B,U,W

01 WASTE EASILY ACCESSIBLE: ☐ YES ☒ NO

02 COMMENTS

Site is fenced and on site security is present.

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

Att. A - Part B Permit Application
Att. B - Letter Re: Part B Permit Revision
Att. D - NJPDES Permit NJ0001058
Att. E - Stack Log Listing
Att. F - Underground Storage Tank Registration
Att. U - December 1987 Inspection Report
Att. W - Site Inspection Memo June 19, 1987

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NJ	D002173144

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. 4.8 (mi)
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 26723

03 DISTANCE TO NEAREST DRINKING WATER WELL 4.8 (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
Shallow (ft)	Unknown	Unknown (ft)	Unknown (gpd)	☐ YES ☐ NO

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

Wells within 5 miles of the site are used for potable water supply by the Englishtown Water Company (300 feet deep), for municipal withdrawal by the City of Rahway (51 to 135 feet) and for industrial purposes. The closest well is located within 4.0 miles, and is drilled to 570 feet and used industrially.

10 RECHARGE AREA		11 DISCHARGE AREA	
☒ YES ☐ NO	COMMENTS: Facility is located in wetlands.	☒ YES ☐ NO	COMMENTS: Facility is located in wetlands.

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
Rahway River	☒	Adjacent (mi)
Arthur Kill	☒	Adjacent (mi)
Raritan Bay	☐	7 (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. ~ 4500 NO. OF PERSONS	B. ~ 11000 NO. OF PERSONS	C. ~ 35000 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION: 3500 feet (mi)

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

04 DISTANCE TO NEAREST OFF-SITE BUILDING: Adjacent (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)

Land use within a one mile radius of the Warners Plant is predominantly industrial with the nearest residential development occuring approximately 3500 feet across the Arthur Kill on Staten Island, New York.

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NJ	D002173144

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

Unknown

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)

Unknown

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
~ 20 (ft)	Unknown (ft)	NA

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
12 (in)	2.5 (in)	1 %	NA	NA %

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. Adjacent (mi) OTHER: B. _____ (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

NA _____ (mi)

ENDANGERED SPECIES: _____

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AGRICULTURAL LANDS: AG LAND
A. Adjacent (mi)	B. 3500 ft. (mi)	C. NA (mi)	D. _____ (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

The facility is located in a wetlands in the southeast corner of the City of Linden. The facility is located on relatively flat terrain and is bounded to the south by the Rahway River and to the east by the Arthur Kill.

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

Attachment A - Part B Permit Application

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NJ	D002173144

II. SAMPLES TAKEN

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

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
	NA

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)*

NA

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
NJ	D002173144

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER
American Cyanamid Co.	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
Tremely Point Road	2819,2818 2879,2843

05 CITY	06 STATE	07 ZIP CODE
Linden	NJ	07036

01 NAME	02 D+B NUMBER

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

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

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

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

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

05 CITY	06 STATE	07 ZIP CODE

PARENT COMPANY (If applicable)

08 NAME	09 D+B NUMBER
American Cyanamid Co.	

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE
Berdan Avenue	

12 CITY	13 STATE	14 ZIP CODE
Wayne	NJ	07470

08 NAME	09 D+B NUMBER

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

12 CITY	13 STATE	14 ZIP CODE

08 NAME	09 D+B NUMBER

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

12 CITY	13 STATE	14 ZIP CODE

08 NAME	09 D+B NUMBER

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

12 CITY	13 STATE	14 ZIP CODE

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

01 NAME	02 D+B NUMBER
Ammo-Phos Corporation	

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

05 CITY	06 STATE	07 ZIP CODE
Linden	NJ	07036

01 NAME	02 D+B NUMBER

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

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

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

05 CITY	06 STATE	07 ZIP CODE

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

01 NAME	02 D+B NUMBER

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

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

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

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

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

05 CITY	06 STATE	07 ZIP CODE

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

City of Linden Tax Assessor

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NJ	D002173144

II. CURRENT OPERATOR (Provide if different from owner)				OPERATOR'S PARENT COMPANY (If applicable)			
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
American Cyanamid Co.				American Cyanamid Co.			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
Tremely Point Road		2819,2818 2879,2843		Berdan Avenue			
05 CITY	06 STATE	07 ZIP CODE		14 CITY	15 STATE	16 ZIP CODE	
Linden	NJ	07036		Wayne	NJ	07470	
08 YEARS OF OPERATION	09 NAME OF OWNER						
1916-Present							

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)				PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)			
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
NA				NA			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY	06 STATE	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 (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		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 (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		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)

Attachment A - Part B Permit Application

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NJ	D002173144

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER	
NA		
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
NA			
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
NA			
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)

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NJ	D002173144

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
None reported

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
None reported

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
None reported

01 ☒ D. SPILLED MATERIAL REMOVED — 02 DATE Numerous — 03 AGENCY _____
04 DESCRIPTION Spilled material was removed by American Cyanamid in response to spills on numerous occassions. Attachment V

01 ☒ E. CONTAMINATED SOIL REMOVED — 02 DATE Numerous — 03 AGENCY _____
04 DESCRIPTION Contaminated soils removed in response to spills on numerous occasions. Attachment V

01 ☐ F. WASTE REPACKAGED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
None reported

01 ☒ G. WASTE DISPOSED ELSEWHERE — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION Spilled materials transported off-site to approved disposal areas. Formerly disposed of wastes at Linden and Carteret Landfills. Attachments V,W

01 ☐ H. ON SITE BURIAL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
None reported

01 ☐ I. IN SITU CHEMICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
None reported

01 ☐ J. IN SITU BIOLOGICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
None reported

01 ☐ K. IN SITU PHYSICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
None reported

01 ☐ L. ENCAPSULATION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
None reported

01 ☐ M. EMERGENCY WASTE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
None reported

01 ☐ N. CUTOFF WALLS — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
None reported

01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
None reported

01 ☐ P. CUTOFF TRENCHES/SUMP — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
None reported

01 ☐ Q. SUBSURFACE CUTOFF WALL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
None reported

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NJ	D002173144

II PAST RESPONSE ACTIVITIES *(Continued)*

01 ☐ R. BARRIER WALLS CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

None reported

01 ☐ S. CAPPING/COVERING — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

None reported

01 ☐ T. BULK TANKAGE REPAIRED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

None reported

01 ☐ U. GROUT CURTAIN CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

None reported

01 ☐ V. BOTTOM SEALED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

None reported

01 ☐ W. GAS CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

None reported

01 ☐ X. FIRE CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

None reported

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

None reported

01 ☐ Z. AREA EVACUATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

None reported

01 ☐ 1. ACCESS TO SITE RESTRICTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

None reported

01 ☐ 2. POPULATION RELOCATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

None reported

01 ☐ 3. OTHER REMEDIAL ACTIVITIES — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

None reported

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

Attachment V - Spills and Violations
Attachment W - Site Inspection Memo June 19, 1987

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NJ	D002173144

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☒ YES ☐ NO

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

Numerous Orders have been issued to American Cyanamid for the discharge of highly pollutional material to both the Arthur Kill and the Rahway River, for numerous air releases and odor complaints, for improper storage of hazardous wastes, and for RCRA discrepancies. Additionally, on January 28, 1986, a search Warrant was executed at the Warners Plant due to the discovery of at least 37 negligent discharges of hazardous material, without a NJPDES permit, to the Arthur Kill and the Rahway River. A Criminal Action Suit followed to which American Cyanamid pled guilty on June 12, 1987.

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

Attachment L - State v American Cyanamid Co.
Attachment M - January 28, 1986 Search Warrant
Attachment N - Analytical Results, Search Warrant
Attachment O - Memo Re: Amended Consent Judgement April 1978
Attachment P - Memo Re: Historical Effluent Sampling

III. SOURCES OF INFORMATION CONTINUED

Attachment Q - ACO, May 1983
Attachment R - ACO, January 1985
Attachment S - AO and Notice of Civil Administrative Penalty Assessment, November 1986
Attachment T - AO and Notice of Civil Administrative Penalty Assessment, July 1987

ATTACHMENTS

MAP 1. USGS QUADRANGLE MAP

MAP 2. SITE MAP

MAP 3. TAX MAP

MAP 4. N.J. ATLAS BASE MAP

MAP 5. GEOLOGIC OVERLAY

MAP 6. WATER SUPPLY OVERLAY

MAP 7. COMPUTER GENERATED WATER WITHDRAWAL MAP

A. PART B PERMIT APPLICATION

B. LETTER RE: PART B PERMIT REVISION

C. MEMO RE: AREA GEOLOGY

D. NJPDES PERMIT NJ0001058

E. STACK LOG LISTING

F. UNDERGROUND STORAGE TANK REGISTRATION

G. NJPDES COMPLIANCE EVALUATION INSPECTION, NOVEMBER 18, 1982

H. STORM DRAIN MONITORING REPORTS FEBRUARY TO JULY, 1985

I. MEMO RE: CYANIDE DISCHARGE LIMITS

J. NOTIFICATION OF GUANIDINE MANUFACTURING FACILITY SHUTDOWN

K. MEMO RE: AMES TESTING 1985

L. STATE V. AMERICAN CYANAMID CO.

M. JANUARY 28, 1986 AMERICAN CYANAMID SEARCH WARRANT

N. ANALYTICAL RESULTS, JANUARY 28, 1986 SEARCH WARRANT

O. MEMO RE: AMENDED CONSENT JUDGEMENT, APRIL 1978

P. MEMO RE: HISTORICAL EFFLUENT SAMPLING

Q. ADMINISTRATIVE CONSENT ORDER, MAY 1983

R. ADMINISTRATIVE CONSENT ORDER, JANUARY 1985

S. ADMINISTRATIVE ORDER AND NOTICE OF CIVIL ADMINISTRATIVE PENALTY ASSESSMENT, NOVEMBER 1986

T. ADMINISTRATIVE ORDER AND NOTICE OF CIVIL ADMINISTRATIVE PENALTY ASSESSMENT, JULY 1987

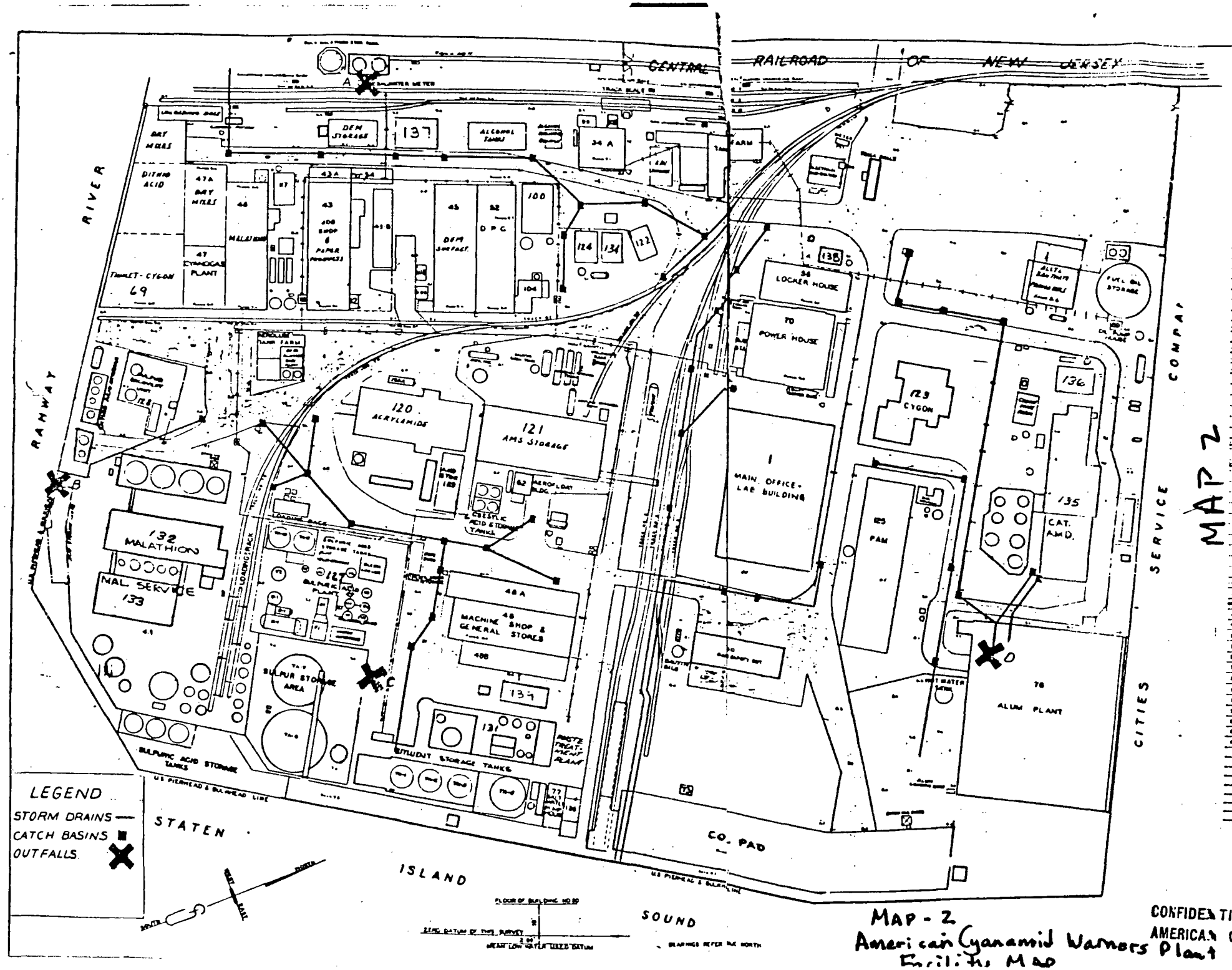
U. DECEMBER 1987 INSPECTION REPORT

V. SPILLS AND VIOLATIONS

W. SITE INSPECTION MEMO, JUNE 19, 1987

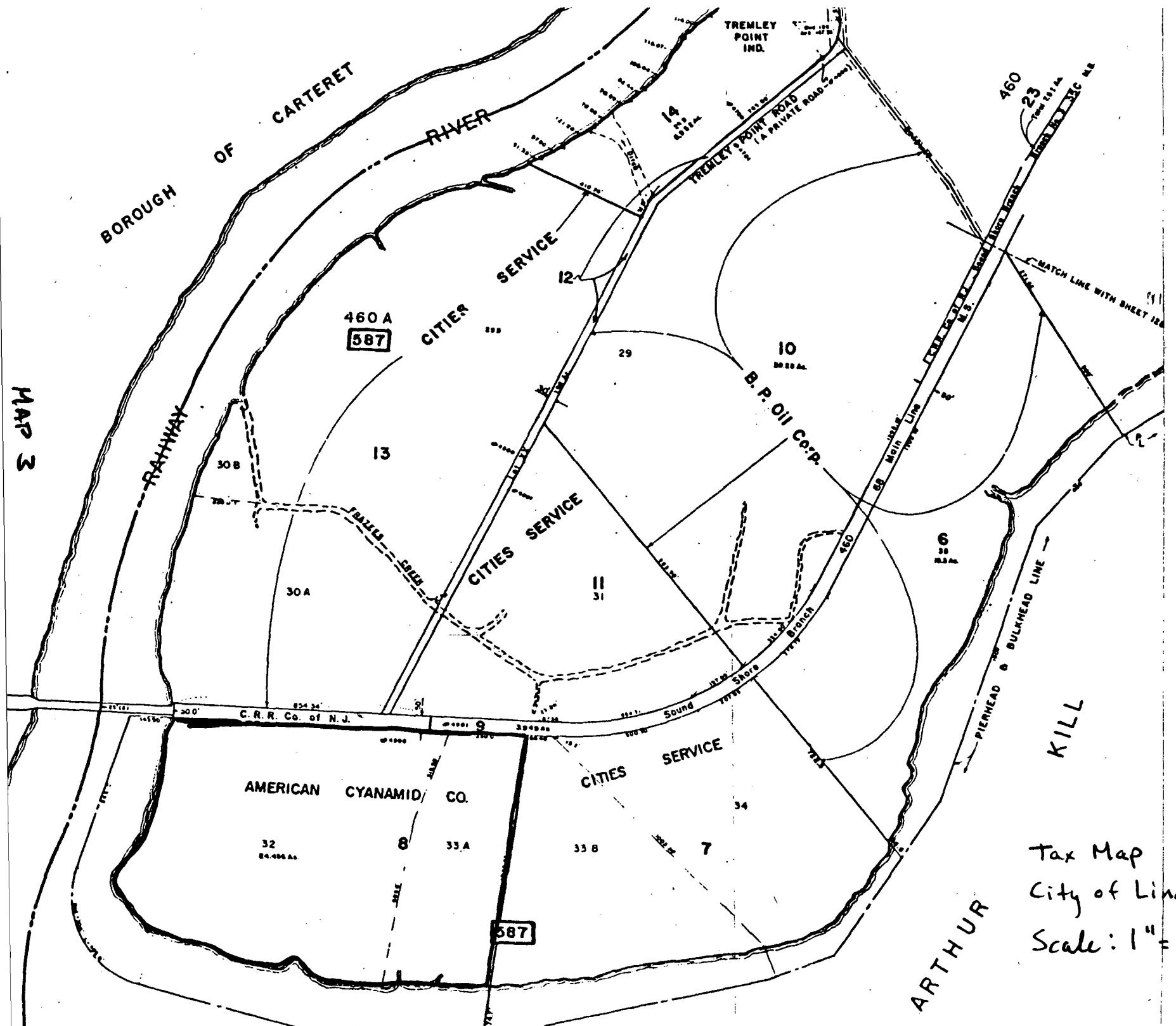
X. MEMO RE: NEARBY POTABLE WATER SUPPLIES

LINDEN
LINDEN AIRPORT
Memorial Field Park
Tremley Park
Tremley
Radio Tower
Grasselli
Powerplant
Pumping Sta
Sewage Disposal
Tremley Point
Potters Island
Liberty Park
RAHWAY
RIVER
West Carteret
INTERCHANGE
Tollgate
CENTRAL RR OF NEW JERSEY
Chelsea
Powerplant
Patterson Cem
Substa
Mon No 20
Water Tank
CARTERET
Park
Port Reading
Cedar Pt
Dept of Sanitation
Fresh Kills
Great Fresh
WOODBRIDGE
Water Tanks
Playground
Water Tank
MAP-1
ARTHUR KILL, N.Y.—N.J.
N4030—W7407.5/7.5
SCALE 1:24000
1 MILE
7000 FEET
1 KILOMETER



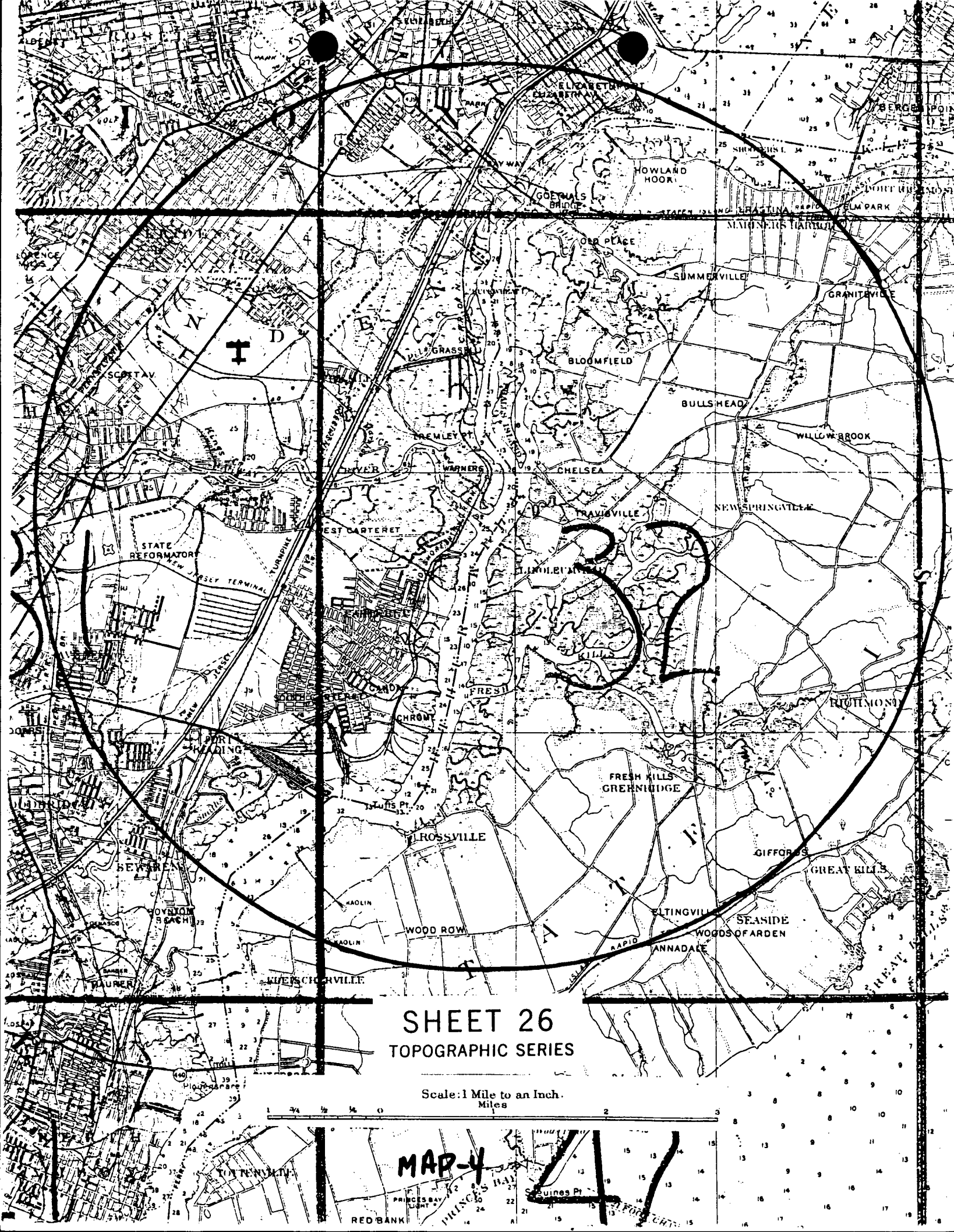
MAP - 2
American Cyanamid Warners Plant
Facility Map

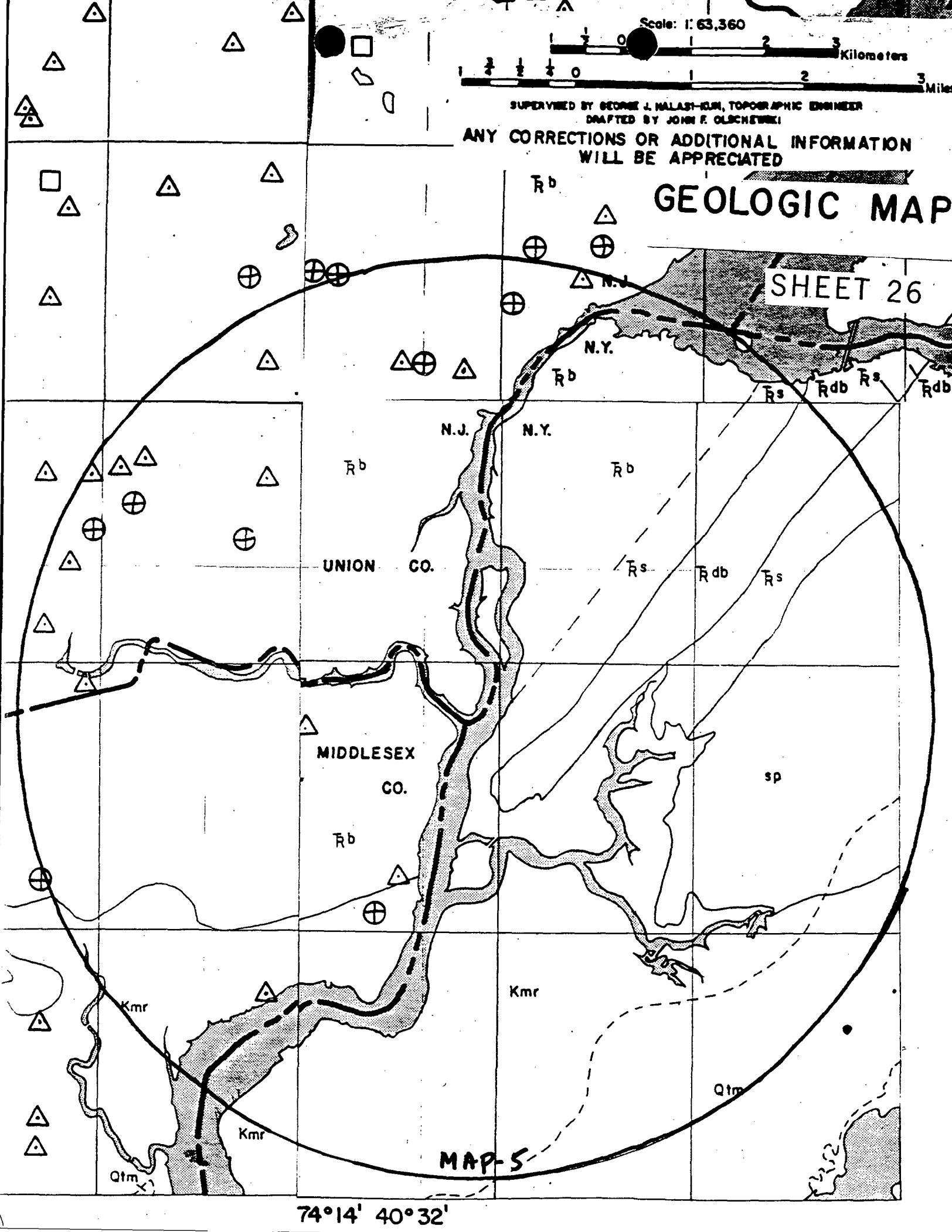
CONFIDENTIAL
AMERICAN C



MAP 3

Tax Map
City of Linden, Union Co.
Scale: 1" = 200'


SHEET 26
TOPOGRAPHIC SERIES
Scale: 1 Mile to an Inch.
Miles
MAP-4
ELIZABETH
HOWLAND HOOK
GOETHALS BRIDGE
STATEN ISLAND
ELM PARK
MARINERS HARBOR
OLD PLACE
SUMMERVILLE
GRANITEVILLE
BLOOMFIELD
BULLS HEAD
WILLOWBROOK
CHELSEA
TRAVISVILLE
NEW SPRINGVILLE
WARNERS
TREMLEY PT
SCOTTAV
WEST CARTERET
STATE REFORMATORY
NEW JERSEY TERMINAL
TURNPIKE
LINOLEUMVILLE
FRESH KILLS
RICHMOND
CHROME
PORT REDING
FRESH KILLS
GREENRIDGE
Luns Pt
ROSSVILLE
GIFFORDS
GREAT KILLS
SEWAREN
KAOLIN
ELTINGVILLE
SEASIDE
WOODS OF ARDEN
WOOD ROW
ANNADALE
RAPID
KUESCHCHVILLE
MAURER
TOTTENVILLE
PRINCES BAY
PRINCES BAY LIGHT
Squires Pt
RED BANK
47


Scale: 1:63,360
Kilometers
Miles
SUPERVISED BY GEORGE J. HALASI-KUN, TOPOGRAPHIC ENGINEER
DRAFTED BY JOHN F. OLSCHEWSKI
ANY CORRECTIONS OR ADDITIONAL INFORMATION WILL BE APPRECIATED
GEOLOGIC MAP
SHEET 26
N.Y.
N.J.
N.Y.
UNION CO.
MIDDLESEX CO.
Rb
Rs
Rdb
sp
Kmr
Qtm
MAP-5
74°14'
40°32'

LEGEND FOR ATLAS SHEET 26 (GEOLOGY)

△ — INDUSTRIAL WELL YIELD OVER 70 GALLONS PER MINUTE (INCLUDING PRIVATE WELLS)

□ — PUBLIC SUPPLY WELL YIELDING OVER 70 GALLONS PER MINUTE

⊕ — UNSUCCESSFUL ROCK WELL YIELDING LESS THAN 70 GALLONS PER MINUTE

⊙ — UNSUCCESSFUL SAND WELL YIELDING LESS THAN 70 GALLONS PER MINUTE

⊡ — NO TEST – NO DATA ON YIELD

——— — FAULT (DASHED WHERE INFERRED)

——— — CONTACT (DASHED WHERE INFERRED)

PHYSIOGRAPHIC PROVINCE BOUNDARY

WATER SUPPLY TRANSMISSION LINE

NOTE: WHERE THE PRECAMBRIAN FORMATION BOUNDARIES TERMINATE ABRUPTLY, IT IS THE GEOLOGIST'S OPINION THAT THE GEOLOGICAL COMPLEXITY OF THE AREA PREVENTS FURTHER INTERPRETATIONS.

Kmr — CRETACEOUS MAGOTHY AND RARITAN FORMATIONS (SAND AND CLAY)

Ꞧb — TRIASSIC BRUNSWICK FORMATION

Ꞧc — TRIASSIC CONGLOMERATE BEDS OF THE STOCKTON FORMATION

Ꞧl — TRIASSIC LOCKATONG FORMATION

Ꞧdb — TRIASSIC DIABASE

Ꞧbs — TRIASSIC BASALT FLOWS

Sd — SILURIAN DECKER LIMESTONE AND LONGWOOD SHALE FORMATIONS

Sgp — SILURIAN GREEN POND CONGLOMERATE

Omb — ORDOVICIAN MARTINSBURG SHALE

Ꞓok — CAMBRO ORDOVICIAN KITTATINNY LIMESTONE

Ꞓh — CAMBRIAN HARDYSTON SANDSTONE

PRECAMBRIAN:

gh - HORNBLENDE GRANITE WITH PYROXENE GRANITE

ga - ALASKITE

am - AMPHIBOLITE

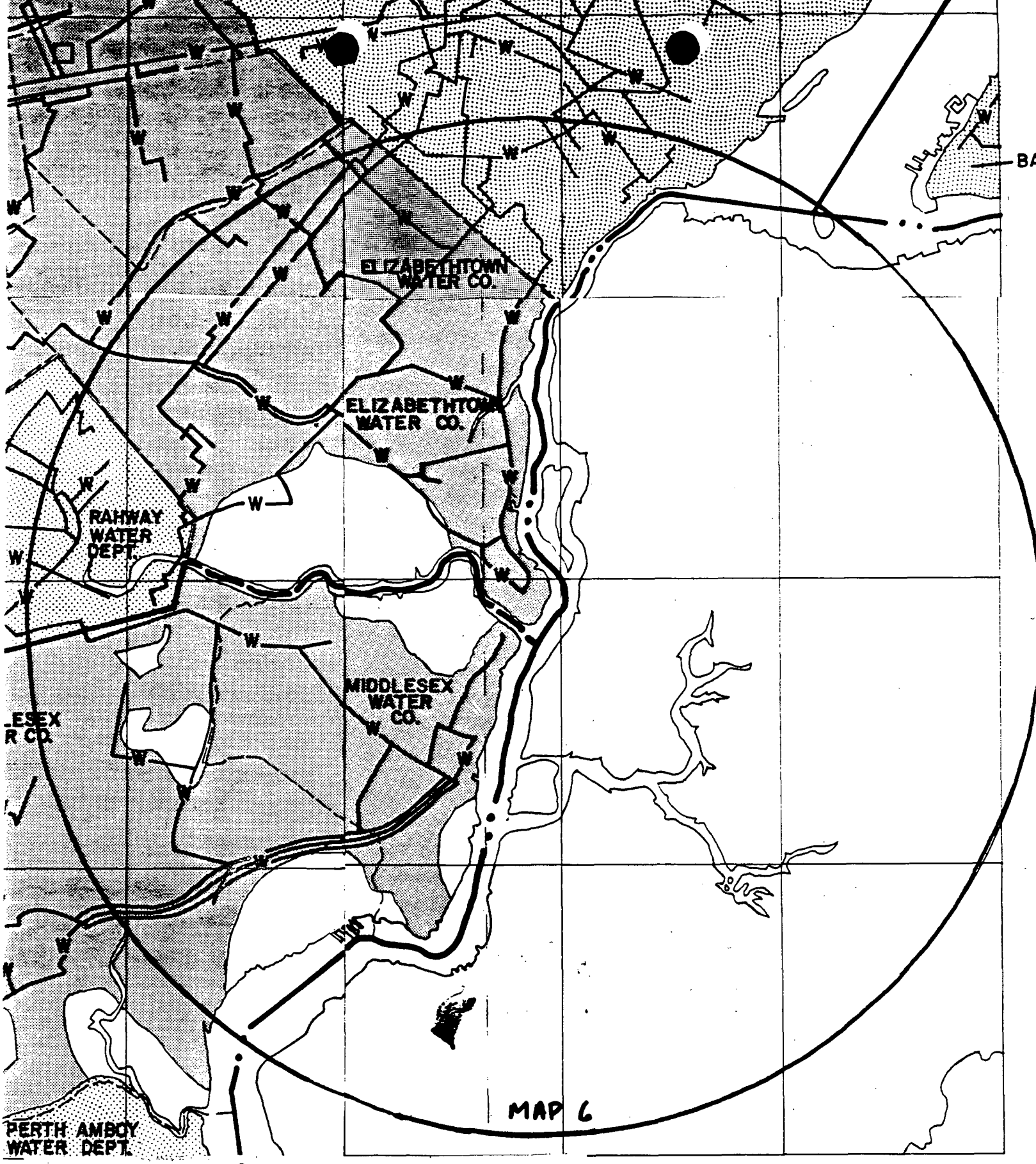
px - PYROXENE GNEISS

gnq - QUARTZ PLAGIOCLASE GNEISS

gnb - BIOTITE GNEISS

sk - SKARN, GRAPHITE SCHIST

fnd — FORMATION NOT DETERMINED



Scale: 1:63,360

1 ¾ ½ ¼ 0 1 2 3 Kilometers

1 ¾ ½ ¼ 0 1 2 3 Miles

SUPERVISED BY GEORGE J. HALASI-KUN, TOPOGRAPHIC ENGINEER
DRAFTED BY JOHN F. OLSCHEWSKI

ANY CORRECTIONS OR ADDITIONAL INFORMATION WILL BE APPRECIATED

SHEET 26

WATER SUPPLY MAP

I. Water Well Records

Location	Owner	Year Drilled	Screen Setting or Depth of Casing	Total Depth	g/m Yield	Formation
26-22-143	Irvington Smelting & Ref.Wks.	1953	71	209	192	Trb
26-22-143	"	1953	62'4"	304	300	"
26-22-145	Associated Mech.Devices	1960	83	250	80	"
26-22-149	Gallo Asphalt Co.	1961	107	201	200	"
26-22-213	Krueger Brewing Co.			656	435	"
26-22-228	Smith & Smith Funeral Parlor			776	25	"
26-22-234	U.S. Navy			565	39	"
26-22-237	Conmar Corp.			300	450	"
26-22-262	National Lock Washer Co.			800	100	"
26-22-275	Linde Air Products Co.	1954	44'5"	500	124	"
26-22-293	New York Port Authority	1968	60	370	260	"
26-22-322	Standard Bitulithic Co.	1964	89'11"	406	360	"
26-22-327	Pfeiffer, H.			505	12	"
26-22-333	Arkansas Co., Inc.	1965	72'9"	400	65	"
26-22-333	Ronson Metals Corp.	1965	80	300	220	"
26-22-334	Wilson, H.A. Co.			778	8	"
26-22-345	Chem-Fleur	1965	97	306	200	"
26-22-355	Englehard Ind., Inc.	1966	54/79'8"	428	167	"
26-22-355	"	1965	80'7"	400	401	"
26-22-356	"	1966	78.5/92	495	4	"
26-22-368	Rutherford & Delaney Hldg.Co.	1956	42	220	100	"
26-22-411	Bristol Meyers	1967	49	500	159	"
26-22-418	Dillon-Beck Mfg. Co.			379	100	"
26-22-449	Elizabethtown Water Co.			400	550	"
26-22-463	Orbis Products Corp.	1958	157	350	12	"
26-22-517	Pennick, S.B. Co.	1961	64'10"	585	24	"
26-22-518	Pure Carbonic			600	30	"
26-22-546	Black Diamond Grit Co.	1960	92	265	150	"
26-22-574	Londat Aetz Fabric Co.	1965	50	600	30	"
26-22-574	Elizabeth Abbatoir			641	75	"
26-22-744	Morey LaRue Laundry			700	15	"
26-22-745	"			600	14	"
26-22-785	Stevenson Car Co.			300	95	"
26-22-786	Feldman Brothers			805	54	"
26-22-795	Reichold Chemical Co.	1967	39'6"	400	415	"
26-22-828	Singer Mfg. Co.			1200	90	"
26-22-833	General Chemical Co.	1965	106	500	70	"
26-22-842	Clauss Bottling Works			500	50	"
26-22-847	Elizabethtown Gas & Light			300	0	"
26-22-852	Riker Motor Co.			500	0	"
26-22-854	Thomas & Betts Co., Inc.			500	264	"

J. Geodetic Control Survey monuments described
Index Map 26; adjacent Index Map 31

BLOCK #26-23,24 8/76

A. Elizabeth, Jersey City

B. Arthur Kill-Elizabeth Channel, Passaic-Upper Passaic

C. 1. Jersey City - Non-recording temperature and precipitation gauges

Water Quality Standards: (explained in Atlas Sheet description)
TW2 except where classified TW3

D. Brunswick Formation (Trb), Stockton Formation (Trs), Diabase (Trdb), Manhattan Schist (Oms), serpentine (sp)

E. 1. Physiographic Province: Piedmont
Subdivision: Triassic Lowlands
Major Topographic Features: Red Sandstone Plain, Palisades Ridge, Hackensack Meadows, Newark Bay, New York Bay
Relief: 10'

2. a. Normal Year: 43"
Dry Year: 35"
Wet Year: 49"
b. January: 32°F
July: 74°F
c. 245 days. Last killing frost: 4/10; first killing frost: 10/20

F. Hudson County:
Lincoln Park
Div. of Parks and Forestry:
Liberty State Park
Little Basin Area

G. U.S. National Park Service:
Statue of Liberty National Monument (Ellis Island)
U.S. Army:
Military Ocean Terminal

H. Statue of Liberty National Monument
Hudson County Courthouse, Jersey City

I. Water Well Records

Location	Owner	Year Drilled	Screen Setting or Depth of Casing	Total Depth	g/m Yield	Formation
26-23-111	Pfaff & Kendall	1965	81.5	200	100	Trb
26-23-142	Lincoln Farm Prod.Co.			109	25	Trbs
26-23-245	Spalding & Jennings			422	75	Trb-PG
26-23-291	Berkeley Industries	1956	115/140	335	60	Trbd
26-23-293/6	Snead & Co.			300	60	Q
26-23-333	Erie Railroad			197	157	Oms
26-23-334	Lembeck & Betz's Brewery			1000	33	Trs
26-23-344	Burnett Ave. (228) Co.			438	55	"
26-23-763	Esso Standard Oil Co.	1959	114/252	505	3	"

J. Geodetic Control Survey monuments described
Index Map 26; adjacent Index Maps 31,21,16

A. Arthur Kill, Elizabeth, Perth Amboy, Roselle

B. Arthur Kill-Morses Creek, Rahway, Woodbridge River; Raritan-Lower Raritan

C. 1. Rahway - Recording and non-recording precipitation gauges

2.

Map No.	Location	Period of Record
75	Rahway River at Rahway	1908-1915, 1921-
77	Robinsons Branch Rahway River at Rahway	1939-

3.

75	Rahway River at Rahway	1939-
77	Robinsons Branch Rahway River at Rahway	1964-
273	Rahway River at Rahway, Woodbridge-Hazelhurst Ave.	1964-

Water Quality Standards: (explained in Atlas Sheet description)
FW2, TW2 except where classified FW3 or TW3

D. Wisconsin Terminal Moraine (Qtm), Magothy and Raritan Formations (Kmr), Brunswick Formation (Trb)

E. 1. Physiographic Province: Piedmont
Subdivision: Triassic Lowlands
Major Topographic Features: Wisconsin Terminal Moraine, Red Sandstone Plain
Elevations (ft.above sea level): hills 150, valleys 0
Relief (ft.): 150

Physiographic Province: Coastal Plain
Subdivision: Inner Plain
Major Topographic Features: Arthur Kill, Clay and Marl Region
Elevations (ft.above sea level): hills 200, valleys 0
Relief (ft.): 200

2. a. Normal Year: 46"
Dry Year: 38"
Wet Year: 52"

b. January: 32°F
July: 74°F

c. 242 days. Last killing frost: 4/20; first killing frost: 10/20

F. Middlesex County:
Merrill Park
Roosevelt Park
Union County:
Rahway River Parkway
Middlesex Water Company:
Private Watershed

I. Water Well Records

Location	Owner	Year Drilled	Screen Setting or Depth of Casing	Total Depth	g/m Yield	Formation
26-31-132	Hyatt Roller Bearing Div.			501	500	Trb
26-31-237	Tingley-Reliance Rubber Co.			122	120	"
26-31-239	Hatfield Wire & Cable Co.	1959	52	350	323	"
26-31-243	Rahway, City of	1953	21.75	57	355	Q
26-31-266	Quinn & Boden	1966	35	35	23	Trb
26-31-268	"			357	150	"
26-31-274	Rahway, City of			301	12	"
26-31-294	Rahway Theater			349	100	"
26-31-315	Linden Ice Co.	1959	40	550	70	"
26-31-317	General Gum Products	1953	39'9"	316	100	"
26-31-338	Winews, C.H. & John			200	750	"
26-31-342	Layne, New York Co.	1955	36	310	30	"
26-31-364	Lampert Dairy Farms Inc.	1967	39	290	17	"
26-31-465	Middlesex Water Co.	1964	32'8"	505	495	"
26-31-533	Maclac Co.			151	91	"
26-31-576	Costa's Ice Cream Co.	1961	40	359	300	"
26-31-594	Security Steel Equip. Inc.	1957	26	614	34	"
26-31-861	Sabol National Grocery	1956	24	200	70	"
26-31-891	Swift & Co.	1955	43'8"	61	70	Kmr
26-31-894	California Refining Co.			288	92	"
26-31-938	Second Reverse Terminal Inc.	1958	109'6"	168	150	Q

J. Geodetic Control Survey monuments described
Index Maps 30,31; adjacent Index Maps 25,26

BLOCK #26-32

A. Arthur Kill, Elizabeth

B. Arthur Kill-Morses Creek, Rahway, Woodbridge

C. Water Quality Standards: (explained in Atlas Sheet description)
FW3, TW2 except where classified TW3

D. Wisconsin Terminal Moraine (Qtm), Magothy and Raritan Formation (Kmr), Stockton Formation (Trs), Diabase (Trdb), serpentine (sp)

E. 1. Physiographic Province: Piedmont
Subdivision: Triassic Lowlands
Major Topographic Features: Red Sandstone Plain, Arthur Kill
Elevations (ft.above sea level): hills 30, valleys 0
Relief (ft.): 30

Physiographic Province: Coastal Plain
Subdivision: Inner Plain
Major Topographic Features: Arthur Kill, Clay and Marl Region
Elevations (ft.above sea level): hills 20, valleys 0
Relief (ft.): 20

2. a. Normal Year: 46"
Dry Year: 38"
Wet Year: 52"

b. January: 32°F
July: 74°F

c. 242 days. Last killing frost: 4/20; first killing frost: 10/20

I. Water Well Records

Location	Owner	Year Drilled	Screen Setting or Depth of Casing	Total Depth	g/m Yield	Formation
26-32-417	Gulf Stream Development	1967	54	145	100	Trdb
26-32-485	Liebig Works			60	200	Q
26-32-487	U. S. Metals Refining Co.			117	0	Kmr

J. Geodetic Control Survey monuments described
Index Map 31; adjacent Index Map 26

SUBJECT TO REVISION

Am Lyn

WATER WITHDRAWAL POINTS AND NJGS CASE INDEX SITES WITHIN 5.0 MILES OF:

LATITUDE 403545
LONGITUDE 741207

DRAFT

MAP 7

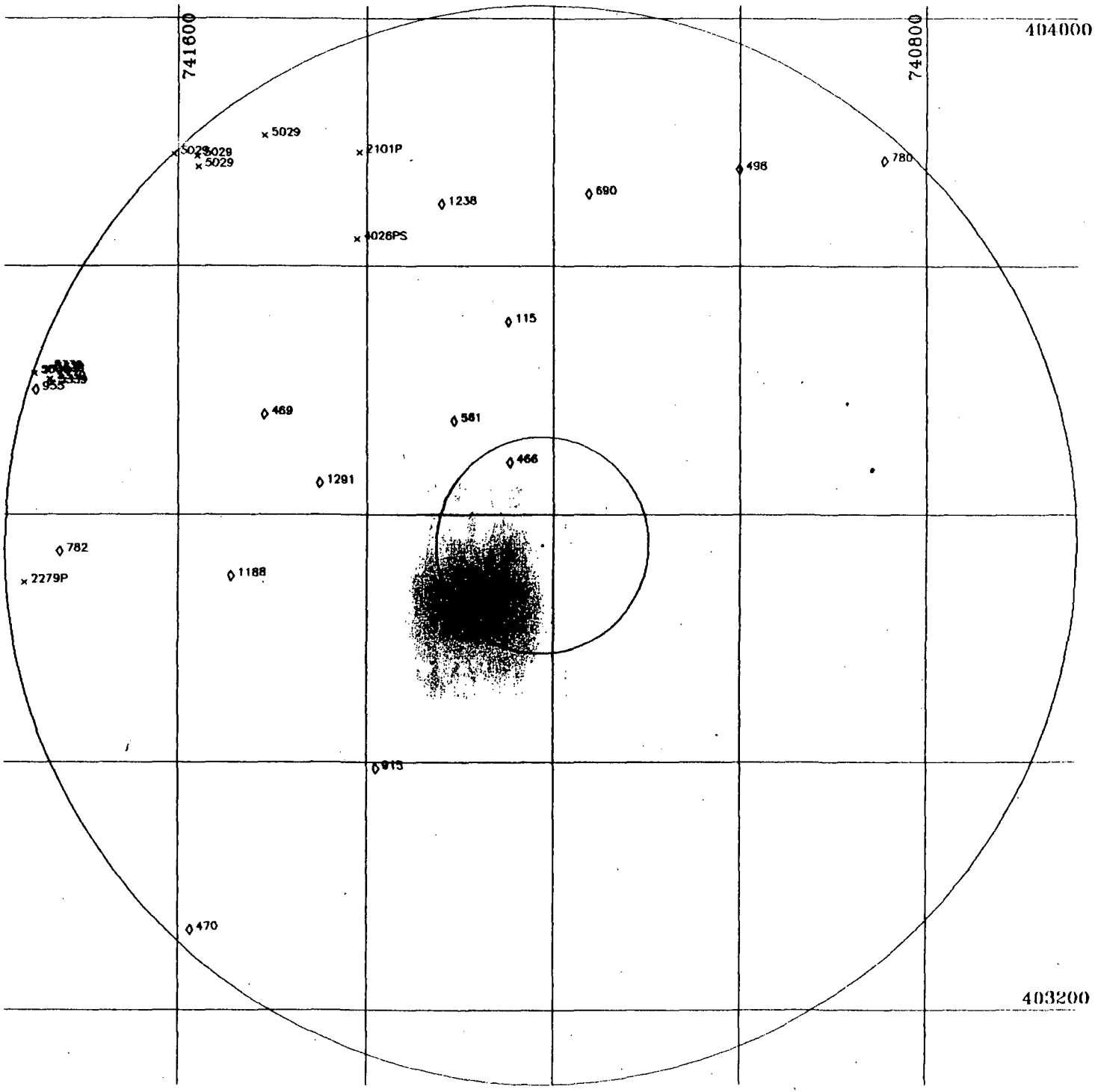
SCALE: 1:63,360
(1 Inch = 1 Mile)

× WATER WITHDRAWAL POINTS
◊ NJGS CASE INDEX SITES
1 MILE AND 5 MILE RADII INDICATED

NJGS CASE INDEX DATA RETRIEVED FROM:
NEW JERSEY GEOLOGICAL SURVEY
ON 12/22/87

PLOT PRODUCED BY:
NJDEP
DIVISION OF WATER RESOURCES
BUREAU OF WATER ALLOCATION
CN-029
TRENTON, NJ 08625

DATE: 05/26/88



SUBJECT TO REVISION

Page 1 of PRELIMINARY SURVEY OF WATER WITHDRAWAL POINTS WITHIN 5.0 MILES OF 403545 LAT. 741207 LON. (IN ORDER BY [illegible]

NUMBER	NAME	SOURCEID	LOCID	LAT	LON	LLACC	DISTANCE	COUNTY	MUN	DEPTH	GRO1	NO02	CAPACITY
2101P	DECORATOR PLASTICS, INC.	2604727		403855	741405		4.0	39	04	570	GTRB		200
2279P	VOLCO BRASS - WELL SEALED 2/88	2600049	1	403527	741737		4.8	39	08	435	GTRB		350
4026PS	EXXON COMPANY USA	MORSES	CREEK	403813	741406	T	3.3	39	09		SY		
5029	ELIZABETHTOWN WATER COMPANY	2602393	CHANDLER	403903	741505	F	4.6	39	14	350	GTRB		300
	ELIZABETHTOWN WATER COMPANY	2602302	WALABURGA1	403854	741603	F	5.0	39	14	350	GTRB		350
	ELIZABETHTOWN WATER COMPANY	2602360	WALABURGA2	403848	741547	F	4.7	39	14	348	GTRB		200
	ELIZABETHTOWN WATER COMPANY	2602463	WALABURGA4	403853	741548	F	4.8	39	14	325	GTRB		450
5339	RAHWAY, CITY OF	2600381	1	403710	741723		4.9	39	13	50.5	GQSD		300
	RAHWAY, CITY OF	2600380	2	403709	741722		4.9	39	13	51.5	GQSD		300
	RAHWAY, CITY OF	2600724	3	403708	741731		5.0	39	13	76	GTRB		350
	RAHWAY, CITY OF	2601671	4	403705	741721		4.8	39	13	127	GTRB		400
	RAHWAY, CITY OF	2601672	5	403703	741720		4.8	39	13	135	GTRB		400

Number of Observations: 12

7-2

Page 1 of PRELIMINARY SURVEY OF WATER WITHDRAWAL POINTS WITHIN 5.0 MILES OF 403545 LAT. 741207 LON. (IN ORDER BY [illegible]

NUMBER	NAME	SOURCEID	LOCID	LAT	LON	LLACC	DISTANCE	COUNTY	MUN	DEPTH	AQUI	GEOZ	CAPACITY
2279P	VOLCO GRASS - WELL SEALED 2/88	2600049	1	403527	741737		4.8	39	08	435	GTRB		350
5339	RAHWAY, CITY OF	2600724	3	403708	741731		5.0	39	13	76	GTRB		350
5339	RAHWAY, CITY OF	2600381	1	403710	741723		4.9	39	13	50.5	GQSD		300
5339	RAHWAY, CITY OF	2600380	2	403709	741722		4.9	39	13	51.5	GQSD		300
5339	RAHWAY, CITY OF	2601671	4	403705	741721		4.8	39	13	127	GTRB		400
5339	RAHWAY, CITY OF	2601672	5	403703	741720		4.8	39	13	135	GTRB		400
5029	ELIZABETHTOWN WATER COMPANY	2602302	WALABURGA1	403854	741603	F	5.0	39	14	350	GTRB		350
5029	ELIZABETHTOWN WATER COMPANY	2602463	WALABURGA4	403853	741548	F	4.8	39	14	325	GTRB		450
5029	ELIZABETHTOWN WATER COMPANY	2602360	WALABURGA2	403848	741547	F	4.7	39	14	348	GTRB		200
5029	ELIZABETHTOWN WATER COMPANY	2602393	CHANDLER	403903	741505	F	4.6	39	14	350	GTRB		300
4026PS	EXXON COMPANY USA	MORSES	CREEK	403813	741406	T	3.3	39	09		SY		
2101P	DECORATOR PLASTICS, INC.	2604727		403855	741405		4.0	39	04	570	GTRB		200

Number of Observations: 12

7-3

Page: 1 of 1166 CASE INDEX SITES WITHIN 5.0 MILES OF 403545 LAT. 741307 LON. AS OF 12/22/87 (IN ORDER BY DECREASING DISTANCE)

SITENUM	NAME	LAT	LON	DISTANCE	CONTROL	PRIORITY	PRIORITY2	STATUS	SCALE
995	RAHWAY WATER DEPT., RAHWAY, UNION CO.	403700	741730	4.9	00	3070	0	1	I
382	DRI-PRINT FOILS, INC, RAHWAY	403542	741715	4.5	0	0100	3070	1	
430	[illegible] INC., SEWAREN, MIDDLESEX CO.	403239	741552	4.8	41	100	130	9	
1183	SIMPLEX WIRE & CABLE CORP., 21 ENGLEHARD AVE., WOODBRIDGE, MIDDLESEX CO.	403320	741526	2.9	52			9	
469	SALVERIS RAILWAY SERVICE, LINDEN, UNION CO.	403648	741505	2.9	1	130	3070	9	
1291	GULF LIQUIDS CO.-LINDEN TERMINAL, UNION CO.	403615	741430	2.2	63	0102	3070	1	R
915	DISPOSAL, PORT READING,MIDDLESEX CO.	403357	741354	2.6	00	0170	3070	1	E
1238	COMMERIES INC, LINDEN, UNION CO.	403830	741312	3.3	53	3070		1	U
561	GAF CORP., LINDEN, UNION CO.	403645	741304	1.4	1	100	3070	9	
115	EXXON REFINERY, RAHWAY LINDEN, UNION CO.	403733	741229	2.1	1	103	3070	9	H
466	LINDEN CHLORINE, LINDEN, UNION CO.	403625	741220	0.8	56	3070	0	9	
690	CHEMLOGIC CONTROL, ELIZABETH, UNION CO.	403835	741137	3.3	0	0100	3070	1	E
498	CONRAIL E-PORT, ELIZABETHPORT, UNION CO.	403847	741000	3.9	1	103	130	9	
780	DISCOVERIES, INC. BAYONNE, HUDSON CO.	403851	740827	4.8	63	0103	3050	1	R

Number of Observations: 14

1-4

Page [illegible] LIST NJDS CASE INDEX SITES WITHIN 5.0 MILES OF 403645 LAT, 741307 LON, AS OF 12/22/87 (IN ORDER BY SITE NUMBER) [illegible]

SITENUM	NAME	LAT	LON	DISTANCE	CONTAM	[illegible]	[illegible]	[illegible]	[illegible]
115	EXXON REFINERY, RAHWAY LINDEN, UNION CO.	403733	741229	2.1	1	103	3070	9	H
466	LINDEN CHLORINE, LINDEN, UNION CO.	403625	741228	0.8	56	3070	0	9	
469	SOLVENTS RECOVERY SERVICE, LINDEN, UNION CO.	403648	741305	2.9	1	130	3070	9	
470	CP CHEMICALS INC., SEWAREN, MIDDLESEX CO.	403239	741552	4.8	41	100	130	9	
478	CONRAIL E-PORT, ELIZABETHPORT, UNION CO.	403847	741000	3.9	1	103	130	8	
561	GAF CORP., LINDEN, UNION CO.	403645	741304	1.4	1	100	3070	9	
690	CHEMICAL CONTROL, ELIZABETH, UNION CO.	403835	741137	3.3	0	0100	3070	1	E
780	OISOMERIES, INC. BAYONNE, HUDSON CO.	403851	740627	4.8	63	0103	3030	1	B
782	DRY-PRINT FOILS, INC, RAHWAY	403542	741715	4.5	0	0100	3070	1	
915	DISTRIGAS, FORT READING,MIDDLESEX CO.	403357	741354	2.6	00	0170	2030	1	E
955	RAHWAY WATER DEPT., RAHWAY, UNION CO.	403700	741730	4.9	00	3070	0	1	C
1103	SMITH TRANSFER CORP., 21 ENGLEHARD AVE., WOODBRIDGE, MIDDLESEX CO.	403530	741526	2.9	52			3	
1238	CONVERTERS INC, LINDEN, UNION CO.	403830	741312	3.3	53	3070		1	C
1291	GULF PRODUCTS CO.-LINDEN TERMINAL, UNION CO.	403615	741430	2.2	63	0102	3070	1	B

Number of Observations: 14

7-5

1.0 PART A PERMIT APPLICATION [N.J.A.C. 7:26-12.2(d)]

The American Cyanamid Company's Warners Plant submitted a RCRA Part A permit application to the USEPA in 1980. Subsequently, the Warners Plant submitted a revised Part A application to the NJDEP in April, 1984. This revision identified 1.3 million gallons of storage and treatment in seven above ground tanks and the storage of 20,000 gallons in containers.

This Part B application contains a newly revised Part A application (shown in Appendix A) that reflects the current hazardous waste storage and treatment operations at the Warners Plant. Specifically the application addresses the treatment of 220,000 gallons per day in Tanks TA-3 and TA-5, the storage of 220,000 gallons in Tanks TA-3 and TA-5 and the storage of 22,000 gallons in containers. Tanks TA-1, TA-2 and TA-7 discharge to a POTW and operate as industrial waste management facilities (IWMF). Tanks TA-4 and TA-6 will undergo closure. Additionally, this newly revised application includes the handling of hazardous waste generated at American Cyanamid's Linden Warehouse and wastes generated as a result of transportation related spills of Cyanamid chemical products shipped from the Warners Plant. The application also modifies the waste types handled at the Warners Plant due to changes in operations and chemical production.

Attachment 4

2.0 GENERAL FACILITY DESCRIPTION AND OPERATION

2.1 The Warners Plant

2.1.1 Introduction

The American Cyanamid Company owns and operates a chemical manufacturing plant (the Warners Plant) in the City of Linden, Union County, New Jersey. The Plant was originally established in the early 1900's and is currently engaged in manufacturing various chemicals for American Cyanamid's Chemicals Group.

As a result of its manufacturing activities, the Warners Plant generates wastes that are classified as hazardous by the New Jersey Department of Environmental Protection (NJDEP) and the United States Environmental Protection Agency (USEPA). Certain of these wastes are treated in on-site tanks, while others are stored in containers and tanks prior to shipment to authorized off-site treatment, storage and disposal (TSD) facilities. The hazardous waste activities at the Plant have been conducted under interim status since American Cyanamid's submission of a Part A application to the USEPA in 1980 (EPA ID #NJD002173144).

A-2

2.1.2 Administrative Information

Site Owner/Operator:	American Cyanamid Company
Site Location:	Warners Plant Foot of Tremley Point Road Linden, New Jersey
Mailing Address:	P. O. Box 31 Linden, New Jersey 07036
Facility Contact:	John Carnall Manager of Environmental Services
Telephone:	(201) 862-6000

2.1.3 Facility Size and Location

The Warners Plant covers an area of 30 acres and is located on the southeast corner of the City of Linden, New Jersey. Figure 2-1 is a general vicinity map showing the Plant's boundaries and location. The Plant is located at the foot of Tremley Point Road and is bounded on the

A-3

east by the Arthur Kill, on the south by the Rahway River, and on the north and west by Cities Service Company property.

The Warners Plant is situated on the Arthur Kill, New York-New Jersey, 7.5 minute U.S.G.S. quadrangle, between latitudes North 40° 35' 45" and North 40° 35' 58" and between longitudes 74° 12' 07" and 74° 12' 25". Hazardous waste management facilities are located at latitude North 40° 35' 54" and longitude 74° 12' 11" (container storage area) and latitude North 40° 35' 48" and longitude 74° 12' 12" (treatment and storage tanks).

2.1.4 Scope of On-Site Activities

The Warners Plant currently produces a variety of inorganic and organic chemicals including sulfuric acid, acrylamide, polyacrylamide, surfactants, water and wastewater treatment chemicals, paper and fabric treatment chemicals, mining and ore production chemicals and non-persistent organophosphate insecticides. These products are produced in process locations throughout the Plant. Processing operations take place as both continuous and batch operations. Although new products continue to be introduced into the Plant, most of the production processes have not significantly changed over the past several years.

A-4

The Warners Plant operates a warehouse (referred to as the Linden Warehouse) located approximately 1.5 miles west of the Plant along Tremley Point Road. The Linden Warehouse is used to store raw materials, finished products and retained product samples. Administratively, the Linden Warehouse is under the operational control of the Warners Plant's management staff. The warehouse maintains its own hazardous waste generator identification number and interim status storage authorization. The regulatory status of the Linden Warehouse is not impacted by the NJDEP's July 29, 1985 request for the submission of a permit application for the Warners Plant.

2.2 Waste Characteristics [N.J.A.C. 7:26-12.2(e)2.]

2.2.1 Introduction

This section describes the chemical and physical nature of the hazardous waste generated, stored and treated at the Warners Plant and provides the information necessary to safely and properly handle the waste prior to off-site disposal.

A-6

2.2.2 Waste Generation

The Warners Plant generates wastes which are classified as hazardous by the NJDEP and USEPA definitions. These wastes are generated by several departments at the Plant as a result of their operation and maintenance of chemical production operations.

Hazardous Waste Stored In Drums

Operating personnel from each waste generating department are responsible for handling containerized hazardous wastes. These wastes are generally produced by the activities listed below.

- floor sweepings
- spent filters and filter cakes
- product spillage clean-up debris
- discarded contaminated equipment

Hazardous Wastes Treated and Stored In Tanks

Hazardous wastes treated and stored in tanks are chemical production process effluents generally including the following:

- process waste
- spent process chemicals

A-6

- process equipment washouts
- floor washings
- pollution control equipment effluents.

New Chemical Product Process Effluents

The production of new compounds at the Plant may result in the generation of new process effluents. It is anticipated that new products will be chemically similar to the current products and therefore their wastes will be consistent with existing waste management practices.

Waste from Off-Site Sources

American Cyanamid operates the Linden Warehouse approximately 1.5 miles west of the Warners Plant. Operations taking place in the warehouse include the storage and repackaging of some of the chemical products produced at the Warners Plant. The Linden warehouse currently maintains generator status and has interim status authorization, as a storage facility. Hazardous wastes generated at the warehouse consist of drummed solids or liquids and bulk liquids resulting from the clean-up of chemical product spills. Drummed wastes are currently being stored at the warehouse.

A-8

2.3.1.1 Hazardous Waste Accumulation

Containerized hazardous wastes are held for short periods (i.e., less than 90 days) at 6 accumulation areas at the Plant. Each of these areas is conspicuously identified. Warning signs are posted indicating that hazardous waste is being stored in the area. The locations of the areas are shown on Figure 2-2.

- Wastes from the DEM/Surfactants and Job Shop Departments are accumulated north of Building 137.
- Wastes from the Acid Center and Pesticides Department are accumulated east of Buildings 46 and 47.
- Wastes from the Malathion Department are accumulated south of Building 132 (Malathion).
- Wastes from the Catalytic Acrylamide Department are accumulated west of Building 76 (Alum Building).
- Wastes from the PAM Department are accumulated east of Building 125 (PAM).
- Wastes from the Cygon Department are accumulated west of Building 123 (Cygon).

A8

Incompatible waste segregation begins when operating personnel (i.e., waste generators) containerize only similar wastes types in a single drum. Yard Department personnel maintain waste segregation in the drum storage area by checking compatibility designations.

All hazardous wastes stored in drums are solids. Therefore, physical separation of incompatible waste types is not critical. However, to minimize the potential of incompatible waste types comingling, all potentially incompatible waste types are stored separately on pallets. A chemical compatibility chart (Figure 2-4), is used by Warners Plant personnel to determine waste compatibility.

Ultimate Disposal

Drums are placed in the storage area awaiting off-site disposal. The drums are provided with the required shipping labels and readied for shipment. After a sufficient quantity of drums are accumulated, arrangements are made to have the drums moved by a licensed transporter to an authorized off-site TSD facility.

A-9

2.3.2 Tank Treatment and Storage

Seven tanks (designated as TA-1 thru TA-7) currently operate under interim status storage and treatment authorization. This permit application addresses two tanks designated as TA-3 and TA-5. Engineering design details and a physical description of the tanks are provided in Section 4.0 of this application. Three other tanks, (designated as TA-1, TA-2 and TA-7) handle production process effluent as well. These tanks have "Permit-By-Rule" status as Industrial Waste Management Facilities (IWMFs). Tanks TA-4 and TA-6 are scheduled to undergo closure when their interim status terminates.

Figure 2-5 provides a simplified schematic flow diagram illustrating the operation of these tanks. The management practices utilized at the Warners Plant for treating and storing hazardous waste in Tanks TA-3 and TA-5 are presented below.

2.3.2.1 Effluent Collection Headers

Process waste effluent is routed to the individual treatment and storage tanks by a series of headers.

A-10

A-11

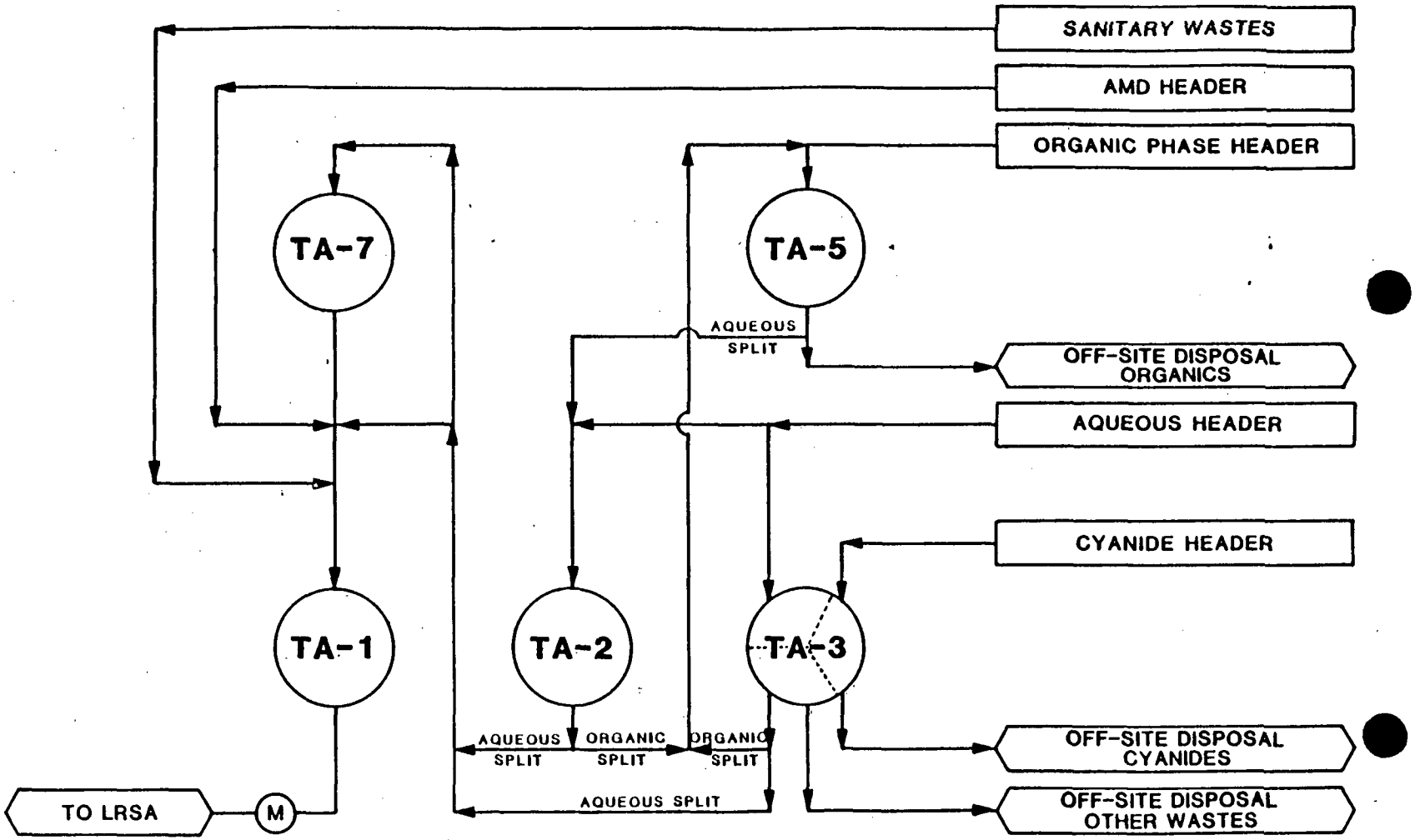


FIGURE 2-5
HEADER TO TANK PROCESS EFFLUENT SCHEMATIC

WARNERS PLANT
American Cyanamid
Linden, N.J.

ERM-Northeast

Separate headers are designated to carry individual waste streams. The headers and the process waste effluent they carry are described below.

AMD (Acrylamide) Header

Acrylamide process waste makes up approximately one third of the total effluent generated by the Plant. The acrylamide header handles waste exclusively from the Acrylamide Department and discharges to Tank TA-1.

Organic Phase Header

This header is a dedicated collection system for organic wastes from the Malathion Department. It discharges to Tank TA-5.

Aqueous Header

The aqueous header handles a variety of organic and aqueous wastes. These wastes are separated into organic and aqueous fractions in Tanks TA-2 and TA-3. The aqueous phase is compatible with the Linden Roselle Sewage Authority (LRSA) treatment process. Typical wastes handled by the aqueous header include:

- floor drain wastes collected in process building sumps and manually pumped to the

A-17

header. These wastes consist mostly of water.

- o alcohol and toluene recovery system aqueous effluents
- o spent process wastes from different departments including the DEM Surfactant and Job Shop Departments.

Cyanide Header

The cyanide header is used to collect effluent which is not compatible with the LRSA treatment process. This header currently conveys sodium cyanide waste to Tank TA-3 for storage prior to off-site disposal.

New Process Wastes

New process wastes will be handled by either the acrylamide, organic phase, aqueous or cyanide headers depending on waste characteristics. If the new process waste needs to be stored separately, it will be routed to a compartment in Tank TA-3 for storage or treatment prior to off-site disposal.

2.3.2.2 Effluent Treatment and Storage

Tank TA-3 is a three compartment tank used for both phase separation and storage. One of the three

A-13

compartments is dedicated to the storage of cyanide waste. This compartment is fed via the cyanide header described above. The remaining two compartments are normally used for either phase separation of organic/aqueous wastes or for the storage of chemical production process effluents. Effluent volumes added to or removed from each of these three compartments are calculated from individual level indicator readings.

Phase separation is accomplished in Tank TA-3 by allowing the organic/aqueous effluent to remain in the compartment for at least 24 hours. The organic phase is transferred to Tank TA-5 for storage prior to off-site disposal. The aqueous phase is transferred to Tank TA-7 or TA-1 for pH adjustment and equalization prior to disposal at the LRSA or retained in Tank TA-3 for off-site disposal.

Tank TA-5 is fed by the organic phase header and the organic phase discharge lines from both Tanks TA-2 and TA-3. After a period of settling, any aqueous fraction is transferred to Tank TA-2. Effluent added to or removed from Tank TA-5 is calculated from level indicator readings.

A-14

Incompatible Waste Segregation

The chemical waste constituents listed in Table 2-2 have been compared to the chemical compatibility chart described on page 2-21. The results of this comparison indicate that most of the possible chemical waste combinations are chemically compatible.

Possible chemical wastes combinations which would exhibit chemical incompatibilities i.e., the generation of heat, vapors, etc., are shown on the matrix provided in Figure 2-4.

The Warners Plant will operate their process effluent discharges to Tanks TA-3 and TA-5, according to the following procedures, to ensure that incompatible chemical waste combinations do not occur.

- Segregation of acidic wastes and cyanide bearing waste is accomplished through the use of a dedicated pipeline to convey cyanide bearing waste directly to Tank TA-3. The cyanide bearing waste remains in Tank TA-3 until it is removed for off-site disposal.

A-15

- In the event that a change in service or waste type is contemplated for any of the compartments in Tank TA-3, the affected compartment(s) will be sampled and analyzed to assure waste compatibility.

- Segregation of amide and halogenated organic wastes is accomplished through direct discharge of process waste from acrylamide production to effluent Tank TA-1. The organic fraction of process effluents is separated from the aqueous effluent prior to reaching TA-1.

- It should be understood that aqueous process effluent from the Warners Plant consists of dilute solutions and not the pure chemical species. Pure chemicals were used to develop the chemical compatibility criteria described on Page 2-21.

- The only combination of strong acids with strong bases occurs during regeneration of ion exchange resin beds. The resulting mixture is autoneutralized based on the

A-16

designed cycle of regeneration. These mixtures occur in large sumps which provide an adequate sink for heat dissipation. Further, all strong acids are neutralized in production department sumps prior to being discharged to the effluent handling system.

Overfill Controls

Each compartment in Tank TA-3 and Tank TA-5 is equipped with a liquid level indicator and a high level alarm. Liquid levels are recorded every two hours, 24 hours per day, seven days per week. A copy of a liquid level record is provided in Exhibit 3-3. Additionally, each tank compartment in Tank TA-3 and Tank TA-5 is equipped with a high level alarm. These level meters sound an audible alarm when the liquid in the tank reaches the preset high level mark. The audible alarm sounds in the Effluent Department control room where operators are available to close the inlet valve to the tank and to notify the generating department to cease the transfer of waste.

A-17

Pressure Control

Tanks TA-3 and TA-5 are equipped with pressure gauges to monitor tank vent pressure. The tanks are normally operated at a pressure of 6" W.C. Tank measurements are recorded every two hours, 24 hours per day, and 7 days per week. A copy of a tank pressure record is also shown in Section 3.3.

Emergency blow-out vents are installed on each tank. The vents are designed to release pressure when the tank pressure exceeds 16" and 18" W.C. for Tank TA-3 and TA-5, respectively. It should be emphasized that the purpose of the emergency vents is to prevent catastrophic over-pressurization and tank failure, a highly unlikely event. Emergency suction vents are also installed on each tank and are designed to limit negative pressure to 1.3" W.C.

Gaseous Emissions Controls

Each compartment in Tank TA-3 and Tank TA-5 is vented to a common safety flare.

A-18

Vapor Ignition Controls

The air space above the liquid in each tank is constantly purged with nitrogen to eliminate the possibility of formation of an ignitable gaseous mixture. Nitrogen and Oxygen concentrations in each tank are checked every two hours, 24 hours per day, seven days a week. Additionally, each tank is electrically grounded. See Plates 3, 4 and 5.

Disposal of Tank Effluents

When sufficient effluent has collected in Tank TA-5 and the storage compartment(s) of Tank TA-3, the waste is pumped to a tank truck or tank railcar. The waste is then transported via a licensed hauler to an authorized disposal facility.

A-19

6.0 SITE DESCRIPTION

6.1 Property Deed [N.J.A C. 7:26-12.2(e)12.]

Two copies of the property deed for the American Cyanamid Company, Warners plant, are contained in Appendix k. A deed assembly map is provided as plate 11.

6.2 Site Topography [N.J.A.C. 7:26-12.2(e)13.]

Topography ranges from 8.2 feet above mean sea-level (MSL) in the eastern part of the Plant to 10 feet above MSL in the western portion. The surface of the slab supporting the hazardous waste storage tanks is at 8.0 feet above MSL. The slab surface at the hazardous waste container storage area is at 8.9 feet above MSL. Plate #10, located in the back of this application, shows the topography of the site. The scale, date and orientation are indicated on the plan.

6.3 Delineation of 100 Year Flood Plain [N.J.A.C. 7:26-12,2, 13.II and 15]

The Warners Plant lies within the Rahway River and Arthur Kill drainage basin. The Rahway River drains to the Arthur Kill which in turn drains to Raritan Bay.

A-20

The flood plain boundary map shown on Figure 6-1 delineates the boundary of the Plant and the hazardous waste storage areas with respect to the 100 year flood plain. Figure 6-1 was developed from data provided by the Federal Emergency Management Agency's (FEMA) National Flood Insurance Program (NFIP). Specifically, Panel 06 of the FEMA-NFIP Floodway map for the City of Linden, Union County, New Jersey.

As indicated in Figure 6-1, the 100 year flood plain elevation in the vicinity of the Warners Plant is 12 feet above mean sea level. This is 4 feet below the top of Tank TA-5 containment area. The containment area for Tank TA-3 will also be designed so that it is above the 100 year flood plain elevation. The base of the container storage area is at elevation 8.9 MSL or 3.1 feet below the 100 year flood plain. In the event of a major storm, the storage area will be protected with sand bags or the drums relocated to a safe location.

6.4 Surface Water Bodies [N.J.A.C. 7:26-12.2(e)13.iii.]

The major surface water bodies in the vicinity of the Warners Plant are the Rahway River to the south and the Arthur Kill to the east. The Plant is located approximately seven miles north of the mouth of Raritan Bay.

Revised 6/16/86

A-24

Other surface water bodies in the vicinity of the Plant include Marshes Creek and Deep Creek to the west, Piles Creek and Neck Creeks to the north, and Rum Creek to the south of the Plant. These streams are all tributaries of the Rahway River and the Arthur Kill. Figure 2-1 shows the proximity of these surface water bodies with respect to the Warners Plant.

6.5 Surrounding Land Use [N.J.A.C. 7:26-12.2(e)13.iv. and xiv.]

Land use within a one mile radius of the Warners Plant is predominantly industrial. The nearest residential development occurs approximately 3500 feet east across the Arthur Kill on Staten Island, New York.

6.6 Meteorology [N.J.A.C. 7:26-12.2(e)13.iv and xiv.]

The mean monthly average temperature for the area is 53.9°F (range: maximum average 76.4°F; minimum average 31.4°F)[1]. Table 6-1 provides precipitation data recorded at the Newark International Airport station for the period from 1941 to 1975. The Newark station is located approximately six miles north of the Warners Plant. Figure 6-2 provides a wind rose for Newark

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[1]National Oceanic and Atmospheric Administration, Environmental Date Service, June, 1982.

A-22

A service connection is also maintained with the Middlesex Water Company.

The fire loop and sprinkler systems are pressurized to 130 psig by a 750 gpm pump. The fire loop supplies 18 yard hydrants. As a back up system, the Plant sprinklers can be supplied with water from Arthur Kill delivered by three pumps. Plant fire mains are shown on Plate #12, in the back pocket of this application.

6.11.2 Storm Water and Cooling Water

Separate sewer systems convey storm water and cooling water at the Plant. These are discharged directly to receiving waters (i.e., Arthur Kill or Rahway River). Both storm water and cooling water discharges are regulated by a NJPDES permit issued by the State of New Jersey in 1984. The permit requires regular monitoring and includes effluent limitations for selected constituents. Plate #13 located in the back pocket of this application, depicts the storm water and cooling water outfall systems.

6.11.3 Sanitary Waste Treatment

Domestic, process and contaminated stormwater generated at the Warners Plant, are pre-treated in an on-site treatment

A-23

system (i.e., Effluent Department) prior to discharge to the Linden-Roselle Sewerage Authority (LRSA) for further treatment. Sanitary waste is collected at several pump stations in the Plant and transferred to a surge tank. The surge tank is operated on level control and the combined wastewater is pumped to an equalization Tank (TA-1) prior to discharge to the LRSA system. pH adjustment, if necessary, is accomplished in TA-1. The discharge to LRSA is regulated by ordinance and administered by the Authority.

Other aqueous wastes that are compatible with the LRSA treatment process are also transferred to TA-1. The aqueous waste is the result of treatment (phase separation) which takes place in two 120,000 gallon tanks (TA-2 and TA-3). Process wastewaters from various parts of the Plant are held in these tanks for 24 hours to allow separation of the organic fraction. The aqueous phase is transferred to the equalization Tank (TA-1) either directly or via a neutralization Tank (TA-7). The organic waste and certain inorganic waste are temporarily stored on-site and eventually transported off-site for ultimate diposal. The sanitary sewer system is shown on Plate #14, located in the back pocket of this application.

A-24

Tanks TA-3 and TA-5 are both vertical, welded steel cylindical tanks with dome roofs. Tank TA-3 is divided into three pie-shaped compartments. Each compartment has a capacity of 40,000 gallons (total tank capacity of 120,000 gallons). The total capacity of Tank TA-5 is 100,000 gallons. Drawings showing the design features of Tanks TA-3 are provided in Plates #3 and 4 in the back pocket of this application. Drawings showing the design features of Tank TA-5 are provided on Plates #5 and 6 in the back pocket of this application. Table 4-1 lists the major physical characteristics of each tank.

Tanks TA-3 and TA-5 were designed and fabricated according to the American Petroleum Institute standards for Welded Steel Tanks for Oil Storage (API-650). Even though these standards were developed for the petroleum industry they are applicable to the storage of non-petroleum chemical liquids as well. Tanks TA-3 and TA-5 are specifically designed to handle chemical effluents from the Warners Plant chemical production processes at ambient temperatures and at an operating pressure of 6" W.C. in the vapor space above the liquid. The maximum design pressure for the tanks is 14" W.C. Further, the placement of both tanks with respect to the Plant's property boundaries complies

A-76

with the National Fi[illegible] Protection Association (NFPA)[illegible] ffer zone requirements for tanks containing flammable liquids.

The shell and bottom plates on both tanks are constructed of 5/16" (minimum) carbon steel plate conforming to ASTM specification A-283. The dome roofs are also fabricated of carbon steel plate. All nozzles and valves are made of carbons steel with some stainless steel fittings.

4.3.2 Secondary Containment

Tank TA-3 is a 120,000 gallon tank made up of three 40,000 gallon compartments. The largest probable spill from this tank would be 40,000 gallons. Secondary containment for Tank TA-3 is provided by a curbed area surrounding the tank with an effective capacity of 60,000 gallons. Details of the containment system may be found in Plate 15 in the back of this Application.

The secondary containment system for Tank TA-3 is also designed to provide containment of spills from two aqueous effluent storage tanks. These tanks (TA-1 and TA-2) operate as an IWMF and are not addressed in this Application. In order to provide the auxilliary containment capacity needed for these tanks, the 60,000 gallon curbed area is equipped with two sumps each with a 55 GPM pump which divert liquid spilled in the curbed area to two nearby containment structures. The piping configuration allows for automatic diversion, based on high liquid level in the sumps, to two out-of-service tanks (aerated surge tank and aeration tank) each with 18,000 gallons of capacity. The dike for Tank TA-5 (described below) with a capacity of 110,000 gallons is used for reserve capacity as necessary. Diversion to this alternate containment structure is accomplished through manual adjustment of valves.

A-76

The piping configuration also allows for pumping from the curbed area to an empty compartment of TA-3, if one is available. Secondary containment for Tank TA-3 is scheduled for completion by November 23, 1986 per an NJDEP approved DPCC Work Plan.

Secondary containment for Tank TA-5 is provided by a 51 ft. X 51 ft. (interior dimensions), 6 ft. high - 1 ft. thick, reinforced concrete wall surrounding the tank. This structure is shown on Plate #7 in the back pocket of this application. The total effective capacity of this containment structure provides approximately 110 percent (111,600 gallons) of the maximum capacity of Tank TA-5 (100,000 gallons). Exhibit 4-1 provides the calculations used to determine the total

effluent which significantly differs in chemical nature from the current process effluents. If the corrosion rate is found to be higher than the rates of shell plate thinning as determined by Figures 4-1 and 4-2, the frequency of future shell plate integrity testing will be increased appropriately.

4.3.4 Tank Foundations (TA-3 and TA-5)

Description of Tank Foundation - TA-3

The supporting substructure for Tank TA-3 consists of 6 parallel rows of 12 inch diameter spruce piles, with 15 piles per row. All of the piles were driven to refusal when first put in place. Each row of piles supports a 2'-6" W x 4'-6" D continuous reinforced concrete beam. The concrete beams support a 1'-0" reinforced concrete slab measuring 154'-5" long by 29'-0" wide. Tank TA-3 rests on a 6 inch concrete pad on top of the reinforced concrete slab. The current foundation structure, including the pile layout and reinforced concrete beams and slab, is detailed on Plate #8 in the back pocket of this application.

Description of Tank Foundation - TA-5

The supporting substructure for Tank TA-5 is provided by sixty, 12 inch diameter, spruce piles driven to refusal

A-28

20-09-03

Let's protect our earth

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF HAZARDOUS WASTE MANAGEMENT
John J. Trela, Ph.D., Director
401 East State St.
CN 028
Trenton, N.J. 08625
609 - 633 - 1408

MAR 10 1988

MAR 21 1988

Barry Tornick
Hazardous Waste Facilities Branch
New Jersey Section
USEPA, Region II
26 Federal Plaza
New York, N.Y. 10278

Dear Mr. Tornick:

RE: AMERICAN CYANAMID COMPANY, WARNERS PLANT, LINDEN, N.J., EPA ID No. NJD 002 173 144

Enclosed please find a copy of a revision of the Part B Permit Application for the subject facility, for your information.

The information relates to closure of a drum storage area presently located in their building 76; and relocating this activity to building 125. The new location for S01 activity will be building 125 not 46. Plans for use of bldg. 46 for this purpose have been scrapped.

If you have any questions regarding this matter, please contact Sunila Agrawal of my staff at (609) 633-0723.

Very truly yours,

Ernest J. Kuhlwein

Ernest J. Kuhlwein, Jr., Chief
Bureau of Hazardous Waste Engineering

EP61/lr
attachment

DOCUMENT: CYANAMID
FOLDER: LXRMCB

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Attachment B

ADM-012

MEMO

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO FILE

FROM CLARE P. SULLIVAN, HSMS IV, BUREAU OF PLANNING AND ASSESSMENT DATE

SUBJECT AMERICAN CYANAMID, LINDEN

Upon conducting a file search on American Cyanamid Warners Plant, no site specific geology could be found. On June 17, 1987 the writer contacted Walt Samsell of the New Jersey Geological Survey for the purpose of obtaining information concerning the geology of the area. Mr. Samsell stated that the area is characterized by fill to a depth of approximately ten (10) feet, as well as clay meadow mat in some areas. These are underlain by glacial till deposits consisting of layers and lenses of silt, sand, and clay. The bedrock of the Brunswick formation is encountered at approximately twenty (20) feet. Further more, he indicated that the water table is extremely high.

CS:mz

Attachment B

Trenton, N.J. 08625

PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attach accompanying same application, and applicable laws and regulations. This permit is also subject to the further cond and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the p

Permit No.	Issuance Date	Effective Date	Expiration Date
NJ0001058	September 6, 1984	November 1, 1984	October 31, 1989

Name and Address of Applicant	Location of Activity/Facility	Name and Address of Owner
American Cyanamid Company Warners Plant P.O. Box 31 Linden, NJ 07036	Warners Plant Foot of Tremley Point Linden City, Union County New Jersey	American Cyanamid Company Berdan Avenue Wayne, NJ 07470

Issuing Division	Type of Permit	Statute(s)	Application
Water Resources	NJPDES-DSW	N.J.S.A. 58:10A-1 et seq.	NJ0001058

This permit grants permission to:

discharge to the Arthur Kill, classified as TW-3 waters in accordance with the effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, III and IV hereof.

Approved by the Department of Environmental Protection
By the authority of:
John W. Gaston, Jr., P.E.
Director
Division of Water Resources

Arnold Schiffman, Administrator
Water Quality Management

9-6-84
DATE

* *The word permit means "approval, certification, registration, etc."*

(GENERAL CONDITIONS ARE ON THE REVERSE SIDE

Form DEP-007 (8/83)

Attachment D

State of New Jersey
Department of Environmental Protection
Division of Water Resources
1474 Prospect St., CN-029
Trenton, New Jersey 08625

FACT SHEET
FOR DRAFT NJPDES PERMIT TO DISCHARGE INTO THE WATERS OF THE STATE OF NEW JERSEY

No. NJPDES NJ0001058 | Application No. | Date: JUL 12 1984

Name and Address of Applicant: American Cyanamid Company
Warners Plant
P.O. Box 31
Linden, N.J. 07036

Name and Address of Facility Where Discharge Occurs: American Cyanamid Warners Plant
Foot of Tremley Point Road
Linden City, Union County
New Jersey

Receiving Water: Arthur Kill

Classification: TW-3

I. LOCATION OF DISCHARGE

The above named applicant has applied for a New Jersey Pollutant Discharge Elimination System (NJPDES) permit, to the State of New Jersey Department of Environmental Protection, Division of Water Resources to discharge into the designated receiving water.

A description and/or sketch of the location of the discharge is appended as Attachment I.

II. DESCRIPTION OF FACILITY

The facility is involved in the production of a variety of inorganic and organic chemicals classified under SIC numbers 2819, 2818, 2879 and 2843. Four discharges, designated as 00A, 00B, 00C and 00D, consisting mainly of storm runoff and non-contact cooling water, and having a combined flow of approximately 34.2 MGD, flow to the receiving water. An oil skimmer, which treats a portion of the discharge from 00D, is the only treatment unit. Additional stormwater reaches the receiving water through 8 storm drains, designated 01 through 08. The facility is classified as major by EPA.

D-2

III. DESCRIPTION OF DRAFT PERMIT CONDITIONS

The effluent limitations, monitoring requirements, schedules of compliance and other conditions of the draft permit are described in Attachment II. Also included in Attachment II is a brief summary of the basis for each effluent limitation and other conditions in the draft permit.

IV. VARIANCE OR MODIFICATION (if applicable)

N/A

V. PROCEDURES FOR REACHING A FINAL DECISION ON THE DRAFT PERMIT

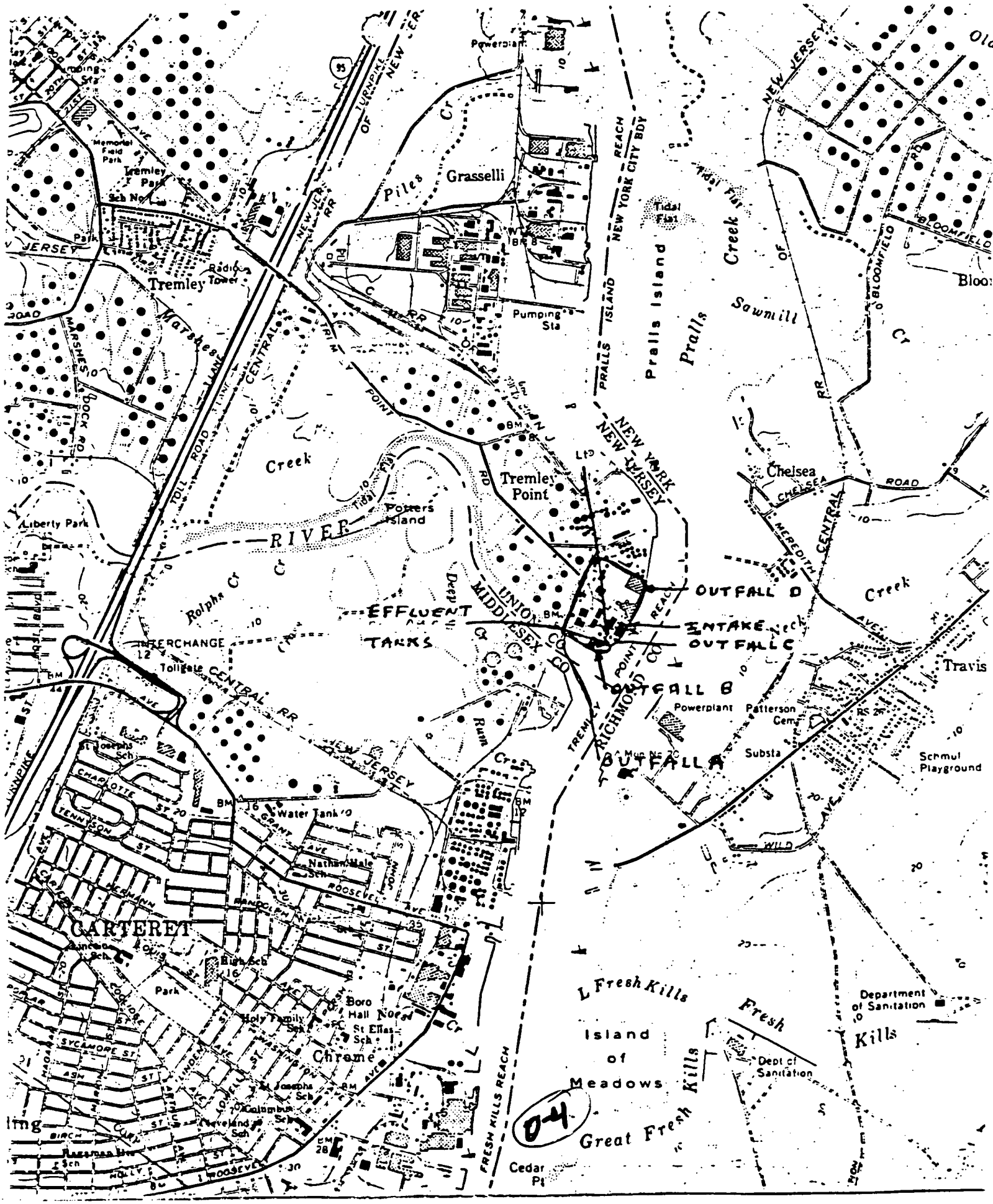
These procedures are set forth in N.J.A.C. 7:14A-7.1 et seq.. Included in the public notice are requirements for the submission of comments by a specified date, procedures for requesting a hearing and the nature of the hearing, and other procedures for participation in the final agency decision.

VI. NJDEP CONTACT

Additional information concerning the draft Permit may be obtained between the hours of 8:00 A.M. and 4:30 P.M., Monday through Friday from: Melisse Wilusz at (609) 292-4860

D-3

LOCATION OF FACILITY AND DISCHARGE



American Cyanamid (Linden)

AMERICAN CYANAMID COMPANY

WARNERS PLANT - LINDEN, N. J.

OUTFALL CONSOLIDATIONS AND FLOW RATES

I. OUTFALL CONSOLIDATIONS COMPLETED

A. Outfalls 001, 002 and 003 have been combined.
The combined flow is designated outfall serial No. A.
The discharge from the cyanide wastewater treatment facility has been diverted to outfall serial No. C.

B. Outfall 004 has been combined with the discharge from the new malathion plant. The outfall is designated as outfall serial No. B.

C. Outfall 005 has been redesignated as outfall serial No. C. The old acrylamide plant has been shut down.

D. Outfalls 006, 008 and 009 have been combined with the discharge from the new acrylamide plant and refrigeration plant. The new outfall has been designated outfall serial No. D.

E. Outfall 010 has been redesignated outfall serial No. E.

II. OUTFALL FLOW RATES

Outfall No.	Avg. MGD	Max. MGD	Min. MGD
A	2.04	6.2	0.4
B	1.61	2.5	0.3
C	11.18	15.7	6.8
D	6.01	12.6	0.5
E	0.03	0.04	0.02

SRH:mes
8/1/78

D-5

9

DIVISION OF ENVIRONMENTAL QUALITY
STACK LOG LISTING

LANT ID	COUNTY	MUNICIPALITY	BUSINESS NAME	PLANT NAME	PLANT CONTACT
0067	UNI	LINDEN	AMERICAN CYANAMID COMPANY	CHEMICAL PRODUCTS DIV WARNERS PLANT	D R CALLAHAN

STACK	CERT	COND	STATUS	EXP. DAT	COMPANY DESIGNATION	LAST INS	BY
000			ZERO		MISCELLANEOUS INSPECTIONS		
001	000615		PERM	03/26/89	STORAGE TANK TA-100	04/22/85	091
002	000616		PERM	01/19/93	TA-66	04/22/85	091
003			DELETE		POLYMERIZATION VESSEL	02/01/84	023
004	001511		PERM	08/31/91	FAN # 400,763 AE ,BLDG 69	08/19/85	091
005			***		VENT. AT VESSEL & FILTER	06/07/83	023
006	001513		DELETE	08/31/86	FORMULATION VESSEL 1703A	08/19/85	091
007	001514		PERM	08/31/91	VENTILATION FILTER 120-11 BLD 69	08/19/85	091
008	001516		PERM	04/23/91	2000 GAL SCALE TK TA-109 BLDG 69	08/19/85	091
009	001517		PERM	04/24/89	TA-103 STORAGE TANK ,BLDG 69	08/19/85	091
010			DELETE		120-17 VACUUM RECEIVER		
011	001519		DELETE	09/28/86	FORMULATION VESSEL 1703A	08/19/85	091
012	001520		DELETE	09/24/86	BLEND HOLD TANK 1708A	08/19/85	091
013	080894		TEMP	09/16/88	DUST COLLECTOR/BLOWER 69-10	08/19/85	091
014	002128		DELETE	03/11/88	SULFURIC ACID PLANT	06/12/86	090
015	002129		DELETE	12/11/87	START UP STACK,700 TPD	06/12/86	090
016	002130		DELETE	04/25/87	850 GAL. SULFUR PUMP TNK	06/12/86	090
017			DELETE		SULFURIC ACID PUMP TANK		
018			DELETE		20,000 GAL. STORAGE TANK	12/10/81	023
019			DELETE		1200 GAL. PUMP TANK		
020	066107		DELETE	09/26/88	V-19, 4500 GAL. SPECIALTY ACID T	06/12/86	090
021	002137		DELETE	04/25/87	V-15 20000 GAL STORAGE TANK	06/12/86	090
022	002139		DELETE	04/25/87	V-20 20000 GAL STORAGE TANK	06/12/86	090
023	002140		DELETE	04/25/87	V-14 20000 GAL BLEND & STOR TANK	06/12/86	090
024			DELETE		20,000 G. BLEND,STG TANK	12/10/81	023
025	045440		DELETE	04/23/88	5 TANK SCRUBBER HSO4 DEP	06/12/86	090
026			DELETE		CENTRIFUGE	07/21/83	023
027			DELETE		FUME VENTILATOR	07/21/83	023
028			DELETE		ACRYLONITRILE RECOVERY	07/21/83	023
029			DELETE		BATCH MEASURING TANK		
030	003561		DELETE	08/30/86	VENTILATION FAN #5	06/12/86	090
031	003562		DELETE	08/30/86	VENTILATION FAN #6	06/12/86	090
032			DELETE		BLDG 120 EXHAUST	07/21/83	023
033			DELETE		ACRYLAMIDE PELLET COOLER	07/21/83	023
034			DELETE		METHANOL MEASURE TNK 156		
035	066108		DELETE	09/04/90	TA-136 MONOMER MAKE-UP TANK	06/12/86	090
036	004177		DELETE	03/16/87	MONOMER MAKE UP TNK 106A	06/12/86	090

*** DENOTES UNDEFINED STATUS

Attachment E

PLANT ID	COUNTY	MUNICIPALITY	BUSINESS NAME	PLANT NAME	PLANT CONTACT
40067	UNI	LINDEN	AMERICAN CYANAMID COMPANY	CHEMICAL PRODUCTS DIV WARNERS PLANT	D R CALLAHAN

STACK	CERT	COND	STATUS	EXP. DAT	COMPANY DESIGNATION	LAST INS	BY
037	004178		DELETE	03/16/87	MONOMER MAKE UP TNK 106B	06/12/86	090
038	004179		DELETE	03/16/87	REACTOR 129A ,BLDG 125	06/12/86	090
039	004180		DELETE	03/16/87	REACTOR 129B ,BLDG 125	06/12/86	090
040	004181		DELETE	03/16/87	REACTOR 131A ,BLDG 125	06/12/86	090
041	004182		DELETE	03/16/87	REACTOR 131B , BLDG 125	06/12/86	090
042	063209		DELETE	02/21/89	MAKE-UP TANK VENT SYSTEM-LINE A	06/12/86	090
043	063210		DELETE	02/21/89	MAKE-UP TANK VENT SYSTEM- LINE B	06/12/86	090
044	004189		DELETE	03/16/87	BAG PACKING AREA ,BLDG 125	06/12/86	090
045	066109		DELETE	03/08/87	VENTILATION FAN EF-7	06/12/86	090
046			DELETE		FUMIGANT MILLING & PACK.		
047			DELETE		BAUXITE ORE CONVEYING		
048			DELETE		BAUXITE ORE CONVEYING		
049			DELETE		FAN 69-6 DISCHARGE		
050			DELETE		STORAGE TANK #41		
051			DELETE		STORAGE TANK #42		
052	008618		PERM	12/13/91	ALCOHOL MEASURING TK 48 BLDG 69	08/19/85	091
053	008619		PERM	12/13/91	ALCOHOL MEASURING TK 47,BLDG 69	08/19/85	091
054	008955		DELETE	04/17/83	DITHIO ACID SCALE TK 46,BLDG 69	10/21/83	023
055	009211		DELETE	03/18/89	3A ALCHOL STORAGE TNK #7	06/12/86	090
056	009212		DELETE	04/17/89	MAMD DRUM FILLING AREA,BLDG 125	06/12/86	090
057	009736		DELETE	01/29/89	380,000 GAL. STORAGE TNK	06/12/86	090
058	013174		PERM	04/17/89	METHANOL MEASURING TK 104,BLDG69	08/19/85	091
059	081112	X	TEMP	07/24/88	REACTOR 104, FLARE #1	02/02/87	023
060	013353		PERM	11/05/90	TA 1 MALATHION SCALE TK,BLDG 69	08/19/85	091
061			DELETE		PRODUCT AIR CONVEYOR		
062	015530		DELETE	03/03/90	DUST COLLECTION SYSTEM	02/02/87	023
063	015743		PERM	03/03/90	2 OZONE GENERATORS ,BLDG 46	06/21/85	091
064			DELETE		5000 GAL. STORAGE TANK	07/21/83	023
065	015895		PERM	08/21/89	SCALE TANK TA-2 ,BLDG 45	06/21/85	091
066	015896		DELETE	08/21/89	REACTOR 171B , BLDG 125	06/12/86	090
067	015897		DELETE	08/21/89	REACTOR 171A ,BLDG 125	06/12/86	090
068			DELETE		ACRYLAMIDE CENTRIFUGE	07/21/83	023
069	015899		DELETE	08/21/89	BLEND TANK #2,3000 GAL.	06/12/86	090
070	070125		DELETE	01/25/87	TA-1 CHARGE HOOD	06/12/86	090
071	015901		DELETE	08/21/89	DMA REACTOR 101,BLDG 43	06/12/86	090
072			DELETE		VACUUM ROTARY FILTER	07/21/83	023
073			DELETE		LOCAL VENTILATION		
074			DELETE		BLDG. 51 CAUSTIC SCRUBBER	10/25/83	023
075	016451		DELETE	06/20/85	P2S5 HOPPER & FEED SYSTEM BLDG62	10/25/83	023
076	016816		DELETE	06/26/85	FLARE NUMBER 4 ,BLDG 62	10/25/83	023
077			DELETE		PNEUMATIC CONVEYING	07/21/83	023
078	017433		PERM	04/10/90	DECANTER VENT 101-81	10/21/83	023
079	017434		PERM	04/10/90	CONDENSER VENT 101-80	10/21/83	023
080	017943		PERM	03/05/89	BLENDER & DENSIFIER ,BLDG 69	09/21/84	091
081			DELETE		HCL STORAGE TANK		
082			DELETE		STORAGE TANK #68		
083			DELETE		REACTOR TA-301		

**** DENOTES UNDEFINED STATUS

E-2

DIVISION OF ENVIRONMENTAL QUALITY
STACK LOG LISTING

PLANT ID	COUNTY	MUNICIPALITY	BUSINESS NAME	PLANT NAME	PLANT CONTACT
40067	UNI	LINDEN	AMERICAN CYANAMID COMPANY	CHEMICAL PRODUCTS DIV WARNERS PLANT	D R CALLAHAN

STACK	CERT	COND	STATUS	EXP. DAT	COMPANY DESIGNATION	LAST INS	BY
084	019738		DELETE	10/07/90	MEASURING TANK 103, BLDG 43	06/12/86	090
085	019739		DELETE	01/19/88	STORAGE TANK 101-63	06/12/86	090
086	020051		PERM	03/06/89	OVERHEAD RECEIVER TA-9,BLDG 132	10/06/87	031
087	020052		PERM	04/01/89	HOT WELL TA-10 ,BLDG 132	10/06/87	031
088	020053		PERM	04/01/89	WASH TANK TA-5 ,BLDG 132	04/23/85	091
089	020054		PERM	04/01/89	WASH TANK TA-8 ,BLDG 132	10/06/87	031
090	020055		PERM	04/01/89	WASH TANK TA-7 ,BLDG 132	10/06/87	031
091	020056		PERM	04/01/89	WASH TANK TA-4 ,BLDG 132	10/06/87	031
092	020057		PERM	03/05/89	EVAPORATOR FEED TK TA-3,BLDG 132	10/06/87	031
093	020058		PERM	04/01/89	DEM SCALE TANK TA-13,BLDG 132	10/06/87	031
094	020059		PERM	04/01/89	SCALE TANK TA-11,BLDG 132	10/06/87	031
095	020060		REVK	02/18/87	STORAGE TANK 120-016	07/01/86	090
096	020061		PERM	04/01/89	COLUMN FEED TK TA-21,BLDG 132	10/06/87	031
097	020062		PERM	04/01/89	SUMP TANK TA-26,BLDG 132	10/06/87	031
098	020063		PERM	04/01/89	CAUSTIC MAKE UP TANK TA-6 BD 132	10/06/87	031
099	020064		PERM	09/20/92	MALATHION STORAGE TK TA31 BD 132	10/06/87	031
100	020065		PERM	12/09/91	CYTHION STORAGE TK LINDEN 150-20	06/21/85	091
101	020066		PERM	09/20/92	CAUSTIC STORAGE TK TA-29 BD 132	10/06/87	031
102	020067		PERM	12/09/91	MALATHION STORG TK LINDEN 150-15	06/21/85	091
103	020068		PERM	09/20/92	MALATHION STORG TK TA-32 BDG 132	10/06/87	031
104	020069		PERM	09/20/92	CYTHION STORG TK TA-30 BLDG 132	10/06/87	031
105	020070		PERM	03/15/93	DIETHYL MALEATE SCALE TANK	10/06/87	031
106	020072		PERM	04/01/89	COLUMN FEED TANK TA-22 BLDG 132	10/06/87	031
107			DELETE		STORAGE TANK #7	12/10/81	023
108	072539		DELETE	02/18/87	ACRYLONITRILE STORAGE TANK VENT	06/12/86	090
109	020276		PERM	01/19/93	STORAGE TANK #8	04/22/85	091
110	046923		DELETE	04/07/87	ACRYLAMIDE DRYER	06/12/86	090
111	020421		DELETE	04/21/87	ACRYLAMIDE STG VESSELS	06/12/86	090
112	068040		DELETE	02/12/87	EXHAUST GAS SCRUBBER 631-102	06/12/86	090
113	020423		DELETE	02/08/88	3500 GAL. SUMP 631-010	06/12/86	090
114	020424		DELETE	10/23/90	400 GAL. SUMP 631-105	06/12/86	090
115			DELETE		MAKE UP TANK 140-078A		
116	020426		DELETE	10/23/85	FEED TANK 140-078B	06/12/86	090
117	020428		DELETE	10/23/90	1000 GAL. DILUTION TANK	06/12/86	090
118	020429		DELETE	02/08/88	SLUICE VESSEL 160-019	06/12/86	090
119	020430		DELETE	10/23/90	8500 GAL. SUMP 631-008	06/12/86	090
120	020431		DELETE	04/21/87	ACRYLAMIDE REACTORS	06/12/86	090
121	020432		DELETE	04/21/87	VACUUM CRYSTALLIZER	06/12/86	090
122			DELETE		PH ADJUSTMENT TANK #5		
123			DELETE		PH ADJUSTMENT TANK #6		
124			DELETE		TREATMENT TANK #3		
126			DELETE		TA-4	07/27/83	023
127	020895		DELETE	12/30/90	TANK WAGON LOADING - OLEUM	06/12/86	090
128	072759		DELETE	02/11/87	BLDG 51 CAUSTIC SCRUBBER	06/12/86	090
129	046388		DELETE	03/06/87	CONDENSOR CN-301 BUILDING 43	06/12/86	090
130	051824		REVK	01/31/87	BLDG.46 FLARE STACK; RE-8(REACT)	07/01/86	090
131	021718		PERM	03/30/89	35000 GALLON ETHANOL TANK	04/22/85	091

**** DENOTES UNDEFINED STATUS

6.3

DIVISION OF ENVIRONMENTAL QUALITY
STACK LOG LISTING

PLANT ID	COUNTY	MUNICIPALITY	BUSINESS NAME	PLANT NAME	PLANT CONTACT
40067	UNI	LINDEN	AMERICAN CYANAMID COMPANY	CHEMICAL PRODUCTS DIV WARNERS PLANT	D R CALLAHAN

STACK	CERT	COND	STATUS	EXP. DAT	COMPANY DESIGNATION	LAST INS	BY
132	021747		PERM	03/29/91	WOOD WORKING EQUIPMENT	06/21/85	091
133			DELETE		FLARE STK #2;CONDENSER JETS TA34	10/25/83	023
134	021804		PERM	12/28/91	METHANOL TANK	07/01/86	090
135			DELETE		SARGENT CONVEYOR DRYER	07/27/83	023
136			DELETE		46-2 EXHAUST BLOWER; TA-30 VENT.	07/27/83	023
137			DELETE		46-3 EXHAUST BLOWER	07/27/83	023
138			DELETE		PROCTOR AND SCHWARTZ DRYER	07/27/83	023
139	060362		PERM	12/03/88	NT-3	08/19/85	091
140	060363		PERM	12/03/88	TA-23	08/19/85	091
141			DELETE		LRSA EQUALIZATION TANK TA #1		
142	022072		REVK	04/08/86	NEUTRALIZER TK 130-008,INCINERAT	02/02/87	023
143	022073		REVK	04/08/86	SLURRY TANK 130-005,INCINERATOR	02/02/87	023
144	022074		DELETE	03/10/81	HOPPER 130-001,INCINERATOR	02/08/83	023
145	066671		DELETE	12/15/88	MIKRO DUST COLLECTOR - LINE A	06/12/86	090
146	066672		DELETE	12/15/88	MIKRO DUST COLLECTOR - LINE B	06/12/86	090
147	023198		PERM	09/24/91	TA-43 ,BLDG 69	08/19/85	091
148	023524		DELETE	12/08/90	TA-130-7 REACTOR	06/12/86	090
149	023532		DELETE	02/27/87	130-13	06/12/86	090
150	023533		DELETE	02/27/87	120-14	06/12/86	090
151	023535		DELETE	03/21/87	140-7	06/12/86	090
152	023539		DELETE	03/21/87	150-6	06/12/86	090
153	023540		DELETE	03/21/87	150-9	06/12/86	090
154	048715		DELETE	05/26/91	SLY IMPIN JET SCRUBBER	06/12/86	090
155			DELETE		ROTARY VACUUM FILTER, SOUTH	07/27/83	023
156	030408		DELETE	02/06/82	MALATHION UNIT FLARE		
157	030454		DELETE	02/06/87	BOILER #1	06/21/85	091
158	031018		DELETE	02/27/87	TANK CAR LOAD STATION A6	06/12/86	090
159	031285		DELETE	06/30/87	TA 102, BUILDING 51	06/12/86	090
160	031286		DELETE	06/30/87	TA-101-A BUILDING 43	06/12/86	090
161	031287		DELETE	06/30/87	TA-5, A/N TANK FARM A-3	06/12/86	090
162			DELETE		SAMPLE TANK, YARD AREA	07/27/83	023
163	031751		DELETE	06/02/91	140-15	06/12/86	090
164	031752		DELETE	06/02/91	160-1	06/12/86	090
165	031753		DELETE	12/08/90	CAUSTIC STORAGE TANK 130-3	06/12/86	090
167	031755		DELETE	06/02/91	160-24	06/12/86	090
168	031756		DELETE	12/08/90	150-1	06/12/86	090
169	031757		DELETE	06/02/91	140-1	06/12/86	090
170	031758		DELETE	06/02/91	180-1	06/12/86	090
171	031759		DELETE	06/02/91	130-20	06/12/86	090
172	031760		DELETE	06/02/91	160-6	06/12/86	090
173	031761		DELETE	06/02/91	160-11	06/12/86	090
174	031762		DELETE	06/02/91	130-9	06/12/86	090
175	031763		DELETE	06/03/91	110-1	06/12/86	090
176	031764		DELETE	02/02/87	TANK 110-6, BUILDING 123	06/12/86	090
177	031765		DELETE	02/04/87	TANK 150-26	06/12/86	090
178	031766		DELETE	02/02/87	BUILDING 123, VACUUM JET 150-14	06/12/86	090
179	031767		DELETE	03/12/87	500 GALLON TANK #110-5	06/12/86	090

*** DENOTES UNDEFINED STATUS

E-4

LANT ID	COUNTY	MUNICIPALITY	BUSINESS NAME	PLANT NAME	PLANT CONTACT
0067	UNI	LINDEN	AMERICAN CYANAMID COMPANY	CHEMICAL PRODUCTS DIV WARNERS PLANT	D R CALLAHAN

STACK	CERT	COND	STATUS	EXP. DAT	COMPANY DESIGNATION	LAST INS	BY
180	031768		DELETE	02/24/87	500 GALLON TANK 150-15	06/12/86	090
181	031769		DELETE	02/24/87	3000 GALLON TANK 150-22	06/12/86	090
182	048714		DELETE	05/26/86	160-50 MOMA SCRUBBER	06/12/86	090
183	031771		DELETE	02/24/87	VENT FAN 400-763K	06/12/86	090
184	031772		DELETE	02/24/87	ROOF EXHAUST FAN 400-763M	06/12/86	090
185	031773		DELETE	02/24/87	FAN VENT 400-763-R	06/12/86	090
186	031774		DELETE	02/24/87	VENT FAN 400-763-J	06/12/86	090
187	031775		DELETE	02/24/87	VENT FAN 400-763-A	06/12/86	090
188	031776		DELETE	02/24/87	ROOF FAN 400-763-L	06/12/86	090
189	031864		PERM	10/11/92	TA-63	10/06/87	031
190	031865		DELETE	03/01/82	AREA 5 TANK CAR		
191	031866		PERM	03/01/92	TA-65 ,AREA 6	10/06/87	031
192	031867		DELETE	03/01/87	TA-25	06/12/86	090
193	031868		DELETE	06/07/87	TA-6	06/12/86	090
194	031869		DELETE	06/07/82	160-1		
195	031870		DELETE	06/07/82	140-15		
196	063211		PERM	11/22/92	TA-120	10/06/87	031
197			DELETE		TA-3	02/01/84	023
198			DELETE		TA-4	07/27/83	023
199			DELETE		TA-5		
200	031983		DELETE	03/06/83	TA-6		
201			DELETE		TA 7		
202	060556		PERM	12/03/88	RE-3	09/21/84	091
203	061090		PERM	12/03/88	TA-29	08/19/85	091
205	031990		PERM	03/30/93	VENTILATION FAN 400-763-3 132	04/23/85	091
206	032151		DELETE	02/28/87	HOLDING TANK 140-9	06/12/86	090
207	032152		DELETE	02/28/87	REACTOR 150-4 1500 GAL.	06/12/86	090
208	032153		DELETE	03/02/87	VAC JET SYSTEM	06/12/86	090
209	032154		DELETE	03/30/87	TANK 160-4	06/12/86	090
210	032155		DELETE	03/02/87	REACTOR 140-3	06/12/86	090
211	032156		DELETE	02/27/87	ABATE COND. 140-5 BLDG 123	06/12/86	090
212	032531		DELETE	09/15/87	LINE A DRYER ,BLDG 125	06/12/86	090
213	032532		DELETE	09/15/87	LINE B DRYER ,BLDG 125	06/12/86	090
214	032961		DELETE	07/07/90	ACRYLAMIDE AREA STACK (BLDG.135)	06/12/86	090
215	032962		DELETE	04/16/88	VENT FAN EF8,LINE A, BLDG 125	06/12/86	090
216	032963		DELETE	04/16/88	VENT FAN EF9 LINE B, BLDG 125	06/12/86	090
217	033248		PERM	03/17/89	AEROSOL A196 FEED TANK,BLDG.45	06/21/85	091
218	033249		PERM	03/17/89	AEROSOL A196 EXTRUDATE COOL. FAN	06/21/85	091
219	034288		DELETE	02/06/82	DEM DRYING COLUMN BLDG 45		
220	034345		DELETE	02/06/82	VT-1 50 GAL FEED TANK BLDG. 45		
221			DELETE		REACTOR 101-6		
222	034979		DELETE	01/08/82	REACTOR 101-6		
223	060364		PERM	12/03/88	VACUUM JET-2	08/19/85	091
224	041769		REVK	03/07/87	AERATION TOWER ,INCINERATOR	07/01/86	090
225	035877		DELETE	07/01/86	TA-6, BUILDING 69	08/19/85	091
226			DELETE		TA-8	10/25/83	023
227	036489		PERM	03/29/93	MALATION BACK UP FLARE BLDG 132	07/24/86	090

*** DENOTES UNDEFINED STATUS

PLANT ID	COUNTY	MUNICIPALITY	BUSINESS NAME	PLANT NAME	PLANT CONTACT
40067	UNI	LINDEN	AMERICAN CYANAMID COMPANY	CHEMICAL PRODUCTS DIV WARNERS PLANT	D R CALLAHAN

STACK	CERT	COND	STATUS	EXP. DAT	COMPANY DESIGNATION	LAST INS	BY
228	081113	X	TEMP	07/24/88	SULFUR RECOVERY UNIT	07/24/86	090
229	036680		DELETE	01/29/83	TA-56		
230	036681		DELETE	01/29/83	TA-57		
231	036682		DELETE	01/29/83	TA-7		
232	036683		DELETE	01/29/83	TA-12		
233	036685		REVK	01/26/87	VENT FAN #1	07/01/86	090
234			DELETE		VENT FAN #2	02/18/83	023
235			DELETE		TA-13 EFFLUENT DEPT	10/25/83	023
236	037745		PERM	03/31/93	VENT FAN 452-763-1 ,LINDEN	04/23/85	091
237	037746		PERM	03/31/93	WALL FAN 452-763-2 ,LINDEN	04/23/85	091
238			DELETE		RE-2, BUILDING 51	07/27/83	023
239	038130		DELETE	05/07/88	TA-3, SULFURIC ACID	06/12/86	090
240	038131		DELETE	05/07/88	TA 6 SULFURIC ACID MFG.	06/12/86	090
241	038132		DELETE	05/07/88	TA 7 SULFURIC ACID MFG.	06/12/86	090
242	038133		DELETE	05/07/88	TA 8 SULFURIC ACID MFG.	06/12/86	090
243	038134		DELETE	05/08/88	TA 2 SULFURIC ACID DEPT.	06/12/86	090
244	038135		DELETE	05/15/83	NEUTRALIZATION TANK		
245	038136		DELETE	05/15/83	SULFURIC ACID HOLDING TANK		
246	038421		PERM	04/30/93	TA-1	04/22/85	091
247	038422		PERM	04/30/93	TA-2 AREA 5	04/22/85	091
248	038423		PERM	04/30/93	TA 3 AREA 5	04/22/85	091
249	038424		PERM	05/15/93	TA 4 AREA 5	04/22/85	091
250	038425		DELETE	04/30/88	TA 8 AREA 1	06/12/86	090
251	038426		PERM	04/30/93	TA 9	04/22/85	091
252	038427		PERM	04/30/93	TA 10	10/06/87	031
253	038428		PERM	04/30/93	TA 11	10/06/87	031
254	038429		PERM	04/30/93	TA 12	04/22/85	091
255	038430		PERM	04/30/93	TA 13	04/22/85	091
256	038431		DELETE	05/15/83	BLDG 139 VENT FAN		
257			DELETE		TA 10	06/08/82	023
258			DELETE		TA 11	06/08/82	023
259			DELETE		TA 12	06/08/82	023
260			DELETE		TA 13	06/08/82	023
261			GRAN		TA 5	05/25/84	013
262			GRAN		TA-54,AREA 1	04/22/85	091
263			GRAN		TA-24,AREA 2	03/13/87	023
264			GRAN		TA-25,AREA 2	03/13/87	023
265			GRAN		TA-26,AREA 2	03/13/87	023
266			GRAN		TA-27,AREA 2	03/13/87	023
267			GRAN		TA-102-39A, AREA 2	03/13/87	023
268			DELETE		TA-1,AREA 2	05/25/84	013
269			GRAN		TA-2 ,AREA 2	03/13/87	023
270			GRAN		TA-9, AREA 3	03/13/87	023
271			GRAN		TA-10 ,AREA 3	03/13/87	023
272			GRAN		ETO TA-1, AREA 3	03/13/87	023
273			DELETE		ETO-TA-2	08/06/82	023
274			GRAN		ETO TA-3, AREA 3	03/13/87	023

**** DENOTES UNDEFINED STATUS

E-6

DIVISION OF ENVIRONMENTAL QUALITY
STACK LOG LISTING

PLANT ID	COUNTY	MUNICIPALITY	BUSINESS NAME	PLANT NAME	PLANT CONTACT
40067	UNI	LINDEN	AMERICAN CYANAMID COMPANY	CHEMICAL PRODUCTS DIV WARNERS PLANT	D R CALLAHAN

STACK	CERT	COND	STATUS	EXP. DAT	COMPANY DESIGNATION	LAST INS	BY
275			GRAN		ETO TA-4, AREA 3	03/13/87	023
276			GRAN		TA 6 STORAGE TANK	04/22/85	091
277			DELETE		TA 7 STORAGE TANK	12/10/81	023
278			GRAN		TA 20 STORAGE TANK	03/13/87	023
279			GRAN		TA 74 STORAGE TANK	03/13/87	023
280			GRAN		TA 8 STORAGE TANK	03/13/87	023
281			GRAN		TA 9 STORAGE TANK	03/13/87	023
282			DELETE		TA 25 STORAGE TANK	02/02/82	023
283			DELETE		TA 6 STORAGE TANK	02/02/82	023
284			DELETE		TA 12 STORAGE TANK	08/11/83	023
285			DELETE		STORAGE TANK 140-11	02/02/82	023
286			DELETE		TA 2 STORAGE TANK	02/02/82	023
287			GRAN		TA 57 STORAGE TANK	03/13/87	023
288			DELETE		STORAGE TANK WAGON AREA 8	02/02/82	023
289			DELETE		TA 808 STORAGE TANK	02/02/87	023
290			GRAN		TA 1102 STORAGE TANK	08/11/83	023
291			GRAN		TA 9 STORAGE TANK	08/11/83	023
292			GRAN		TA 20 STORAGE TANK	08/11/83	023
293			GRAN		TA 21 STORAGE TANK	08/11/83	023
294			GRAN		TA 34 STORAGE TANK	08/11/83	023
295			GRAN		TA 55 STORAGE TANK	08/11/83	023
296			DELETE		RESERVE TUB #1	02/02/82	023
297			DELETE		RESERVE TUB #2	02/02/82	023
298			DELETE		RESERVE TUB #3	02/02/82	023
299			GRAN		TA 108 STORAGE TANK	07/27/83	023
300	082299		PERM	03/04/93	METHANOL MEAS TANK TA-102	07/27/83	023
301	082300		PERM	03/04/93	METHANOL MEAS TANK TA-101	07/27/83	023
302			GRAN		STORAGE TANK TA 21	10/25/83	023
303			DELETE		TANK TA 1 (1400 GALL)	02/02/82	023
304			GRAN		TANK 601-001	02/02/87	023
305			GRAN		NO. 2 BOILER	02/27/87	023
306			GRAN		NO. 3 BOILER	02/27/87	023
307	044329		REVK	03/01/87	LIQUID WASTE INCINERATOR STACK	07/01/86	090
308	041768		DELETE	07/23/82	#2 FUEL STORAGE TANK	02/02/82	023
309	041770		REVK	01/30/87	PHOSPHORIC ACID STORAGE	07/01/86	090
310	060365		DELETE	02/15/87	TA-140-7	06/12/86	090
312	045205		DELETE	05/12/90	TA 23 VENT BY BLDG 51	08/11/83	023
313	045206		DELETE	05/12/90	TA 24 VENT BY BLDG 51	08/11/83	023
314	060366		DELETE	02/15/87	160-10	06/12/86	090
315	060557		DELETE	01/25/87	FN-140-31A (OR FN-140-31B)	06/12/86	090
316	044173		DELETE	05/13/90	TANK 190-035	06/12/86	090
317	045889		DELETE	02/26/87	VENT FAN 125-6 ,BLDG 125	06/12/86	090
318			DELETE		WARNERS WASTE TANK VENT		
319	046458		DELETE	02/07/89	H2S SCRUBBER STACK	06/12/86	090
320	046441		PERM	08/14/90	EFFLUENT NTRZ TK-102-61 BLDG 45	07/27/83	023
321	047467		PERM	05/07/92	69-10 FILTER CAKE CHARGE HOOD V.	02/02/87	023
322			DELETE		CYGARD FORMULATION VESSEL NT-2	10/25/83	023

**** DENOTES UNDEFINED STATUS

E-7

PLANT ID	COUNTY	MUNICIPALITY	BUSINESS NAME	PLANT NAME	PLANT CONTACT
0067	UNI	LINDEN	AMERICAN CYANAMID COMPANY	CHEMICAL PRODUCTS DIV WARNERS PLANT	D R CALLAHAN

STACK	CERT	COND	STATUS	EXP. DAT	COMPANY DESIGNATION	LAST INS	BY
323	047516		PERM	11/21/90	# 6 FUEL OIL STORAGE TK (160-001	02/02/87	023
324	048036		PERM	11/25/88	DOCK EFFLUENT FLARE	06/21/85	091
325	078099		TEMP	09/20/88	FILTER FEED TANK TA-30	08/19/85	091
326	048711		DELETE	02/09/87	VACUUM JET SYS AND REACTORS	06/12/86	090
327	048712		DELETE	02/09/87	400-763 SCREW CONV & DROP CHUTE	06/12/86	090
328	048713		DELETE	02/09/87	PACKING AREA VENTILLATION	06/12/86	090
329	048716		DELETE	05/26/91	140 11 STORAGE TK BLDG. 123	06/12/86	090
330	043654		DELETE	06/15/87	PUMP TANKS VENT STACK	06/12/86	090
331	060558		DELETE	02/15/87	TA-160-8	06/12/86	090
332	061687		DELETE	02/15/87	BLOWER #1	06/12/86	090
333	061688		DELETE	12/03/88	VJ-1	06/12/86	090
334	061689		DELETE	12/03/88	K-2	06/12/86	090
335	061690		DELETE	12/03/88	TA-25	06/12/86	090
336	061691		DELETE	12/03/88	TA-55	06/12/86	090
337	063766		REVK	03/09/87	TA-19 EXHAUST VENTILATION SYSTEM	07/01/86	090
338	065058		PERM	12/23/91	TA-101-15	07/01/86	090
339	064361		PERM	12/23/91	TA-101-13	07/01/86	090
340	065376		DELETE	01/27/87	SLUICE TANK 180-015	06/12/86	090
341	064610		DELETE	01/27/87	VENTILATION FAN 180-081	06/12/86	090
342	064611		DELETE	01/27/87	TREATER 180-001A	06/12/86	090
343	064612		DELETE	01/27/87	TREATER 180-001B	06/12/86	090
344	065059		PERM	05/23/93	TA-101-14	01/19/88	031
345	065060		PERM	11/02/91	RE-101-1	07/01/86	090
346	065377		DELETE	07/07/88	FORMALDEHYDE STORAGE TANK WAGON	06/12/86	090
347	066369		DELETE	07/28/87	REACTOR RE-2	02/02/87	023
348	066471		DELETE	11/28/88	TA-22 BLDG. 132		
349	066761		DELETE	12/27/88	TK-310 VENT	06/12/86	090
350	066762		DELETE	03/10/87	BLOWER BL-301 DISCHARGE	06/12/86	090
351	068315		REVK	01/09/87	TANK 150-80	07/01/86	090
352	068970		DELETE	02/27/87	TA 180-045 VENT	06/12/86	090
353	071876		DELETE	06/13/89	TA 180-030 VENT	06/12/86	090
354	069356		PERM	11/02/91	RE-4 NEUTRALIZATION REACTOR	07/01/86	090
355	069357		PERM	11/02/91	TA-20A HOLDING TANK	07/01/86	090
356	069437		PERM	08/24/89	RE-4 MAKE-UP TANK		
357	052214		REVK	01/10/87	TA-130-18	07/01/86	090
358	070126		REVK	01/25/87	RE-1	07/01/86	090
359	079987		PERM	04/28/92	REC TOLUENE STORAGE TANK TA-64		
360	081448		TEMP	09/16/88	TA-170-3		
361	081449		TEMP	09/20/88	TA-170-8		
362	081696		PERM	02/19/93	CRESYLIC ACID STORAGE TANK TA-6		

TOTAL STACKS FOR REGIONAL OFFICE 1 358

TOTAL STACKS FOR THE COUNTY OF UNION 358

*** DENOTES UNDEFINED STATUS

E-8

CYANAMID

American Cyanamid Company
P.O. Box 31
Linden, NJ 07036
(201) 862-6000

May 8, 1986

Underground Storage Tank Coordinator
N. J. Dept. of Environmental Protection
Division of Water Resources
CN-029
Trenton, New Jersey 08625

Subject: American Cyanamid Company
Warners Plant - Linden, New Jersey
UST Registration

Gentlemen:

American Cyanamid Company herewith submits notification of the existence of tanks potentially regulated pursuant to section 9002 of RCRA as underground storage tanks at the Warners plant in Linden, New Jersey.

For the purpose of this notification, the definition of underground tank was broadly interpreted to include above-grade tanks contained within a concrete vault which has been backfilled with sand for fire protection purposes. As these tanks pose no greater risk of discharge to the environment than similarly diked unburied tanks, we believe these tanks will be exempt from Subtitle I regulation as UST issues are clarified and definitions refined. These tanks are being registered at this time to avoid penalties imposed for failure to register tanks.

Also included on this registration form are tanks used to store industrial ethyl alcohol which has been denatured by the addition of small amounts of either methanol or toluene. Ethanol is not a regulated substance following the UST criteria, however, the denaturants are listed hazardous substances. Storage facilities for these specially denatured alcohols (SDA-3A and SDA-2B) must meet the requirements of the Bureau of Alcohol, Tobacco, and Firearms. These tanks are being registered at this time due to the uncertainty surrounding the status of dilute mixtures of this sort.

This submission and any past or future communication or discussions regarding this matter are not intended to admit any fact or liability or to waive or affect any rights.

Very truly yours,

AMERICAN CYANAMID COMPANY

J. B. Halladay
Plant Manager

DRC:kl
Attach.
#2170A

Attachment F

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Water Resources
CN-029
Trenton, New Jersey 08625

FOR STATE USE ONLY		
UST #-		
	YES	NO
CK. IN.	☐	☐
AMT.	☐	☐
AUTH.	☐	☐
SP. ROUTE	☐	☐
SITE PLN.	☐	☐
SIGN.	☐	☐
COMCODE		

UNDERGROUND STORAGE TANK REGISTRATION QUESTIONNAIRE

Bureau of Ground Water Quality Management
Underground Storage Tank Section
(609)984-9736

COMPLIANCE WITH THIS REGISTRATION WILL MEET ALL REGISTRATION REQUIREMENTS OF THE FEDERAL LAW. P.L. 93-616, THE HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984, SUBTITLE 1, SECTIONS 9001-9010.

General Facility Information

1. Facility name: WARNERS PLANT AMERICAN CYANAMID
2. Facility location: FOOT OF TREMLEY POINT ROAD
   NUMBER AND STREET
   LINDEN
   CITY OR MUNICIPALITY
   UNION — COUNTY; NJ — STATE; 07036 — ZIP CODE
3. Owner's mailing address: P O BOX 31
   NUMBER AND STREET
   LINDEN
   CITY OR MUNICIPALITY
   UNION — COUNTY; NJ — STATE; 07036 — ZIP CODE
4. Owner's name: AMERICAN CYANAMID COMPANY
5. Contact person (Facility Operator) DANIEL R. CALLAHAN
   PERSON OR TITLE
6. Contact telephone number: 201 — AREA CODE . 862 — EXCHANGE 6000 — NUMBER
7. Total number of facility underground storage tanks: 10 (Complete Questions 12 thru 33) for each tank
8. Total facility underground storage tank capacity (gallons): 124735
9. Type and status of owner (mark all that apply).

A. ☒ CURRENT B. ☐ FORMER C. ☐ STATE OR LOCAL GOVERNMENT D. ☒ PRIVATE OR CORPORATE E. ☐ OWNERSHIP UNCERTAIN F. ☐ FEDERAL GOVT (GSA FACILITY I.D. NUMBER)

10. Two copies of a site plan are submitted with this registration. A. ☐ YES B. ☒ NO

Submit two (2) copies of SITE PLAN showing facility or property boundary, buildings and the location of ALL underground storage tanks. EITHER, an existing engineering site plan, if available, OR a neat and legible hand-drawn sketch of the site may be submitted. In either case the site plan or sketch MUST show the location and distances that tanks, buildings, and dispensers are from the facility's property boundary. Include all tanks that are operating or existing, (E); abandoned, (A); or closed, (C). Each underground tank on the site plan or sketch shall be numbered in accordance with the instructions for question 12. The number assigned to a tank on the site plan or sketch MUST match and be identical to the tank identification number assigned to that tank on this form.

INCLUDE FACILITY NAME, OWNER'S NAME, FACILITY ADDRESS AND TELEPHONE NUMBER ON ALL SITE PLANS.

F-2

[illegible] underground tanks used after January 1, 1974 including those taken out of operation, **(UNLESS THE TANK WAS [illegible]OVED FROM THE GRO[illegible])** must be included in this registration. [illegible] in-ground tanks shall be reported as underground tanks on this qu[illegible]onnaire regardless of their current status: [illegible]ting, E; Abandoned, A; or Closed C.

SPECIFIC TANK INFORMATION

	TANK NO.	TANK NO.	TANK NO.	TANK NO.	TANK NO.
2. Tank Identification Number	E1	E2	E3	E4	E5
3. CASRN Number (Hazardous Substances Only)			001089411	647429 56	013302 07
4. Tank Age (Years)	14	14	09	09	23
5. Tank Size (gallons)	4000	4000	15000	15000	14835
6. Tank Contents (MARK ONE X)	GASOLINE	DIESEL	CYCLOHEXANONE	TENNACO 500	XYLENE
A. Leaded gasoline	☐	☐	☐	☐	☐
B. Unleaded gasoline	☒	☐	☐	☐	☐
C. Alcohol enriched gasoline	☐	☐	☐	☐	☐
D. Light diesel fuel (No. 1-D)	☐	☒	☐	☐	☐
E. Medium diesel fuel (No. 2-D)	☐	☒	☐	☐	☐
F. Waste oil	☐	☐	☐	☐	☐
G. Kerosene (No. 1)	☐	☐	☐	☐	☐
H. Home heating oil (No. 2)	☐	☐	☐	☐	☐
J. Heating oil (No. 4)	☐	☐	☐	☐	☐
K. Heavy heating oil (No. 6)	☐	☐	☐	☐	☐
L. Aviation fuel	☐	☐	☐	☐	☐
M. Hazardous substances (per Fact Sheet)	☐	☐	☒	☐	☒
N. Other; Please Specify				75% Solvent	NAPHTHA

17. Tank and Piping Construction (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Bare steel	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Carbon steel	☐	☒	☐	☒	☐	☒	☐	☒	☐	☒
C. Stainless steel	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. Aluminum	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
E. Polyvinyl chloride	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
F. Concrete	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
G. Bronze	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
H. Earthen walls	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
J. Fiberglass reinforced plastic	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
K. Fiberglas-clad steel	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐
L. Painted/asphalt steel	☐	☐	☐	☐	☒	☐	☒	☐	☒	☐
M. Vaulted	☐	☐	☐	☐	☒	☒	☒	☒	☒	☒
N. Composite	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
P. Iron (cast or ductile)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
R. Non-metallic	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
S. Other; Please Specify										

18. Tank and Piping Structure (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Single wall	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
B. Double wall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Manway in tank	☐		☐		☐		☐		☐	

19. Internal Tank and Piping Lining (MARK ONE X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Rubber	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Epoxy	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Alklyd	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. Phenolic	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
E. Glass	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
F. Clay	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
G. None	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
H. Other, Please Specify										

Tank I.D. No.	TANK NO. E1		TANK NO. E2		TANK NO. E3		TANK NO. E4		TANK NO. E5	
Tank and Piping Lining installed (MARK ONE)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. At purchase of tank	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Retrofitted	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
1. Secondary containment (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Liner	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Vault	☐	☐	☐	☐	☒	☒	☒	☒	☒	☒
C. Double wall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. None	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐
E. Other, Please Specify										
2. External Type/Application of Cathodic Protection (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Wrapped	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Sprayed	☒	☐	☒	☐	☒	☐	☒	☐	☒	☐
C. Sacrificial anode	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. Impressed current	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
E. None	☐	☒	☐	☒	☐	☒	☐	☒	☐	☒
F. Other, Please Specify										
3. Monitoring/detection method (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Automatic sampling	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Manual sampling	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Ground water monitoring	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. System in secondary containment	☐	☐	☐	☐	☒	☒	☒	☒	☒	☒
E. System outside backfill	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
F. System within piping (piping leak detector)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
G. None	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐
4. Type of monitoring/detection system (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Continuous	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Event activated	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Audio	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. Visual	☐	☐	☐	☐	☒	☒	☒	☒	☒	☒
E. Electric sensor	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
F. Stock/inventory control (manual)	☒	☐	☒	☐	☒	☐	☒	☐	☒	☐
G. Stock/inventory control (electronic)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
H. Tile drain	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
J. Vapor sniff wells	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
K. Internal inspection	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
L. Other, Please Specify										
M. None	☐	☒	☐	☒	☐	☐	☐	☐	☐	☐
5. Testing history recorded (MARK ALL THAT APPLY X)										
A. Yes	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐
B. No	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Test Result (MARK IF LEAKING NOW)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
6. Leak/spill occurrence (MARK ALL THAT APPLY X)										
A. Within the past 1 year	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Within the past 1 to 5 years	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. More than 5 years ago	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. No Records	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

NOTE: SPILL RECORDS INDICATE HISTORY OF NO SPILLS.

Tank No.	TANK NO. E1	TANK NO. E2	TANK NO. E3	TANK NO. E4	TANK NO. E5
27. Tank Status (MARK ONE X) A. Active (operational)	☒	☒	☒	☒	☒
B. Inactive (non-operational)	☐	☐	☐	☐	☐
C. Closed (temporarily out-of-service)	☐	☐	☐	☐	☐
D. Closed (permanently out-of-service)	☐	☐	☐	☐	☐
E. Abandoned, in place	☐	☐	☐	☐	☐
F. Abandoned, in place, filled only	☐	☐	☐	☐	☐
G. Abandoned, in place, sealed only	☐	☐	☐	☐	☐
H. Abandoned, in place, filled and sealed	☐	☐	☐	☐	☐
J. Seasonal	☐	☐	☐	☐	☐
K. Prior retrofitting work, Please Specify					
L. Other, Please Specify					
28. Spill recovery system on-site (MARK ONE X) A. Yes	☐	☐	☐	☐	☐
B. No	☒	☒	☒	☒	☒
29. Overfill protection (tank only) (MARK ONE X) A. Yes	☒	☒	☒	☒	☒
B. No	☐	☐	☐	☐	☐
30. Emergency shut-off mechanisms (dispensers) (MARK ONE X) A. Yes	☐	☐	☐	☐	☐
B. No	☐	☐	☐	☐	☐

SEE BELOW

*** If boxes 27 E, F, G or H above have been answered - answer questions 31, 32 and 33 below.**

31. Substance last used in tank (MARK ONE X) A. Leaded gasoline	☐	☐	☐	☐	☐
B. Unleaded gasoline	☐	☐	☐	☐	☐
C. Alcohol enriched gasoline	☐	☐	☐	☐	☐
D. Light diesel fuel (No. 1-D)	☐	☐	☐	☐	☐
E. Medium diesel fuel (No. 2-D)	☐	☐	☐	☐	☐
F. Waste oil	☐	☐	☐	☐	☐
G. Kerosene (No. 1)	☐	☐	☐	☐	☐
H. Home heating oil (No. 2)	☐	☐	☐	☐	☐
J. Heating oil (No. 4)	☐	☐	☐	☐	☐
J. Heavy heating oil (No. 6)	☐	☐	☐	☐	☐
K. Aviation fuel	☐	☐	☐	☐	☐
L. Hazardous substances (per Fact Sheet)	☐	☐	☐	☐	☐
M. Other, Please Specify					
32. Estimated date last used (month/year)	Mo. Yr.	Mo. Yr.	Mo. Yr.	Mo. Yr.	Mo Yr
33. Estimated quantity (gallons) left in tank					

OWNER OR OWNER'S AGENT CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

J B Halladay
(SIGNATURE)

J. B. Halladay
(PRINT OR TYPE NAME)

Plant Manager
(TITLE)

F-5

11. All underground tanks used after January 1, 1974 including those taken out of operation, **(UNLESS THE TANK WAS REMOVED FROM THE GROUND)** must be included in this registration. All in-ground tanks shall be reported as underground tanks on this questionnaire regardless of their current status: Existing, E; Abandoned, A; or Closed C.

SPECIFIC TANK INFORMATION

	TANK NO.	TANK NO.	TANK NO.	TANK NO.	TANK NO.
12. Tank Identification Number	E6	E7	E8	E9	E10
13. CASRN Number (Hazardous Substances Only)	0007831				
14. Tank Age (Years)	23	10	10	10	10
15. Tank Size (gallons)	14400	14400	14400	14400	14400
16. Tank Contents (MARK ONE X)	ISOBUTYL ALC	ETHYL ALC	ETHYL ALC	ETHYL ALC	ETHYL ALC
A. Leaded gasoline	☐	☐	☐	☐	☐
B. Unleaded gasoline	☐	☐	☐	☐	☐
C. Alcohol enriched gasoline	☐	☐	☐	☐	☐
D. Light diesel fuel (No. 1-D)	☐	☐	☐	☐	☐
E. Medium diesel fuel (No. 2-D)	☐	☐	☐	☐	☐
F. Waste oil	☐	☐	☐	☐	☐
G. Kerosene (No. 1)	☐	☐	☐	☐	☐
H. Home heating oil (No. 2)	☐	☐	☐	☐	☐
J. Heating oil (No. 4)	☐	☐	☐	☐	☐
K. Heavy heating oil (No. 6)	☐	☐	☐	☐	☐
L. Aviation fuel	☐	☐	☐	☐	☐
M. Hazardous substances (per Fact Sheet)	☒	☐	☐	☐	☐
N. Other; Please Specify		TANKS 7-10 CONTAIN DENATURED ALCOHOL WITH ≈ 0.5% TOLUENE			

17. Tank and Piping Construction (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Bare steel	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Carbon steel	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Stainless steel	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. Aluminum	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
E. Polyvinyl chloride	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
F. Concrete	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
G. Bronze	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
H. Earthen walls	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
J. Fiberglass reinforced plastic	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
K. Fiberglas-clad steel	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
L. Painted/asphalt steel	☒	☐	☒	☐	☒	☐	☒	☐	☒	☐
M. Vaulted	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
N. Composite	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
P. Iron (cast or ductile)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
R. Non-metallic	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
S. Other; Please Specify										

18. Tank and Piping Structure (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Single wall	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
B. Double wall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Manway in tank	☐		☐		☐		☐		☐	

19. Internal Tank and Piping Lining (MARK ONE X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Rubber	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Epoxy	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Alklyd	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. Phenolic	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
E. Glass	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
F. Clay	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
G. None	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
H. Other, Please Specify										

Tank I.D.	TANK NO. E6		TANK NO. E7		TANK NO. [illegible]		TANK NO. E9		TANK NO. E10	
Tank and Piping Lining installed (MARK ON)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. At purchase of tank	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Retrofitted	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Secondary containment (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Liner	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Vault	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
C. Double wall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. None	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
E. Other, Please Specify										
External Type/Application of Cathodic Protection (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Wrapped	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Sprayed	☒	☐	☒	☐	☒	☐	☒	☐	☒	☐
C. Sacrificial anode	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. Impressed current	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
E. None	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
F. Other, Please Specify										
Monitoring/detection method (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Automatic sampling	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Manual sampling	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Ground water monitoring	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. System in secondary containment	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
E. System outside backfill	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
F. System within piping (piping leak detector)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
G. None	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Type of monitoring/detection system (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Continuous	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Event activated	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Audio	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. Visual	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
E. Electric sensor	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
F. Stock/inventory control (manual)	☒	☐	☒	☐	☒	☐	☒	☐	☒	☐
G. Stock/inventory control (electronic)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
H. Tile drain	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
J. Vapor sniff wells	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
K. Internal inspection	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
L. Other, Please Specify										
M. None	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Testing history recorded (MARK ALL THAT APPLY X)										
A. Yes	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. No	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Test Result (MARK IF LEAKING NOW)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Leak/spill occurrence (MARK ALL THAT APPLY X)										
A. Within the past 1 year	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Within the past 1 to 5 years	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. More than 5 years ago	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. No Records	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

NOTE: SPILL RECORDS INDICATE NO SPILLS.

Tank No.	TANK NO. E6	TANK NO. E7	TANK NO. E8	TANK NO. E9	TANK NO. E10
27. Tank Status (MARK ONE X) A. Active (operational)	☒	☒	☒	☒	☒
B. Inactive (non-operational)	☐	☐	☐	☐	☐
C. Closed (temporarily out-of-service)	☐	☐	☐	☐	☐
D. Closed (permanently out-of-service)	☐	☐	☐	☐	☐
E. Abandoned, in place	☐	☐	☐	☐	☐
F. Abandoned, in place, filled only	☐	☐	☐	☐	☐
G. Abandoned, in place, sealed only	☐	☐	☐	☐	☐
H. Abandoned, in place, filled and sealed	☐	☐	☐	☐	☐
J. Seasonal	☐	☐	☐	☐	☐
K. Prior retrofitting work, Please Specify					
L. Other, Please Specify					
28. Spill recovery system on-site (MARK ONE X) A. Yes	☐	☐	☐	☐	☐
B. No	☒	☒	☒	☒	☒
29. Overfill protection (tank only) (MARK ONE X) A. Yes	☒	☒	☒	☒	☒
B. No	☐	☐	☐	☐	☐
30. Emergency shut-off mechanisms (dispensers) (MARK ONE X) A. Yes	☐	☐	☐	☐	☐
B. No	☒	☒	☒	☒	☒

If boxes 27 E, F, G or H above have been answered - answer questions 31, 32 and 33 below.

31. Substance last used in tank (MARK ONE X) A. Leaded gasoline	☐	☐	☐	☐	☐
B. Unleaded gasoline	☐	☐	☐	☐	☐
C. Alcohol enriched gasoline	☐	☐	☐	☐	☐
D. Light diesel fuel (No. 1-D)	☐	☐	☐	☐	☐
E. Medium diesel fuel (No. 2-D)	☐	☐	☐	☐	☐
F. Waste oil	☐	☐	☐	☐	☐
G. Kerosene (No. 1)	☐	☐	☐	☐	☐
H. Home heating oil (No. 2)	☐	☐	☐	☐	☐
J. Heating oil (No. 4)	☐	☐	☐	☐	☐
J. Heavy heating oil (No. 6)	☐	☐	☐	☐	☐
K. Aviation fuel	☐	☐	☐	☐	☐
L. Hazardous substances (per Fact Sheet)	☐	☐	☐	☐	☐
M. Other, Please Specify					
32. Estimated date last used (month/year)	Mo. Yr.	Mo. Yr.	Mo. Yr.	Mo. Yr.	Mo. Yr
33. Estimated quantity (gallons) left in tank					

OWNER OR OWNER'S AGENT CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

J B Halladay
(SIGNATURE)

J. B. Halladay
(PRINT OR TYPE NAME)

Plant Manager
(TITLE)

F 8

George B. Radan
Environmental Scientist

American Cyanamid Company
Chemical Products Division
Warners Plant
Southwood Avenue
Linden, Union County, New Jersey 07036

NPDES NJ0001058

A NPDES Compliance Evaluation Inspection was conducted on November 18, 1982.

The Warners Plant came into being in 1916 on a swampy thirty-two acres of land located at the tip of Tremley Point in Linden, New Jersey, where the Rahway River meets the Arthur Kill. It is the second oldest manufacturing plant in the American Cyanamid Company, with global headquarters located in Wayne, New Jersey. Warners is also the location of Cyanamid's first research laboratory, where many of the company's products were born, such as malathion insecticide, introducted in 1952. Cyanamid is a maker and supplier of more than 5,000 chemicals, many of them produced at this plant, used in the manufacture of a wide array of essential industrial and consumer products, including automobiles, clothing, paper, pesticides, plactics and pharmaceuticals. At present time this facility does work at 50% capacity, with 650 employees, working in 3 shifts, 24 hrs/day, 7 days/week.

The Warners plant produces a variety of inorganic and organic chemicals, such as sulfuric acid, water treating chemicals, paper treating chemicals, acrylamide and polyacrylamide, non persistent organo-phosphate insecticides, such as malathion and cygon, surfactants, mining and rubber chemicals. Processes are both conventional and confidential. The malathion plant is temporarily inactive.

The Warners plant intake water consists primarily of Arthur Kill water, amounting to 19.0-20.0 MGD, which is taken into the plant untreated and is used as once-trough cooling water, for refrigeration plants and a variety of process applications. Approximately 1.0 MGD comes from the municipal water supply. The effluent is discharged through four outfalls, numbered DSNOOA, OOB, OOC and OOD, with all flows measured and recorded (see photographs 1 to 6). All measuring devices, such as weirs and Parshall flumes are checked daily.

Discharge OOA is from the refrigeration units ("Brine Building"), distillation tower, deodorization tower, reactor cooling water and some rain/storm water, amounting to between 3.0 and 5.0 MGD, depending on plant operations. This discharge is released, untreated, into the Rahway River at a distance of approximately 200 feet. On the day of inspection this wastewater had visible foam and was hazy ("from strong aeration").

Discharge OOB. Effluent from reactor cooling water, amounting to 1.0-1.2 MGD, is released, untreated, into the Rahway River, at a distance of approximately 50 feet.

Discharge OOC. Main effluent from the sulfuric acid plant, with the pH being continuously recorded. At the time of the inspection the pH reading was 7.4 (It was pointed out to me that the Arthur Kill's pH is often in the high 7).

Attachment G

This non-contact cooling water amounts to between 10.0 and 14.0 MGD, depending on plant operations. It contains also some rain/storm water and about 0.4 MGD of neutralized wastewater from incinerators scrubbers. The wastewater had visible foam and was hazy. However, the Arthur Kill intake water is turbid to begin with and is used as is, without any treatment. Arthur Kill is adjacent-approximately 10 feet-from the discharge OOC. In prior years, this effluent, which consisted of process water, in connection with guanidine manufacture, was treated by alkaline chlorination or carbon absorption before the discharge. The guanidine plant closed in 1980 and no such treatment is necessary at present time.

SQ 10/23/95 DELETE FROM FZE.

Discharge OOD is located in the abandoned "Alum" building. This effluent, amounting to 6.0-7.0 MGD, consists primarily of non-contact cooling water from reactor coolers and some rain/storm water (about 0.09 MGD), pump seals (about 0.08 MGD) and boiler blowdown (about 0.014 MGD), flows untreated into the Arthur Kill at a distance of approximately 100 feet. This discharge was turbid. The visibility (even with a flashlight) in the abandoned and dark building was poor, so other details of the effluent could not be visually determined.

There is a number of undesignated rain/storm drains discharging into the Arthur Kill or the Rahway River. None of these was seen due to the high tide, which did submerge all pipes.

The sanitary discharge, amounting to some 0.07 MGD, flows by direct pipeline to the Linden-Roselle Sewerage Authority. Approximately 0.035 MGD of the contact wastewater is transported by truck to Cyanamid's Boundbrook AWT plant for treatment. Eventually, all the wastewater taken to Boundbrook will flow to the Linden-Roselle treatment plant. Tests are conducted at this time.

The permittee's record and reports are maintained as required by permit. Operation and maintenance of the discharge seem to be satisfactory. The permittee's lab runs samples in duplicates, but does not spike them. I pointed out to the head of the laboratory this defficiency and informed him that for permit compliance certain parameters, such as BOD, COD and TOC must be spiked 1/20 = 5% of the time, or at least 1/month, whichever is greater. This information was duly noted.

The housekeeping is satisfactory.

STORM DRAINS MONITORING REPORT

SAMPLE DATE: 2/12/85

Storm Drain Numbers	01	02	03	04	05	06	07	08
pH	7.27	8.32	7.44	6.86	6.67	6.36	6.47	6.87
TOC, mg/l	40	60	30	20	10	20	120	40
TSS, mg/l	1880	5	2090	140	110	70	80	20
Petroleum Hydrocarbons**, mg/l	ND	ND	ND	ND	ND	ND	ND	ND
ABATE*, ug/l	ND	ND	180	170	ND	ND	ND	790
CYGON*, ug/l	ND	ND	ND	ND	ND	ND	490	ND
CYTROLANE*, ug/l	ND	ND	ND	ND	ND	ND	ND	ND
Malathion*, ug/l	130	ND	220	520	ND	670	1600	ND
PAY-OFF*, ug/l	ND	ND	ND	ND	ND	ND	ND	ND
Copper, ug/l	79	30	83	83	190	220	120	40
Zinc, ug/l	240	70	660	970	720	590	2030	100
Cyanide Total, ug/l	73	280	80	30	41	62	40	54
Phenolics*** Total, ug/l	ND	ND	89	ND	ND	ND	240	ND
Lead, ug/l	NR	NR	NR	NR	100	NR	NR	NR
Chlorobenzene, ug/l	NR	NR	NR	NR	NR	10	NR	13
1,1,1 Trichloroethane, ug/l	NR	NR	NR	349	NR	NR	NR	NR

NR - Not Required

*ND - None within detectable limits; < 0.1 mg/l

**ND - None within detectable limits; <1.0 mg/l

***ND - None within detectable limits; <0.05 mg/l

Attachment E

Attachment B

STORM DRAINS MONITORING REPORT
SAMPLE DATE: 5/2/85

Storm Drain Numbers	01	02	03	04	05	06	07	08
pH	5.21	6.57	6.30	7.71	3.85	6.64	6.13	5.7
TOC, mg/l	30	70	50	30	20	1210	20	280
TSS, mg/l	400	1230	2350	40	70	16250	10	430
Petroleum Hydrocarbons**, mg/l	ND	ND	ND	ND	ND	ND	ND	ND
ABATE*, ug/l	ND	ND	ND	ND	ND	ND	ND	ND
CYGON*, ug/l	ND	ND	ND	103	ND	ND	420	130
CYTROLANE*, ug/l	ND	ND	ND	170	ND	ND	ND	ND
Malathion*, ug/l	ND	ND	ND	ND	ND	ND	ND	ND
PAY-OFF*, ug/l	ND	ND	ND	ND	ND	ND	ND	ND
Copper****, ug/l	150	50	60	40	130	7000	50	ND
Zinc, ug/l	630	77	200	795	664	19000	861	350
Cyanide Total*****, ug/l	ND	480	ND	35	ND	270	ND	840
Phenolics***Total, ug/l	110	97	140	340	54	3900	ND	87
Lead ******, ug/l	NR	NR	NR	NR	ND	NR	NR	NR
Chlorobenzene, ug/l	NR	NR	NR	NR	NR	860	NR	129
1,1,1 Trichloroethane, ug/l	NR	NR	NR	13060	NR	NR	NR	NR

NR - Not Required
*ND - None within detectable limits; < 0.1 mg/l
**ND - None within detectable limits; < 1.0 mg/l
***ND - None within detectable limits; < 0.05 mg/l
****ND - None within detectable limits; < .009 mg/l
*****ND - None within detectable limits; < .025 mg/l
******ND - None within detectable limits; < .07 mg/l

STORM DRAINS MONITORING REPORT
SAMPLE DATE: 7/26/85

Storm Drain Numbers	01	02	03	04	05	06	07	08
pH	4.95	6.25	7.39	6.62	3.89	5.61	6.44	7.24
TOC, mg/l	11	20	20	5	4	20	10	50
TSS, mg/l	6	16	710	20	30	4790	25	40
Petroleum Hydrocarbons**, mg/l	ND	ND	ND	ND	ND	ND	ND	ND
ABATE*, ug/l	ND	ND	ND	ND	ND	180	150	ND
CYGON*, ug/l	ND	ND	ND	ND	ND	ND	ND	ND
CYTROLANE*, ug/l	ND	ND	ND	ND	ND	ND	ND	ND
Malathion*, ug/l	ND	ND	ND	ND	ND	ND	340	ND
PAY-OFF*, ug/l	ND	ND	ND	ND	ND	ND	ND	ND
Copper****, ug/l	40	20	20	20	60	ND	50	ND
Zinc, ug/l	70	50	100	970	470	60	500	50
Cyanide Total*****, ug/l	ND	81	ND	740	ND	310	ND	50
Phenolics Total***, ug/l	ND	61	ND	90	100	660	ND	ND
Lead******, ug/l	NR	NR	NR	NR	ND	NR	NR	NR
Chlorobenzene, ug/l	NR	NR	NR	NR	NR	122	NR	61
1,1,1 Trichloroethane, ug/l	NR	NR	NR	41	NR	NR	NR	NR

NR - Not Required
*ND - None within detectable limits; <0.1 mg/l
**ND - None within detectable limits; <1.0 mg/l
***ND - None within detectable limits; <0.05 mg/l
****ND - None within detectable limits; $<.02$ mg/l
*****ND - None within detectable limits; $<.025$ mg/l
******ND - None within detectable limits; <0.2 mg/l

B-3

William B. Honschefsky

Assistant Director Sadat, Water Quality Management THROUGH: Mr. William B. Honschefsky Manager, Region II, Mr. Robert L. Vincent, Chief, Eastern Bureau of Compliance AND Assistant Director Bellis, Enforcement Element

Mr. Edward T. Post, Supervising Environmental Eng.

JUL 29 1980

Cyanide Discharge Limits - American Cyanamid Company, Linden
NPDES Permit # NJ 0001058

This Region has recently received several Notices of Non-Compliance from American Cyanamid Company, Linden (example attached) regarding the concentration of total cyanide discharged from its cyanide treatment facility.

Cyanamid alleges that analyses of cyanide samples using a colorimetric method (Standard Method 413 D) indicate that the majority of the cyanide is present as complexed metal cyanide salts rather than as harmful free cyanide. Therefore, Cyanamid has requested that its NPDES permit limitation of 0.4 ppm for total cyanide and the Amended Consent Judgment with this Department be modified to reflect this contention.

It is our understanding that Cyanamid representatives have already contacted EPA and met with members of your staff regarding revising the cyanide limitation. We therefore request that your staff advise us as soon as possible concerning the appropriate cyanide limits so that we can initiate enforcement action, if warranted.

E49:C1
cc: Mr. William Beggs

Attachment I

275

CYANAMID

Reg II
Enforcement
NPDES File

American Cyanamid Company
P.O. Box 3[illegible]
Linden, NJ 07036
(201) 862-6000

February 11, 1981

Mr. E. Roche, Manager
Raritan Interstate Basin
Pollution Control Monitoring
Surveillance and Enforcement Element
N. J. Department of Environmental Protection
Division of Water Resources
Post Office Box 2809
Trenton, New Jersey 08625

Ref: IND-R-74-10-3

Dear Mr. Roche:

Our guanidine manufacturing facility has been shutdown permanently. The alkaline chlorination facility that treated waste waters from the manufacturing operation has also been shutdown. There were no data to report for January 1981. This will be our final report.

This submission and any past or future communications or discussions regarding this matter are not intended to admit any fact or liability or to waive or affect any rights.

Sincerely yours,

AMERICAN CYANAMID COMPANY

S. R. Hathaway
Manager, Environmental Services

SRH:kl

cc: Mr. W. S. Beggs - NJDEP
Mr. T. R. Glenn, Jr. - Interstate Sanitation Commission
Mr. P. J. Harvey - USEPA

211

Attachment J

ADM-012

MEMO

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO FILE

FROM CLARE P. SULLIVAN, HSMS IV, BUREAU OF PLANNING AND ASSESSMENT DATE

SUBJECT AMERICAN CYANAMID, LINDEN

The writer spoke with Tessie Field of the Office of Science and Research. That Office conducted sampling in May 1985 for the purpose of bioassay testing and Ames testing, which is a short term biological assay for the detection of DNA-damaging substances. Ms. Fields stated that the results of the Ames testing indicated "weakly positive" results in the effluent and negative results in composite samples.

CS:mz

Attachment K

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April 15, 1987

John J. DeCicco, Assistant
Attorney General
Division of Criminal Justice
Richard J. Hughes Justice Complex
CN 085
Trenton, New Jersey 08625

Re: State v. American Cyanamid Co.

Dear Mr. DeCicco:

This will confirm and memorialize our discussions about the terms of the plea offer to our client, American Cyanamid Co. ("the Company"). It is understood and agreed that the statements contained in this letter are made pursuant to N.J.R. 3:9-2 and are not admissible against our client in the event that, for any reason, this agreement is not executed or consummated.

If agreement can be reached on the terms set forth below, the Company is prepared to submit this agreement for final consideration by its Executive Committee and Board of Directors at their April meetings.

Since at least as early as January 28, 1986, your office has been investigating environmental practices at the American Cyanamid Company's ("the Company's") Warners plant in Linden. The subject of the State's investigation (referred to hereinafter as "the subject of the investigation") includes the discharge to the Rahway River and/or the Arthur Kill, without a NJPDES permit, of "pollutants" as that term is defined in the New Jersey Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq.: (a) through holes in the floor of Building 69; (b) by the use, in Building 69, of devices known as steam siphons or eductors; (c) by accidental discharges of chemical product from Building 69

Attachment I

through rupture disks which, recently, were equipped with a containment system to prevent discharges through them from entering the Rahway River; (d) by the accidental release of 6,800 gallons of crude Malathion on October 6, 1984, some of which entered the Rahway River; and (e) by the accidental discharge of pollutants through holes in pipes located outside of and adjacent to Building 69.

The Company would agree to plead guilty to an accusation charging one count of at least 37 negligent discharges of "pollutants" without a New Jersey Pollution Discharge Elimination System (NJPDES) permit during the period from May 1982 to November 1985, in violation of N.J.S.A. 58:10A-10f. The parties would agree that it is impossible to quantify with any certainty the precise number of discharges which occurred during the relevant time period. However, the parties would agree that a review of the documents produced by the Company as part of this investigation and the testimony of witnesses presented to the State grand jury supports the conclusion that the cumulative number of discharges of all types which were the subject of the investigation is at least 37 over the relevant time period.

Likewise, the parties would agree that it is impossible to determine the precise chemical composition of each negligent discharge. However, in most instances, the material discharged consisted of washwaters or rainwater which may have been contaminated with residual amounts of chemical product or waste material present on the floor of Building 69 as a result of routine manufacturing procedures. In other instances where pure product was discharged through rupture disks or leaks in pipes, the quantities involved were not capable of being quantified. The parties would agree that none of the discharges, singularly or cumulatively, caused any permanent damage to the environment.

Nevertheless, the parties would agree that in view of the definition of "pollutant" in the New Jersey Water Pollution Control Act, any chemical product and any washwaters or rainwater which came into contact with any chemical product was thereby rendered a "pollutant" within the meaning of the Act. Likewise, the actions of Company employees in disposing of this material constituted a "discharge" within the meaning of the Act.

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For its sentence for this offense, the Company would agree to pay and the State would agree to accept a fine in the liquidated amount of $900,000 which includes a statutorily mandated payment of $925 to the Violent Crimes Compensation Board (VCCB) pursuant to N.J.S.A. 2C:43-3.1, in total satisfaction of this matter.

The parties would agree that the disposition of this matter satisfies the interests of both the Division of Criminal Justice and the Department of Environmental Protection. The State would agree that it will not seek any additional criminal or civil fines, penalties or clean-up remedies against the Company or any of its present or former employees, officers or directors for any of the conduct which is the subject of the investigation as set forth and defined above. The parties agree that under the facts and circumstances of this case, restitution is not an appropriate criminal or civil remedy for this conduct and therefore restitution is not an element of the sentence in this matter under N.J.S.A. 2C:43-2 and 3. The State would also agree that it will not seek any "corporate penalties" against the Company, such as the revocation of its certificate to do business in the State as provided in N.J.S.A. 2C:43-4. The State would also agree not to impose or seek any other punitive measure against the Company, its present or former employees, officers or directors of a criminal, civil or regulatory nature as a result of the conduct which was the subject of the investigation.

The State would consent to the entry of an Order pursuant to N.J.R. 3:9-2 (in the form annexed hereto as Attachment A), that this plea and any of the statements and admissions made in connection with it are not admissible in evidence in any civil proceedings.

The State would agree to return to the Company all of the records which were seized during the execution of the search warrant on January 28, 1986 and which were subsequently provided to the State in response to the several subpoenas duces tecum served on the Company during the course of this investigation.

At the time of the entry of the plea, a representative of the Company will read into the record a statement setting forth the factual basis for the Company's plea and unequivocably acknowledging the commission of the

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essential elements of the offense in the form annexed hereto as Attachment B. This statement will also form the factual basis of the Accusation in the form annexed hereto as Attachment C.

I believe this letter accurately sets forth the proposed agreement between the parties regarding the plea disposition in this matter. I would appreciate it if you would confirm the State's acceptance of these terms by signing the enclosed copy of this letter where indicated and returning it to me. If this agreement is acceptable to you, we plan to request Cyanamid's Board of Directors to consider and approve it at the Board's April 21, 1987 meeting. If the Board gives its approval at that time, we would hope to consummate the agreement as soon as possible thereafter.

I contemplate attaching an executed copy of this letter to the AOC LR 27/28 and incorporating it by reference therein.

Very truly yours,

Gerald Krovatin

The terms set forth above are hereby accepted and agreed upon.

STATE OF NEW JERSEY

Dated: April , 1987 By: _____
John J. DeCicco, Assistant
Attorney General
Division of Criminal Justice
Environmental Prosecutions
Task Force

AMERICAN CYANAMID CO.

Dated: April , 1987 By: _____

ADM-012

MEMO

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO Ronald T. Corcory

FROM William S. Krimson

DATE

SUBJECT January 28, 1986 American Cyanamid Search Warrant

ENVIRONMENTAL PROSECUTIONS

The following BFO personnel participated in the subject activities:

William Krimson
Karl Delaney
Tom Brady
Yacoub Yacoub
Wolf Skacel
Kevin Krause
Mike Proietti

Upon entering the facility, all personnel except Delaney moved directly towards reactor building 47/69. Delaney proceeded to the plant main office with the On-Scene coordinator and acted as Site Safety Officer for all personnel.

Upon arrival at building 47/69, an entry team made up of Tom Brady, Kevin Krause, Wayne Smith and other Division of Criminal Justice personnel were suiting up in Level "B". Plant personnel then informed Smith that there was no need for that level of protection insofar as little activity or production was taking place in the building. The writer participated in no activity within building 47/69 and never entered the building. Dress down to Level "C" was advised.

During search activity within building 47/69, attention was drawn to the river side of the building looking for the steam eductor outlet believed to exist. It was during a walk along the outside catwalk (which was suspended over the river) when dark gray water was observed at the edge and under building 47/69. This water was observed flowing out from under building 47/69 through many breaks in the bulkhead immediately below the catwalk and mixing with the outgoing tide. The distinction was obvious between the dark green river water and the gray colored water to the extent that a plume was formed along, and a few feet out, from the bulkhead. Since only 2-3 hours remained before low tide, the writer suggested that a second team be formed and a search of the underside of building 47/69 be conducted simultaneously with the building entry team.

While attempting to view the underside of the building, the writer encountered the odor of H_2S and it was decided that since this area is considered a confined area, Level "B" should be used to make the initial site survey. Readings of 2% LEL were detected by lowering an MSA 40 probe under the catwalk.

Attachment A

By the time Smith and the writer were lowered to the muddy/stoney surface under building 47/69, most all tide water had run out to the river. After readings of 5% LEL, 6 ppm H_2S and 20.9% O_2 were obtained on a biosystem model 100, it was decided by Smith and the writer to dress down to Level "C".

Approximately 10-15' in from the outer bulkhead, there existed a second inner bulkhead traveling the length of the building. Hundreds of pilings were used to hold up building 47/69. Approximately 8-10' in from the outer bulkhead a continuous row of these pilings, which paralleled the river, had been numbered by someone in red fluorescent spray paint. It was on these numbered pilings that samples and DCJ video and photos of the holes in the cement floor were keyed to. The highest numbered piling was "40" but it was not determined if the numbering started at "1", since the search was limited to an area in the vicinity under the filter breakdown rooms.

After Smith had videoed the underside of the floor and surface of the ground beneath the building, the writer secured the first of three samples. Sample WSK046 was obtained at the base of piling number 38. This site was chosen because a continuous stream of what appeared to be steaming water was flowing out from under or through the inner bulkhead. The source of this stream could not be tracked inasmuch as the level of mud on the building side of the inner bulkhead was 12-18" higher than the river side (outlet side) of the bulkhead. The mud (channel) over which this stream was flowing was covered by an approximately ¼" thick layer of a black crusty material. Once broken through, a thin layer of what appeared to be river mud was observed and beneath that, black mud with black stones. A composite sample was obtained and split into a container supplied by American Cyanamid. At no time were State personnel joined by company personnel under building 47/69.

Sample WSK047 was obtained from a second stream (channel) of what appeared to be water, however this stream was on the surface of the mud and flowed out from a point well under the building in the vicinity of piling number 29. An attempt was made to backtrack this stream by the writer and Brady (who had now joined the writer), however, the extreme mud, darkness and low ceiling precluded any such further attempt. The mud (channel) over which this water flowed was clearly different than the first. Its distinctive gray color coated this stream channel wherever it was observed. Approximately 60 feet in from the outer bulkhead, a horizontal 12"± pipe traveled the length of the building and paralleled the inner bulkhead at ground level. At a point where this stream crossed under the pipe, sample WSK047 was obtained in a fashion similar to the first.

Smith had earlier indicated that a sample should be obtained at, or directly under, a cluster of vertical pipes or holes in the building floor. Sample WSK048 was taken from this area which was between piling numbers 18 and 20 and consisted of brown, gray, and black mud.

While Skacel supported the search under building 47/69, Yacoub and Proietti supported the search from the sample truck.

F019:sw

M-2

NJDCJ - INDIVIDUAL SAMPLE LOG - 1986
86-155-E AMERICAN CYANAMID (WARNERS)

SAMPLE NUMBERS						
DCJ	NJDEP	LOCATION	SITE	SAMPLE TYPE	LAB ANALYSIS REQUEST	REMARKS
TB-012986-1352-01-1	TB308	BLDG. 47/69	FL101 HOPPER (TRAY)	S		FILTER CAKE LIKE
TB-012986-1356-02-1	TB309	BLDG. 47/69	FL102 HOPPER (TRAY)	S		FILTER CAKE LIKE
TB-012986-1302-03-1	TB310	BLDG. 47/69	FR101/102-SWEEPINGS	S		FLOOR SWEEPINGS AROUND STAND F
TB-012986-1308-04-1	TB311	BLDG. 47/69	FR101/102-SWEEPINGS	S		FLOOR SWEEPINGS BEHIND TA-105
TB-012986-1314-05-1	TB312	BLDG. 47/69	FR101/102- F. DRUM	S		FILTER CAKE FROM 30 GAL FIBER D
TB-012986-1329-06-1	TB313	BLDG. 47/69	FL103 HOPPER (TRAY)	L		LIQUID COMP. FROM BUCKET/TRAY
TB-012986-1340-07-1	TB314	BLDG. 47/69	FR103-STANDPIPE	S		MATERIAL FROM INSIDE STANDPIPE
TB-012986-1355-08-1	TB315	BLDG. 47/69	RE104-SWEEPINGS	S		FLOOR SWEEPINGS SE CORNER
TB-012986-1424-09-1	TB316	BLDG. 47/69	RE103-BUCKET	L		BUCKET LOCATED BELOW SAMPLE VAL
TB-012986-1409-10-1	TB317	BLDG. 47/69	RE103-SWEEPINGS	L/S		LIQUID/SLUDGE FROM SW CORNER
TB-012986-1429-11-1	TB319	BLDG. 47/69-outside	FD STORAGE AREA	S		FILTER CAKE FROM 30 GAL DRUM
WSK-012986-1415-01-1	WSK046	BLDG. 47/69-below	PILING NO.38	S/SG		BLACK SOIL/SLUGE
WSK-012986-1425-02-1	WSK047	BLDG. 47/69-below	PILING NO.29	S/SG		BLACK SOIL/SLUGE
WSK-012986-1435-03-1	WSK048	BLDG. 47/69-below	PILING NO.19-20	S/SG		BLACK SOIL/SLUGE

Attachment L

Attachment N

DATE:
30-Jan-86

NJDOJ-LAB ANALYSIS REQUEST
CJ-86-155-E

SAMPLE NUMBERS

LABORATORY ANALYSIS REQUEST

DOJ	NJDEP	SAMPLE TYPE	REACTIVITY	GC/MS624	GC/ALCOHOLS	%MOISTURE	%WATER	COMMON
TB-012886-1252-01-1	TB308	S	X			X		X
TB-012886-1256-02-1	TB309	S	X			X		X
TB-012886-1303-03-1	TB310	S	X			X		X
TB-012886-1306-04-1	TB311	S	X			X		X
TB-012886-1314-05-1	TB312	S	X			X		X
TB-012886-1329-06-1	TB313	L		X	X		X	X
TB-012886-1340-07-1	TB314	S	X	X	X	X		X
TB-012886-1355-08-1	TB315	S	X	X	X	X		X
TB-012886-1404-09-1	TB316	L		X	X		X	X
TB-012886-1409-10-1	TB317	L/S		X	X		X	X
TB-012886-1429-11-1	TB318	S		X	X	X		X

NOTE: REACTIVITY=
Characteristis of reactivity-
-NJAC 7:26-8.11(a)(5.)

COMMON=
% inorganic matter
% organic matter
% vol. organic matter
sulphur
sulfite
phosphorus

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III. Analytical Results

Volatile Organics

Constituent	solid method blank	Sample Designation: Hopper (Tray) SR12590-6 TB-012886 1329-06-1	Standpipe SR12590-7 TB-012886 1340-07-1	MDL, ug/kg
Chloromethane	ND	ND	ND	330
Bromomethane	ND	ND	ND	330
Vinyl chloride	ND	ND	ND	330
Chloroethane	ND	ND	ND	330
Methylene chloride*	200J	980B	690B	330
1,1-Dichloroethene	ND	470	140J	330
1,1-Dichloroethane	ND	420	120J	330
trans-1,2-Dichloroethene	ND	ND	ND	330
Chloroform	ND	ND	ND	330
1,2-Dichloroethane	ND	ND	ND	330
1,1,1-Trichloroethane	ND	120J	96J	330
Carbon tetrachloride	ND	360	ND	330
Bromodichloromethane	ND	ND	ND	330
1,2-Dichloropropane	ND	500	ND	330
trans-1,3-Dichloropropene	ND	ND	ND	330
Trichloroethene	ND	ND	210J	330
Benzene	ND	ND	ND	330
Dibromochloromethane	ND	ND	ND	330
1,1,2-Trichloroethane	ND	ND	ND	330
cis-1,3-Dichloropropene	ND	ND	ND	330
2-Chloroethyl vinyl ether	ND	ND	ND	330
Bromoform	ND	ND	ND	330
1,1,2,2-Tetrachloroethane	ND	ND	ND	330
Tetrachloroethene	ND	ND	210J	330
Toluene*	ND	35,000	3,400	330
Chlorobenzene	ND	930	ND	330
Ethyl benzene	ND	ND	ND	330

*Identification of these compounds at low levels is sometimes attributed to laboratory contamination.

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

J - Constituent detected but below the MDL. Quantification of level preceedi letter is approximate.

B - Analyte found in the blank as well as the sample. This warns data user of possible blank contamination.

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III. Analytical Results (CONT'D)

Volatile Organics

Constituent	Sample Designation: Floor Sweepings SR12590-8 TB-012886 1355-08-1	SR12590-8 Duplicate	MDL, ug/kg
Chloromethane	ND	ND	330
Bromomethane	ND	ND	330
Vinyl chloride	ND	ND	330
Chloroethane	ND	ND	330
Methylene chloride*	780B	950B	330
1,1-Dichloroethene	ND	ND	330
1,1-Dichloroethane	ND	ND	330
trans-1,2-Dichloroethene	ND	ND	330
Chloroform	ND	ND	330
1,2-Dichloroethane	ND	ND	330
1,1,1-Trichloroethane	270J	130J	330
Carbon tetrachloride	ND	ND	330
Bromodichloromethane	ND	ND	330
1,2-Dichloropropane	ND	ND	330
trans-1,3-Dichloropropene	ND	ND	330
Trichloroethene	ND	ND	330
Benzene	ND	ND	330
Dibromochloromethane	ND	ND	330
1,1,2-Trichloroethane	ND	ND	330
cis-1,3-Dichloropropene	ND	ND	330
2-Chloroethyl vinyl ether	ND	ND	330
Bromoform	ND	ND	330
1,1,2,2-Tetrachloroethane	ND	ND	330
Tetrachloroethene	ND	ND	330
Toluene*	1,300	1,400	330
Chlorobenzene	ND	ND	330
Ethyl benzene	ND	ND	330

*Identification of these compounds at low levels is sometimes attributed to laboratory contamination.

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

J - Constituent detected but below the MDL. Quantification of level preceed: letter is approximate.

B - Analyte found in the blank as well as the sample. This warns data user of possible blank contamination.

N-4

III. Analytical Results (CONT'D)

Volatile Organics

Constituent	aqueous method blank	Sample Designation: Bucket SR12590-9 TB-012886 1404-09-1	SR12590-9 Duplicate	MDL, ug/l
Chloromethane	ND	ND	ND	10
Bromomethane	ND	ND	ND	10
Vinyl chloride	ND	ND	ND	10
Chloroethane	ND	ND	ND	10
Methylene chloride*	0.91J	2.4JB	2.4JB	10
1,1-Dichloroethene	ND	ND	ND	10
1,1-Dichloroethane	ND	ND	ND	10
trans-1,2-Dichloroethene	ND	ND	ND	10
Chloroform	ND	ND	ND	10
1,2-Dichloroethane	ND	ND	ND	10
1,1,1-Trichloroethane	ND	ND	ND	10
Carbon tetrachloride	ND	ND	ND	10
Bromodichloromethane	ND	ND	ND	10
1,2-Dichloropropane	ND	ND	ND	10
trans-1,3-Dichloropropene	ND	ND	ND	10
Trichloroethene	ND	ND	ND	10
Benzene	ND	ND	ND	10
Dibromochloromethane	ND	ND	ND	10
1,1,2-Trichloroethane	ND	ND	ND	10
cis-1,3-Dichloropropene	ND	ND	ND	10
2-Chloroethyl vinyl ether	ND	ND	ND	10
Bromoform	ND	ND	ND	10
1,1,2,2-Tetrachloroethane	ND	ND	ND	10
Tetrachloroethene	ND	ND	ND	10
Toluene*	0.66J	11B	12B	10
Chlorobenzene	ND	ND	ND	10
Ethyl benzene	ND	ND	ND	10

*Identification of these compounds at low levels is sometimes attributed to laboratory contamination.

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

J - Constituent detected but below the MDL. Quantification of level preceedi letter is approximate.

B - Analyte found in the blank as well as the sample. This warns data user of possible blank contamination.

N-5

III. Analytical Results (CONT'D)

Volatile Organics

Constituent	Sample Designation: Liq/Sludge Sweepings SR12590-10 TB-012886 1409-10-1	Filter Cake Drum SR12590-11 TB-012886 1429-11-1	MDL, ug/kg
Chloromethane	ND	ND	330
Bromomethane	ND	ND	330
Vinyl chloride	ND	ND	330
Chloroethane	ND	ND	330
Methylene chloride*	670B	570B	330
1,1-Dichloroethene	ND	ND	330
1,1-Dichloroethane	ND	ND	330
trans-1,2-Dichloroethene	ND	ND	330
Chloroform	ND	ND	330
1,2-Dichloroethane	ND	ND	330
1,1,1-Trichloroethane	ND	ND	330
Carbon tetrachloride	ND	ND	330
Bromodichloromethane	ND	ND	330
1,2-Dichloropropane	ND	ND	330
trans-1,3-Dichloropropene	ND	ND	330
Trichloroethene	120J	60J	330
Benzene	ND	ND	330
Dibromochloromethane	ND	ND	330
1,1,2-Trichloroethane	ND	ND	330
cis-1,3-Dichloropropene	ND	ND	330
2-Chloroethyl vinyl ether	ND	ND	330
Bromoform	ND	ND	330
1,1,2,2-Tetrachloroethane	ND	ND	330
Tetrachloroethene	90J	ND	330
Toluene*	650B	14,000B	330
Chlorobenzene	ND	ND	330
Ethyl benzene	ND	ND	330

*Identification of these compounds at low levels is sometimes attributed to laboratory contamination.

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

J - Constituent detected but below the MDL. Quantification of level preceedi letter is approximate.

B - Analyte found in the blank as well as the sample. This warns data user of possible blank contamination.

N-6

S-R ANALYTICAL INC.

III. Analytical Results (CONT'D)

Alcohols by G.C.

Parameter	Sample Designation: method blank	MDL, ppm
Methanol	ND	10
Ethanol	ND	10
1-Propanol	ND	10
2-Propanol	ND	10
1-Butanol	ND	10
iso.-Butanol	ND	10
tert.-Butanol	ND	10

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

N-7

S-R ANALYTICAL INC.

III. Analytical Results (CONT'D)

Alcohols by G.C.

Parameter	Sample Designation: Hopper (Tray) SR12590-6 TB-012886-1329-06-1 Top Layer	Sample Designation: Hopper Tray SR12590-6 TB-012886-1329-06-1 Bottom Layer	MDL, ppm
Methanol	ND	ND	50
Ethanol	ND	*	50
1-Propanol	ND	ND	50
2-Propanol	11,000	8,500	50
1-Butanol	ND	ND	50
iso.-Butanol	ND	180	50
tert-Butanol	2,900	2,600	50

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

* Compound could not be detected due to matrix interference.

Note: Compounds were identified by matching retention times of sample peaks to that of standard peaks. No other confirmation technique was performed.

N-8

S-R ANALYTICAL INC.

III. Analytical Results (CONT'D)

Alcohols by G.C.

Parameter	Sample Designation: Standpipe SR12590-7 TB-012886-1340-07-1	Sweepings SR12590-8 TB-012886-1355-08-1	SR12590-8 Duplicate	MDL, ppm
Methanol	32	330	210	20
Ethanol	ND	140	210	20
1-Propanol	ND	ND	ND	20
2-Propanol	160	ND	ND	20
1-Butanol	ND	ND	ND	20
iso.-Butanol	79	ND	ND	20
tert-Butanol	ND	ND	ND	20

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

Note: Compounds were identified by matching retention times of sample peaks to that of standard peaks. No other confirmation technique was performed.

N-9

S-R ANALYTICAL INC.

III. Analytical Results (CONT'D)

Alcohols by G.C.

Parameter	Sample Designation: Bucket SR12590-9 TB-012886-1404-09-I	MDL, ppm
Methanol	ND	50
Ethanol	2,600	50
1-Propanol	ND	50
2-Propanol	7,500	50
1-Butanol	ND	50
iso.-Butanol	1,200	50
tert-Butanol	ND	50

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

Note: Compounds were identified by matching retention times of sample peaks to that of standard peaks. No other confirmation technique was performed.

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III. Analytical Results (CONT'D)

Alcohols by G.C.

Parameter	Sample Designation Liq/Sludge Sweepings SR12590-10 TB-012886-1409-10-1	MDL, ppm
Methanol	ND	20
Ethanol	59	20
1-Propanol	ND	20
2-Propanol	27	20
1-Butanol	ND	20
iso.-Butanol	37	20
tert-Butanol	ND	20

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

Note: Compounds were identified by matching retention times of sample peaks to that of standard peaks. No other confirmation technique was performed.

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S.R ANALYTICAL INC.

III. Analytical Results (CONT'D)

Alcohols by G.C.

Parameter	Sample Designation Filter Cake Dry SR12590-11 TB-012886-1429-11-1	MDL, ppm
Methanol	ND	50
Ethanol	*	50
1-Propanol	ND	50
2-Propanol	1,900	50
i-Butanol	ND	50
iso.-Butanol	260	50
tert-Butanol	ND	50

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

* Compound could not be detected due to matrix interference.

Note: Compounds were identified by matching retention times of sample peaks to that of standard peaks. No other confirmation technique was performed.

N-12

III. Analytical Results (CONT'D)

Reactivity

The observations for Reactivity were as follows:

- The samples did not undergo violent changes under normal conditions.
- The samples did not react violently or form a potentially explosive mixture with water.
- The samples did not appear readily capable of detonation or explosive decomposition or reaction at standard temperature or pressure.
- The results for reactive sulfide and cyanide are as follows:

	Parameter	
Sample Designation	Sulfide	Cyanide
method blank	ND	ND
SR12590-1 TB-012886-1252-01-1	>100	ND
SR12590-2 TB-012886-1252-02-1	>100	ND
SR12590-3 TB-012886-1302-03-1	ND	ND
SR12590-4 TB-012886-1308-04-1	ND	ND
SR12590-5 TB-012886-1314-05-2	>100; >100*	ND; ND*
SR12590-7 TB-012886-1240-07-1	ND	ND
SR12590-8 TB-012886-1355-08-1	>100	ND
MDL, ppm	100	50

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

* Duplicate Analysis

N-13

S-R ANALYTICAL INC.

III. Analytical Results (CONT'D)

Miscellaneous Parameters

Sample Designation		Parameter: Ash	Water	Sulfide
method blank		ND	ND	ND
SR12590-1	TB-012886-1252-01-1	51,000; 37;000*	NR	1,200; 1,100*
SR12590-2	TB-012886-1256-02-1	88,000	NR	8,400
SR12590-3	TB-012886-1302-03-1	640,000	NR	890
SR12590-4	TB-012886-1308-04-1	620,000	NR	1,100
SR12590-5	TB-012886-1314-05-2	42,000	NR	8,400
SR12590-6	TB-012886-1329-06-1	33,000	ND; ND*	3,200
SR12590-7	TB-012886-1340-07-1	520,000	NR	1,100
SR12590-8	TB-012886-1355-08-1	410,000	NR	3,100
SR12590-9	TB-012886-1404-09-1	19,000	540,000	6,500
SR12590-10	TB-012886-1409-10-1	360,000	31,000	5,400
SR12590-11	TB-012886-1429-11-1	130,000; 69,000*	NR	2,100
MDL, ppm		1,000	5,000	40

NR - Not Requested

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

* Duplicate Analysis

N-14

S-R ANALYTICAL INC.

II. Analytical Results (CONT'D)

Miscellaneous Parameters

Sample Designation		Phosphorus, total	Total Solids	Sulfur total	Total Volatile Solids
		Parameter			
method blank		ND	ND	ND	ND
SR12590-1	TB-012886-1252-01-1	130	910,000	470,000	710,000
SR12590-1	Duplicate	120	920,000	490,000	850,000
SR12590-2	TB-012886-1256-02-1	120	870,000	420,000	530,000
SR12590-3	TB-012886-1302-03-1	110	790,000	38,000	120,000
SR12590-4	TB-012886-1308-04-1	96	730,000	51,000	77,000
SR12590-5	TB-012886-1314-05-2	130	930,000	410,000	860,000
SR12590-6	TB-012886-1329-06-1	130	720,000	290,000	420,000
SR12590-7	TB-012886-1340-07-1	130	770,000	180,000	250,000
SR12590-8	TB-012886-1355-08-1	93	720,000	71,000	270,000
SR12590-9	TB-012886-1404-09-1	63	24,000	8,000	3,000
SR12590-10	TB-012886-1409-10-1	81	450,000	23,000	71,000
SR12590-11	TB-012886-1429-11-1	140	860,000	550,000	590,000
SR12590-11	Duplicate	-	870,000	-	670,000
MDL, ppm		0.5	1,000	2,000	100

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

N-15

III. Analytical Results

Volatile Organics

Constituent	method blank	Sample Designation SR12596-1 WSK-012886-1415-01-1	SR12596-2 WSK-012886-1425-02-1	MDL, ug/kg
Chloromethane	ND	ND	ND	330
Bromomethane	ND	ND	ND	330
Vinyl chloride	ND	ND	ND	330
Chloroethane	ND	ND	ND	330
Methylene chloride*	170J	1,300B	1,200B	330
1,1-Dichloroethene	ND	ND	ND	330
1,1-Dichloroethane	ND	ND	ND	330
trans-1,2-Dichloroethene	ND	ND	ND	330
Chloroform	ND	ND	ND	330
1,2-Dichloroethane	ND	ND	ND	330
1,1,1-Trichloroethane	ND	ND	ND	330
Carbon tetrachloride	ND	ND	ND	330
Bromodichloromethane	ND	ND	ND	330
1,2-Dichloropropane	ND	ND	ND	330
trans-1,3-Dichloropropene	ND	ND	ND	330
Trichloroethene	ND	ND	ND	330
Benzene	ND	ND	ND	330
Dibromochloromethane	ND	ND	ND	330
1,1,2-Trichloroethane	ND	ND	ND	330
cis-1,3-Dichloropropene	ND	ND	ND	330
2-Chloroethyl vinyl ether	ND	ND	ND	330
Bromoform	ND	ND	ND	330
1,1,2,2-Tetrachloroethane	ND	440	330	330
Tetrachloroethene	ND	ND	ND	330
Toluene*	270J	650B	610B	330
Chlorobenzene	ND	ND	ND	330
Ethyl benzene	ND	ND	ND	330

*Identification of these compounds at low levels is sometimes attributed to laboratory contamination.

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

J - Constituent detected but below the MDL. Quantification of level proceeding letter is approximate.

B - Analyte found in the blank as well as the sample. This warns data user of possible blank contamination.

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III. Analytical Results (CONT'D)

Volatile Organics

Constituent	Sample Designation: SR12596-3 WSK-012886-1435-03-1	Sample Designation: SR12596-3 Duplicate	MDL, ug/kg
Chloromethane	ND	ND	330
Bromomethane	ND	ND	330
Vinyl chloride	ND	ND	330
Chloroethane	ND	ND	330
Methylene chloride*	1,300B	1,300B	330
1,1-Dichloroethene	ND	ND	330
1,1-Dichloroethane	ND	ND	330
trans-1,2-Dichloroethene	ND	ND	330
Chloroform	ND	ND	330
1,2-Dichloroethane	ND	ND	330
1,1,1-Trichloroethane	ND	ND	330
Carbon tetrachloride	ND	ND	330
Bromodichloromethane	ND	ND	330
1,2-Dichloropropane	ND	ND	330
trans-1,3-Dichloropropene	ND	ND	330
Trichloroethene	ND	ND	330
Benzene	ND	ND	330
Dibromochloromethane	ND	ND	330
1,1,2-Trichloroethane	ND	ND	330
cis-1,3-Dichloropropene	ND	ND	330
2-Chloroethyl vinyl ether	ND	ND	330
Bromoform	ND	ND	330
1,1,2,2-Tetrachloroethane	ND	ND	330
Tetrachloroethene	ND	ND	330
Toluene*	690B	650B	330
Chlorobenzene	ND	ND	330
Ethyl benzene	ND	ND	330

*Identification of these compounds at low levels is sometimes attributed to laboratory contamination.

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

J - Constituent detected but below the MDL. Quantification of level proceeding letter is approximate.

B - Analyte found in the blank as well as the sample. This warns data user of possible blank contamination.

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S-R ANALYTICAL INC.

III. Analytical Results (CONT'D)

Pesticides

Sample Designation	Parameter: Malathion	Parathion	MDL, ug/kg
method blank	ND	ND	100
SR12596-1 WSK-012886-1415-01-1	ND	ND	5,000
SR12596-2 WSK-012886-1425-02-1	37,000; 20,000*	ND	5,000
SR12596-3 WSK-012886-1435-03-1	ND	ND	5,000
SR12596-3 Duplicate	ND	ND	5,000

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

* Alternate column confirmation

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III. Analytical Results (CONT'D)

Reactivity

The observations for Reactivity were as follows:

- The samples did not undergo violent changes under normal conditions.
- The samples did not react violently or form a potentially explosive mixture with water.
- The samples did not appear readily capable of detonation or explosive decomposition or reaction at standard temperature or pressure.
- The results for reactive sulfide and cyanide are as follows:

		Sample Designation			
Parameter	method blank	SR12596-1 WSK-012886-1415-01-1	SR12596-2 WSK-012886-1425-02-1	SR12596-3 WSK-012886-1435-03-1	MDL, ppm
Sulfide	ND	ND; ND*	ND	ND	50
Cyanide	ND	ND; ND*	ND	ND	100

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

* Duplicate Analysis

N-14

S-R ANALYTICAL INC.

III. Analytical Results (CONT'D)

Miscellaneous Parameters

Sample Designation

Parameter	method blank	SR12596-1 WSK-012886 1415-01-1	SR12596-2 WSK-012886 1425-02-1	SR12596-3 WSK-012886 1435-03-1	MDL, ppm
Ash	ND	750,000	300,000	390,000; 390,000*	1,000
Sulfide	ND	27,000; 27,000*	7,100	ND	40
Phosphorus, total	ND	29; 31*	94	48	0.1
Total Solids	ND	780,000	370,000	430,000; 430,000*	1,000
Sulfur, total	ND	3,600	6,200; 6,300*	2,800	1.0
Total Volatile Solids	ND	5,000	26,000	30,000; 26,000*	1,000

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

* Duplicate Analysis

N-20

MEMORANDUM

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO: Assistant Director Bellis

FROM: Ralph W. Mortensen

THROUGH: Messrs. Beggs, Delgado and Honachefsky

SUBJECT: Amended Consent Judgment for American Cyanamid (Linden)

DATE: NOV 21 1977

On February 25, 1972, a Consent Final Judgment was entered into by this Department and American Cyanamid's Warners Plant in Linden. Under the terms of this Consent Final Judgment, outfall 1 at the Warners Plant was to be the only outfall discharging anything other than uncontaminated cooling water. In September of 1975, basin personnel noted that proposed discharges from a domestic waste treatment plant and from an organic waste incinerator treatment system at the Warners Plant would be using outfalls other than outfall 1. To resolve this apparent conflict with the 1972 Consent Final Judgment, a decision was made to inform American Cyanamid to request that the Consent Final Judgment be modified. On May 24, 1976, representatives of this Department met with representatives of American Cyanamid to discuss modifying the Consent Final Judgment. Since that date, numerous meetings have been held. Attached is a copy of the latest draft of an Amended Consent Judgment.

The main points of contention were the toxicity limit and the point at which the effluent criteria were to be applied. The 1972 Consent Final Judgment set a toxicity limit of no acute toxicity. American Cyanamid was in favor of setting no toxicity limit or using the limit in the Surface Water Quality Standards. We were in favor of setting a toxicity limit that would be as near to no toxicity as possible. As a compromise between not setting a toxicity limit and retaining a toxicity limit of "none", we relaxed our position and agreed to setting a toxicity limit of not less than 500,000 ppm or 50% as measured by a 96-hour LC_{50} bioassay conducted on a flow proportional, 24-hour, composite sample of all outfalls.

On the matter of the point where the effluent criteria were to be applied, we took the position that the criteria should be applied at the discharges from individual treatment plants rather than at the various outfalls. American Cyanamid said that the treatment plants they were planning to install were designed to meet the effluent criteria at the outfalls rather than at the discharge points of the individual treatment plants. It was finally decided to have the effluent criteria apply to the entire facility with the effluent limts for BOD and suspended solids being the aggregate for all outfalls as specified in the NPDES permit. However, until the planned treatment plants are fully operational, the existing discharges will be considered interim discharges. As such, the discharges are to be maintained in such a way that, as a minimum, the quality of the discharges and the loadings will not deteriorate significantly in numerical terms from present levels as denoted in the results of the organic waste incinerator monitoring program.

Attachment

We were able to have cyanide and cyanate limits included (added) in the Amended Consent Judgment. American Cyanamid had expressed the opinion that these limits belonged in the construct and operate permit rather than the Amended Consent Judgment. The cyanide and cyanate limits are to be applied to the discharge from the cyanide treatment plant. Agreement was reached on including a new provision requiring American Cyanamid to undertake a program to decommission (stabilize) the abandoned alum mud impounds. A schedule for eliminating the discharge of phosphorus and phosphorus compounds was also agreed to. Also included was a provision that there would be no discharges from new or modified sources, other than uncontaminated cooling water, unless authorized and permitted by N.J.S.A.58:12-3 and/or 58:11-10 and/or any amendment thereof. A minor problem arises as N.J.S.A.58:12-3, which required that a permit be obtained before constructing a treatment plant, has been repealed by N.J.S.A.58:10A-1 et.seq. Since the regulations promulgated persuant to N.J.S.A.58:10A-1 et seq. provide for continuation of the permit program in the form of the treatment works approvals, the reference to N.J.S.A.58:12-3 could probably remain in the Amended Consent Judgment without causing any repercussions. An alternative would be to substitute N.J.S.A.58:10A-1 et.seq., or the particular applicable section therefrom, for N.J.S.A.58:12-3. It would be best to let counsel make the final decision as to the best way to state this requirement.

Recommendation

We have now been actively working on amending the 1972 Consent Final Judgment for one and a half years. It is our opinion that this latest draft of the Amended Consent Judgment reflects the best agreements we can obtain without the expenditure of a great deal more time and effort. In view of other priorities, we recommend that you approve having D.A.G. Peter Herzberg sign this Amended Consent Judgment on behalf of the Department.

E67:G21
cc: Peter Herzberg, DAG

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ADM-012

MEMO

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO FILE

FROM CLARE P. SULLIVAN, HSMS IV, BUREAU OF PLANNING AND ASSESSMENT DATE

SUBJECT AMERICAN CYANAMID, LINDEN

On June 8, 1987 the writer reviewed Docket # C-953-70 which is located in the file room at the Justice Complex. This docket includes background information concerning an Amended Consent Judgement between American Cyanamid and New Jersey Department of Environmental Protection. The following is a chronological list of events which occurred at the Warners Plant in conjunction with this order:

1. January 22, 1963
   The Department of Health issued a notice to American Cyanamid, as they had found through investigations that industrial wastes were being discharged to the Arthur Kill. These discharges were ordered to cease by January 27, 1964.

2. May 4, 1967
   The Department issued an amended pollution abatement order, ordering American Cyanamid to cease discharge to the Arthur Kill by November 30, 1967.

3. September 18, 1968
   An inspection at the facility indicated non-compliance with the order.

4. January 7, 1969
   A letter was received from Cyanamid which indicated they would correct the objectionable nature of the effluent by January 1, 1970.

The docket indicated that American Cyanamid continued to permit industrial wastes and other polluting matter to be discharged to the Arthur Kill and Rahway River after January 1, 1970. Cyanamid, in an order signed by the Deputy Attorney General, was ordered to cease discharge and manufacturing operations which resulted in this discharge until such time as they were in compliance.

The following sampling results were included in the Docket:

1. September 18, 1968
   An inspection and sampling on this date indicated the discharge of approximately 8.5 million gallons per day (MGD) of industrial wastewater to the Arthur Kill through five (5) outfalls. Biochemical oxygen demand (BOD) loading was determined to be 4000 pounds per day. The following analytical results were obtained:

   a. Outfall 1 - pH 2.4.

   b. Outfall 5 - Severe toxicity in bioassay.

   c. Outfall 6 - 381 milligrams per liter (mg/l) BOD, 213 mg/l suspended solids, 11 mg/l petroleum ether soluble matter and toxicity in bioassays.

   d. Outfall 7 - 101 mg/l BOD.

   e. Outfall 8 - 647 mg/l petroleum ether soluble matter.

Attachment R

2. November 12, 1968
A letter from Christian T. Hoffman, Principal Public Health Engineer indicated effluent analytical results of high total solids and high chemical oxygen demand (COD).

3. June 29, 1970
An inspection and sampling on this date indicated the discharge rate of 8.1 MGD and the total BOD was rated at 20,582 pounds per day.

The following analytical results were obtained:

a. Outfall 1 - 322 mg/l BOD, 84 mg/l suspended solids, pH 9.2.

b. Outfall 5 - 10 mg/l petroleum ether soluble matter, 161 mg/l BOD, 110 mg/l suspended solids.

c. Outfall 6 - 10 mg/l petroleum ether soluble matter.

d. Outfall 7 - greater than 398 mg/l BOD, 74 mg/l suspended solids.

e. Outfall 8 - 71 mg/l petroleum ether soluble matter, 252 mg/l BOD.

4. August 17, 1970
An inspection and sampling on this date indicated the discharge rate of 7.7 MGD and a six (6) day BOD discharge of 8976 pounds per day.

The following analytical results were obtained:

a. Outfall 1 - 13 mg/l petroleum ether soluble matter, 101 mg/l BOD, and an objectionable odor.

b. Outfall 5 - 13 mg/l petroleum ether soluble matter, 227 mg/l BOD, objectionable odor and color.

c. Outfall 6 - 16 mg/l petroleum ether soluble matter, 290 mg/l suspended solids, and objectionable odor.

d. Outfall 7 - 16 mg/l petroleum ether soluble matter, 179 mg/l BOD and objectionable odor.

e. Outfall 8 - 112 mg/l petroleum ether soluble matter, 141 mg/l BOD, elevated levels of suspended solids and objectionable odors.

5. September 1, 1970
The following analytical results were obtained:

a. Outfall 5 - 18 mg/l petroleum ether soluble matter, 216 mg/l suspended solids.

b. Outfall 8 - 33 mg/l petroleum ether soluble matter, 176 mg/l BOD, 40 mg/l suspended solids.

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6. October 1, 1970
Bioassay testing was conducted at Outfall 8. The results indicated an acute toxic threshold at 50% of sample after 24 hours and a chronic toxicity at a toxic threshold limit of only 25% of sample after 96 hours. The Department concluded that American Cyanamid was discharging, through Outfall 8 on October 1, 1970, an effluent that was toxic to fish at a threshold limit of 25% of sample and below based on a 96 hour test, results which indicated a highly toxic substance.

Under the terms of the order, Outfalls 1,2, and 3 were consolidated into Outfall A, Outfall 4 became Outfall B, Outfall 5 became Outfall C, Outfalls 6,8, and 9 were consolidated into Outfall D and Outfall 10 became Outfall E.

CS:mz

P-3

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
P.O. BOX CN 029
TRENTON, NEW JERSEY 08625

JOHN W. GASTON JR., P.E.
DIRECTOR

IN THE MATTER OF :

AMERICAN CYANAMID COMPANY :

ADMINISTRATIVE CONSENT ORDER

The following FINDINGS are made and ORDER issued pursuant to the authority vested in the Commissioner of the New Jersey Department of Environmental Protection (NJDEP) by N.J.S.A. 13:1D-1 et seq. and the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., and duly delegated to the Assistant Director of Enforcement of the Division of Water Resources pursuant to N.J.S.A. 13:1B-4.

FINDINGS

1. American Cyanamid Company (Cyanamid) owns and operates the Warners plant in Linden, New Jersey. The plant manufactures: water treating and mining chemicals, sulfuric acid and a variety of organophosphate insecticides. Noncontact cooling water used in these operations is taken from and discharged to the Arthur Kill.

2. In 1972, Cyanamid entered into a consent judgement with the NJDEP wherein the Warners plant agreed to segregate process water from noncontact cooling water and to reduce effluent discharges to prescribed concentration limitations. The 1972 Consent Order was amended on April 18, 1978: (1) to incorporate the NPDES limitations which were to take effect in October of 1978 and (2) to revise the effluent limitations of the 1972 Consent Judgement to provide mass versus concentration limitations.

3. In 1977, the United States Environmental Protection Agency (EPA) issued Cyanamid a NPDES permit (NJ 0001058) for the Warners plant. This permit expired in 1981, but remains in effect until such time as a new permit is issued. Cyanamid made a timely application for a new permit. In April 1982, EPA delegated to NJDEP the authority to issue discharge permits under the NJPDES program. The NJDEP is developing a new permit for the Warners plant.

4. On May 17, 1983, representatives of Cyanamid and NJDEP met for the purpose of discussing the proposed effluent limitations which would appear in a new draft NJPDES permit and the excursions that have occurred at the Warners plant in violation of the existing discharge limits as reported in the Discharge Monitoring and Monthly Operator Reports. NJDEP has reviewed these excursions and has concluded that Cyanamid is continually taking steps to improve its compliance record, that Cyanamid has significantly improved its compliance record since 1980, and that additional improvements are necessary to assure continued compliance with its NPDES permit. In addition, based upon the reported excursions and the possibility of contaminated storm water discharges, NJDEP requires additional

Attachment Q

information to complete a new NJPDES permit for the Warners plant. Based upon these discussions, Cyanamid has agreed to undertake the activities specified in this Consent Order. Based on these discussions, NJDEP has concluded that the actions listed in paragraph 7 are necessary to assure compliance and in consideration of Cyanamid's undertaking this, NJDEP will not seek penalties for those excursions that occurred prior to the effective date of this Consent Order.

5. On December 1, 1982, NJDEP representatives visited the Cyanamid Warners plant and observed the following deficiencies/violations:

   1. areas containing unlabeled and deteriorating drums;

   2. inadequate containment facilities for chemical spillages allowing for flow into permitted and unpermitted outfalls.

6. The excursions and observations noted above constituted violations of the New Jersey Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq. and The Clean Water Act, 33 USC §1342.

ORDER

NOW, THEREFORE, IT IS ORDERED AND AGREED THAT:

7. (a) Cyanamid shall complete a program to examine the TSS excursions and TSS limitations by September 30, 1983.

   (1) Develop and submit statistical analysis reports on both concentrations and mass loading basis by July 1, 1983;

   (2) Review rainfall records and correlate with TSS analyses by August 1, 1983.

   (b) With reference to the reported COD excursions, Cyanamid shall, by September 30, 1983, do the following:

   (1) Determine the applicability of the COD vs TOC analysis to the discharges (interferences, reproducibility, statistical reviews, etc.) and monitor the discharges for both COD and TOC;

   (2) Determine the chemical species contributing to any COD excursions occurring between the effective date of this Consent Order and September 30, 1983; and

   (3) Implement a program to eliminate the excursions.

   (c) With reference to the reported pH excursions, Cyanamid shall complete a program to minimize leaks from the sulfuric acid plant coolers by September 1, 1983.

   (1) Develop and implement a formal training program to improve response to leaks by July 1, 1983.

(2) Complete a review of maintenance and leak history by July 1, 1983.

(3) Pending the outcome in (2), develop programs to inventory additional spare parts on-site and to improve response techniques to leaks by September 1, 1983.

(d) Cyanamid shall immediately place all process waste drums that contain hazardous wastes in properly labeled containers as per N.J.A.C. 7:26-7.1, 7.2.

(e) Cyanamid shall immediately place all deteriorating process waste drums containing hazardous wastes in proper containers as per N.J.A.C. 7:26-7.2.

(f) Cyanamid shall assure that all shipments of hazardous waste material comply with N.J.A.C. 7:26-9.1 et seq.

(g) Cyanamid shall submit, by August 1, 1983, an updated drainage plan detailing all building floor drains, inlets, manholes, direction of flow and points of discharge.

(h) Cyanamid shall collect a grab sample from each unpermitted storm water outfall during the first hour of a storm water discharge event. These samples must be analyzed for pH, TSS, TOC, petroleum hydrocarbons, priority pollutant scan (129 parameters), and estimated instantaneous flow. Cyanamid shall provide NJDEP with a copy of same by September 30, 1983.

8. Cyanamid shall notify NJDEP in writing upon the completion of each item listed above.

9. Any submission of information required by this Order shall be made to:

James E. Mumman, Chief
Region II
Enforcement Element
Division of Water Resources
CN-029
Trenton, New Jersey 08625

10. The provisions of this Consent Order shall be binding upon Cyanamid, its principals, agents, employees, successors, assigns, tenants, and any receiver or trustee in bankruptcy, should such an entity be appointed to take control of the premises subject to this Order.

11. Nothing in this Consent Order shall constitute a waiver of any statutory right of NJDEP, should NJDEP determine that further remedial measures are necessary to protect the public health, safety and/or welfare.

12. No obligations imposed by this Consent Order are intended to constitute a debt, damage claim, penalty or other civil action which should be limited or discharged in a bankruptcy proceeding. All obligations imposed by this Consent Order shall constitute continuing regulatory obligations imposed pursuant to the State of New Jersey, intended to protect the public health, safety and welfare.

Q-3

13. No modifications to this Consent Order shall be effective, binding or otherwise valid in either law or equity proceedings to alter the obligations of the parties as memorialized hereinabove except by amendments to this Consent Order duly executed in the manner as authorized by N.J.S.A. 58:10A-1 et seq. and 13:1E-1 et seq.

14. Cyanamid hereby consents to and agrees to comply with all the terms and provisions of this Administrative Consent Order, which shall be fully enforceable in the New Jersey Superior Court having jurisdiction over the subject matter and signatory parties; this Consent Order shall also constitute an Administrative Order issued pursuant to the New Jersey Water Pollution Control Act, and shall not prohibit, prevent or otherwise preclude NJDEP from taking whatever action it deems appropriate to enforce the water pollution control laws of the State of New Jersey in any manner not inconsistent with the terms of this Consent Order and shall not prohibit, prevent or otherwise preclude NJDEP from utilizing this Consent Order in subsequent administrative or judicial proceedings. In the event of any changed circumstances, either factual or legal, which would render the provisions of this Consent Order inappropriate or unnecessary, or in the case of any disagreement between parties over the interpretation or construction of this Consent Order, each party reserves the right to apply to a court of competent jurisdiction to seek a judicial ruling determining its rights and liabilities under this Consent Order.

This Administrative Consent Order shall take effect upon the signature of all parties.

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

DATE: 5/26/83

BY: John W. Gaston Jr.
JOHN W. GASTON, JR., P.E.
DIRECTOR

Cyanamid hereby consents to the entry of this Consent Order and waives the right to a hearing pursuant to N.J.S.A. 52:14B-1 et seq. and N.J.S.A. 58:10A-10.

DATE: 5/27/83

AMERICAN CYANAMID COMPANY

5/27/83

5/27/83

Q-4

Copy 1(2)ab09-03
Shovel

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF ENVIRONMENTAL QUALITY
JOHN FITCH PLAZA, CN027, TRENTON, N.J. 08625

M E M O R A N D U M

January 28, 1985

TO: Marwan Sadat, Thomas Burke, William O'Sullivan & John Elston

FROM: Steve Kuhrtz

SUBJECT: American Cyanamid Company and E.I. duPont De Nemours & Co., Inc., Linden

In response to numerous incidents which have resulted in the release of chemical air contaminants in the New Jersey (Tremley Point) - New York area within the last three-four months, the Department has issued administrative orders to the American Cyanamid Company, Linden and the E.I. duPont De Nemours & Co., Inc., Linden. These administrative orders contain steps in which the above companies must, within a specified time period, evaluate and implement an Environmental Accident Risk Assessment. As indicated in American Cyanamid Company's Order paragraph 10A and E.I. duPont's Order paragraph 6A, these companies must complete their action within 14 days of receipt of the Order.

Assistant Commissioner Tyler and I are requesting your cooperation in evaluating the detailed work plans outlined in paragraphs 10A and 6A of the enclosed orders when they become available to the Department. In approximately two weeks we will be holding a conference with the Companies to discuss their work plans. I should appreciate your attendance at the conference which we will try to schedule accordingly. Also, please allot the necessary time in your schedule to evaluate the companies' work plans so that there is no Departmental delay.

I have appointed Mr. Harold Christiff (4-0492) from the Division's Bureau of Enforcement Services as case coordinator for these projects. Mr. Tyler has endorsed his appointment.

Your cooperation in this matter will be greatly appreciated.

Steve Kuhrtz (per H.N.)
S. G. K.

ajm
Enclosure

c: G. Tyler
H. Christiff
A. Edwards
A. Bara

New Jersey Is An Equal Opportunity Employer

F-15

Attachment R

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ROBERT E. HUGHEY, COMMISSIONER
CN 402
TRENTON, N.J. 08625
609 - 292 - 2885

IN THE MATTER OF : ADMINISTRATIVE

AMERICAN CYANAMID COMPANY : ORDER

The following FINDINGS are made and ORDER is issued pursuant to the authority vested in the Commissioner of the New Jersey Department of Environmental Protection by N.J.S.A. 13:1D-1 et seq., and the Air Pollution Control Act of 1954, N.J.S.A. 26:2C-1 et seq.

FINDINGS

1. AMERICAN CYANAMID COMPANY (hereinafter, "the Company") owns and operates a chemical manufacturing facility located at the Foot of Tremley Point Road, Block 460, Lots 32, 32A and 33A, City of Linden, County of Union, State of New Jersey (the "Linden facility").

2. An investigation conducted on October 6, 1984 by the New Jersey Department of Environmental Protection (hereinafter, "the Department") disclosed that the Company did cause, suffer, allow or permit malathion and its by-products to be emitted into the outdoor atmosphere in such quantities as to be or tend to be injurious to human health or welfare or to interfere with the enjoyment of life or property. This is a violation of N.J.A.C. 7:27-5.2(a). Subsequently

100% Recycled

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on October 19, 1984, the Department issued to the Company Notice of Prosecution #22550, requiring the Company to cease said violation immediately and assessing a $2,500 penalty.

3. Further, the October 6, 1984 investigation conducted by the Department disclosed the use of the Company's feed tank TA-3 with uncontrolled temperatures and pressure resulting in emissions of air contaminants exceeding the levels established in its Permit to Construct No. P-20057. Therefore, the Company was not operating in accordance with its Permit to Construct No. P-20057 and Certificate to Operate No. CT-20057. This is a violation of N.J.A.C. 7:27-8.3(e)(2). Subsequently on October 19, 1984, the Department issued to the Company Notice of Prosecution #22551, requiring the Company to cease said violation immediately and assessing a $2,500 penalty.

4. On November 2, 1984 the Department received from the Company $5,000 in full settlement for the Notices of Prosecution referenced in paragraphs 2 and 3.

5. On November 16, 1984 the Department and the Company entered into an Administrative Consent Order for the purpose of controlling emissions from the Malathion Process referenced in paragraphs 2 and 3.

6. On January 4, 1985 the Company notified the Department that the Linden facility experienced a release of dimethyl phosphorocloridothionate into the outdoor atmosphere. A subsequent investigation conducted on the same day by the Department, in response to the Company's

notification, verified the release of dimethyl phosphorochloroidothionate from Tank #140-11 into the outdoor atmosphere, as reported by the Company. This release was of a chemical which was not indicated on the Company's Permit No. P-48716. Therefore, the Company was not operating in accordance with its Permit No. P-48716 and its Certificate to Operate No. CT-48716. This is a violation of N.J.A.C. 7:27-5.2(a) and -8.3(e)(1). Subsequently on January 23, 1985 the Department issued to the Company Notices of Prosecution #s A850001 and A850002, requiring the Company to cease said violations immediately, and assessing a $2,500 penalty for each violation.

7. On January 21, 1985 the Company notified the Department that the Linden facility experienced a release of Cygon-400 into the outdoor atmosphere.

8. A subsequent investigation conducted on the same day by the Department, in response to the Company's notification, verified the release of Cygon-400 from Tank TK-170-3A into the outdoor atmosphere, as reported by the Company. This release exceeded the levels established in the Company's Permit No. P-1519. Therefore, the Company was not operating in accordance with its Permit No. P-1519 and its Certificate to Operate No. CT-1519. This is a violation of N.J.A.C. 7:27-5.2(a) and -8.3(e)(2). Subsequently on January 23, 1985 the Department issued to the Company Notices of Prosecution #s A850003 and A850004, requiring the Company to cease said violation, and assessing a $2,500 penalty for each violation.

9. Based upon the above the Department finds that in order to prevent further violations of N.J.S.A. 26:2C-1 et seq. and the codes, rules, regulations and orders promulgated pursuant thereto, and to prevent the release into the outdoor atmosphere of air contaminants in such quantities as to be or tend to be injurious to human health or welfare, animal or plant life or property, or would unreasonably interfere with the enjoyment of life or property, that it is necessary that the Company conduct a formal Environmental Accident Risk Assessment.

ORDER

NOW, THEREFORE, IT IS HEREBY ORDERED THAT:

10. A Within fourteen (14) days of receipt of this Order the Company shall forward to the Department for its approval a detailed work plan prepared by an independent consultant approved by the Department (the "Consultant") for the purpose of assessing the potential environmental risks from the accidental release of chemicals into the environment. The work plan shall include, but not be limited to, plans for evaluating the current usage, storage, and equipment safeguards in effect for all chemicals used, stored, handled or disposed of at the Linden facility. The work plan shall also include, but not be limited to, plans for addressing, and comparing to state of the art industrial practices, the current equipment design, operating procedures, preventive maintenance procedures and emergency response capability and

procedures as they relate to prevention and control of accidental releases of such chemicals.

B. Within seven (7) days of receipt of the Department's comments on the work plan, the Company shall modify the plan as necessary to conform with said comments and submit the modified work plan to the Department.

C. Within sixty (60) days of receipt of the Department's final approval of the modified work plan, the Company shall implement the plan, and submit to the Department a detailed remedial action plan including a time schedule and any necessary engineering designs to implement the remedial action plan.

D. Within fourteen (14) days of receipt of the Department's comments on the remedial action plan, the Company shall modify the plan in accordance with said comments and submit the modified remedial action plan to the Department.

E. Immediately upon receipt of the Department's final approval of the modified remedial action plan, the Company shall implement the plan in accordance with the approved time schedule. The Company shall submit to the Department a detailed progress report on the first day of each month, until the completion of the requirements of the remedial action plan.

11. Under the provisions of N.J.S.A. 26:2C-14.1 the Company is entitled to an administrative hearing if aggrieved by this Order. If aggrieved, written application to the Department must be made within 20 days from receipt of this Order.

12. The terms of this Order shall not release the Company of any further obligation to comply with the requirements of N.J.S.A. 26:2C-1 et seq., N.J.A.C. 7:27-1.1 et seq., and any other applicable statute, code, rule, regulation or order.

13. The provisions of this Order shall be binding on American Cyanamid Company and its independent agents, successors, assigns, and any trustee in bankruptcy or receiver appointed pursuant to a proceeding in law or equity.

DATED: January 23, 1985

ROBERT E. HUGHEY, Commissioner
Department of Environmental Protection

R-7

Let's protect our earth

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
CN 029
TRENTON, NEW JERSEY 08625

GEORGE G. McCANN, P.E.
DIRECTOR

DIRK C. HOFMAN, P.E.
DEPUTY DIRECTOR

IN THE MATTER OF	:	
		ADMINISTRATIVE ORDER
AMERICAN CYANAMID COMPANY	:	AND
		NOTICE OF CIVIL ADMINISTRATIVE
LINDEN, NEW JERSEY	:	PENALTY ASSESSMENT

This Administrative Order and Notice of Civil Administrative Penalty Assessment is issued pursuant to the authority vested in the Commissioner of the New Jersey Department of Environmental Protection (hereinafter "NJDEP" or the "Department") by N.J.S.A. 13:1D-1 et seq. and the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., and duly delegated to the Director of the Division of Water Resources pursuant to N.J.S.A. 13:1B-4.

FINDINGS

1. American Cyanamid Company (hereinafter "Cyanamid") owns and operates a chemical manufacturing plant located at the foot of Tremley Point Road, Block 587, Lot 8, Linden, Union County, New Jersey.

2. Cyanamid possesses a valid NJPDES permit, number NJ 0001058, which authorizes discharges from eight locations into the adjacent waters of the Rahway River and the Arthur Kill.

3. On April 9, 1986 representatives of NJDEP attempted to conduct an inspection of the permitted facility in the vicinity of Building 69, in the area between discharges No. 007 and 008 to the Rahway River. Cyanamid officials refused to allow NJDEP representatives to conduct the inspection.

Attachment S

4. General Conditions of Cyanamid's permit No. NJ 0001058, Part I(i)1-4, requires Cyanamid to allow the Department or its authorized representative to conduct inspections of Cyanamid's known or suspected discharge. Cyanamid was reminded of this requirement and also advised that pursuant to N.J.S.A. 13:1D-9 representatives of NJDEP are authorized to enter any building or place to investigate actual or suspected sources of environmental pollution.

5. The New Jersey Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., specifically N.J.S.A. 58:10A-6g and the regulations promulgated thereunder, specifically, N.J.A.C. 7:14A-2.5(a)9, specifically provide for right of entry to and inspection of a permittee's premises in which a discharge source "might be located".

6. On April 17, 1986 a second attempt was made by NJDEP representatives to conduct an inspection of Cyanamid's Linden facility and permission was again denied. The Plant Manager contacted Cyanamid headquarters and it's legal department. After a long series of conferences, Cyanamid finally agreed to allow the inspection. However, by that time the tidal elevation had increased and the inspectors were unable to inspect the area under Building 69.

7. According to Cyanamid's NJPDES permit No. NJ 0001058, Part IV Sections A.1 and A.2, Discharges 00B and 00D are limited to a concentration of 50 mg/l of Total Organic Carbon and to a concentration of "None Within Detectable Limits" of Pesticides.

8. In a letter dated July 31, 1986 from Cyanamid to the NJDEP, Cyanamid reported having exceeded the Total Organic Carbon and Pesticide limitations referenced in paragraph 7 of this Order, in violation of NJPDES permit No. NJ 0001058, Part IV Sections A.1 and A.2. The effluent for the month of June 1986 was reported as follows:

	Effluent Limitation Max Daily	Effluent Concentration June 1986
Total Organic Carbon (DIS 00D)	50	81 mg/l
Pesticides (DIS 00B)	None within detectable limits	4.3 mg/l

9. Based on the facts set forth in these FINDINGS, the Department has determined that Cyanamid has violated the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., specifically N.J.S.A. 58:10A-6 and 58:10A-6g, and the regulations promulgated pursuant thereto, N.J.A.C. 7:14A-1 et seq., specifically N.J.A.C. 7:14A-2.5(a)9. Cyanamid has also violated the terms of NJPDES Permit No. NJ 0001058.

ORDER

NOW, THEREFORE, IT IS HEREBY ORDERED THAT:

10. Cyanamid shall comply with NJPDES Permit No. NJ 0001058, Condition Part I(i), Inspection and Entry which requires the following:

    (i) The permittee shall allow the Department or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:

    1. Enter upon the permittee's premises where a discharge source is or might be located or in which monitoring equipment or records required by a permit are kept, for purposes of inspection, sampling, copying or photographing. Photography shall be allowed only as related to the discharge;

    2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

    3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

    4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the State Act, any substances or parameters at any location.

11. Cyanamid shall discharge at all times in conformity with New Jersey Pollutant Discharge Elimination System Permit No. NJ 0001058 that has been issued by NJDEP pursuant to the New Jersey Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., and the regulations promulgated thereunder, N.J.A.C. 7:14A-1 et seq.

NOTICE OF CIVIL ADMINISTRATIVE PENALTY ASSESSMENT

12. Pursuant to N.J.S.A. 58:10a-10d and N.J.A.C. 7:14-8.1 et seq., and based upon the above FINDINGS, NJDEP has determined that a civil administrative penalty should be assessed against Cyanamid in the amount of $6500.00.

13. Payment of the penalty is due when a final order is issued by the Commissioner subsequent to a hearing if any, or when this Administrative Order and Notice of Civil Administrative Penalty Assessment becomes a final order (see following paragraph). Payment shall be made by check payable to "Treasurer, State of New Jersey" and shall be submitted to the address referenced in Paragraph 18.

14. If no request for a hearing is received within twenty (20) calendar days from receipt of this Notice of Civil Administrative Penalty Assessment, it shall become a final order upon the twenty-first calendar day following its receipt and the penalty shall be due and payable.

NOTICE OF RIGHT TO A HEARING

15. Pursuant to N.J.S.A. 52:14B-1 et seq. and N.J.S.A. 58:10A-10b and d, Cyanamid is entitled to an administrative hearing. Any hearing request shall be delivered to the address referenced in Paragraph 18 within twenty (20) calendar days from receipt of this Administrative Order and Notice of Civil Administrative Penalty Assessment.

16. Pursuant to N.J.S.A. 52:14B-9(b) and N.J.A.C. 1:1-6.1(b), Cyanamid shall, in its request for a hearing, furnish NJDEP with the following:

    a. A statement of the legal authority and jurisdiction under which the hearing or action to be taken is to be held;

b. A reference to the particular sections of the statutes and rules involved;

c. A short and plain statement of the matters of fact and law asserted; and

d. The provisions of this Administrative Order and Notice of Civil Administrative Penalty Assessment to which Cyanamid objects, the reasons for such objections, and any alternative provisions proposed.

GENERAL PROVISIONS

17. This Administrative Order and Notice of Civil Administrative Penalty Assessment is binding on Cyanamid, its principals, directors, officers, agents, successors, assigns, any trustee in bankruptcy or other trustee, and any receiver appointed pursuant to a proceeding in law or equity.

18. Cyanamid shall submit all documents required by this Administrative Order and Notice of Civil Administrative Penalty Assessment by certified mail, return receipt requested or by hand delivery to:

Peter T. Lynch, P.E., Chief
Metro Bureau of Regional Enforcement
Division of Water Resources
2 Babcock Place
West Orange, NJ 07052

19. Notice is given that violations of any statutes, rules or permits other than those herein cited may be cause for additional enforcement actions, either administrative or judicial, being instituted without further notice. By issuing this Administrative Order and Notice of Civil Administrative Penalty Assessment the Department does not waive its rights to initiate additional enforcement actions.

20. No obligations imposed by this Administrative Order and Notice of Civil Administrative Penalty Assessment (with the exception of Paragraph 12, above) are intended to constitute a debt, damage claim, penalty or other civil action

which should be limited or discharged in a bankruptcy proceeding. All obligations imposed by this Administrative Order and Notice of Civil Administrative Penalty Assessment shall constitute continuing regulatory obligations imposed pursuant to the police powers of the State of New Jersey, intended to protect the public health, safety, welfare and environment.

21. Notice is given that pursuant to N.J.S.A. 58:10A-10d, NJDEP is authorized to assess a civil administrative penalty of not more than $5,000 for each violation and additional penalties of not more than $500 for each day during which such violation continues after receipt of an administrative order from NJDEP.

22. Notice is further given that pursuant to N.J.S.A. 58:10A-10e, any person who violates N.J.S.A. 58:10A-1 et seq. or an administrative order issued pursuant to N.J.S.A. 58:10A-10b or fails to pay the civil administrative penalty in full after it is due shall be subject to a civil penalty not to exceed $10,000 per day of such violation, and each day's continuance of the violation shall constitute a separate violation.

23. Notice is further given that pursuant to N.J.S.A. 58:10A-10f, any person who willfully or negligently violates N.J.S.A. 58:10A-1 et seq. shall, upon conviction, be guilty of a crime in the fourth degree and shall be punished by fine of not less than $2,500 nor more than $25,000 per day of violation or by imprisonment for not more than one year or by both.

24. This Administrative Order shall be effective upon receipt.

BY AUTHORITY OF
GEORGE G. McCANN, P.E.
ACTING DIRECTOR
DIVISION OF WATER RESOURCES

DATE: November 25, 1986

James E. Mumman

JAMES E. MUMMAN
ACTING ASSISTANT DIRECTOR
ENFORCEMENT ELEMENT

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
John J. Trela, Ph.D., Acting Director
2 Babcock Place
West Orange, N.J. 07052
201 - 669 - 3960

JUL 6 1987

IN THE MATTER OF American Cyanamid Company P.O. Box 31 Linden, New Jersey 07036	: : : :	ADMINISTRATIVE ORDER AND NOTICE OF CIVIL ADMINISTRATIVE PENALTY ASSESSMENT

This Administrative Order and Notice of Civil Administrative Penalty Assessment is issued pursuant to the authority vested in the Commissioner of the New Jersey Department of Environmental Protection (hereinafter "NJDEP" or the "Department") by N.J.S.A. 13:1D-1 et seq. and the Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq., and duly delegated to the Assistant Director for Enforcement of the Division of Hazardous Waste Management pursuant to N.J.S.A. 13:1B-4.

FINDINGS

1. The New Jersey Department of Environmental Protection (hereinafter "the Department") has determined that American Cyanamid (hereinafter "Cyanamid") is a generator of hazardous waste and operates a hazardous waste facility (EPA ID#NJD002173144) as defined in N.J.A.C. 7:26-1.4 and is located at Block 522, Lot 7, 3401 Tremely Point Road, Linden City, County of Union, State of New Jersey.

2. During the course of a routine inspection conducted on June 16, 1986 by a Departmental representative the following violations were noted:

   a) Cyanamid failed to provide the hazardous waste facility's address on manifest number NJA0018924; in violation of N.J.A.C. 7:26-7.4(a)4v.

   b) Cyanamid failed to include in the waste analysis plan the parameters which each hazardous waste stream will be analyzed for; in violation of N.J.A.C. 7:26-9.4(b)2i.

   c) Cyanamid failed to include in the waste analysis plan the test methods which will be used to test the parameter in N.J.A.C. 7:26-9.4(b)2i; in violation of N.J.A.C. 7:26-9.4(b)2ii.

   d) Cyanamid failed to include in the waste analysis plan the sampling method which will be used to obtain a representative sample of the waste to be analyzed; in violation of N.J.A.C. 7:26-9.4(b)2iii.

Attachment T

e) Cyanamid failed to include in the waste analysis plan the procedures which will identify changes in waste-stream characteristics; in violation of N.J.A.C. 7:26-9.4(b)2vii.

f) Cyanamid failed to manage containers containing hazardous waste so that they are in good condition; in violation of N.J.A.C. 7:26-9.4(d)2.

g) Cyanamid failed to segregate hazardous waste by waste type; in violation of N.J.A.C. 7:26-9.4(d)4iv.

h) Cyanamid failed to remedy any deterioration or malfunction of equipment or structures which the inspection reveals, on a schedule which ensured that the problem does not lead to an environmental or human health hazard; in violation of N.J.A.C. 7:26-9.4(f)5.

i) Cyanamid failed to record inspections in an inspection log or summary; in violation of N.J.A.C. 7:26-9.4(f)6.

j) Cyanamid failed to maintain aisle space to allow unobstructed movement of personnel, fire protection equipment, spill control equipment and decontamination to any area of the facility; in violation of N.J.A.C. 7:26-9.6(e).

k) Cyanamid failed to make arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or discharges at the facility; in violation of N.J.A.C. 7:26-9.6(f)4.

l) Cyanamid failed to include in the contingency plan a list of addresses of all persons qualified to act as emergency coordinator; in violation of N.J.A.C. 7:26-9.7(f).

m) Cyanamid failed to submit a copy of the contingency plan and all revisions to all local police department, fire department, hospitals and state and local emergency response teams; in violation of N.J.A.C. 7:26-9.7(i)2.

n) Cyanamid employed processes not specified in the Part A application; in violation of N.J.A.C. 7:26-12.3(b)2. Specifically, Cyanamid employed a solidification process, not specified in their Part A application.

3. Based upon documentation received by the Department regarding the aforementioned violations, the Department has determined that American Cyanamid has complied with N.J.A.C. 7:26-9.4(b)2i,ii,iii, N.J.A.C. 7:26-9.4(f)5,6, N.J.A.C. 7:26-9.4(d)2, N.J.A.C. 7:26-9.4(d)4iv, N.J.A.C. 7:26-9.6(e), N.J.A.C. 7:26-9.6(f)4, N.J.A.C. 7:26-9.7(f), N.J.A.C. 7:26-9.7(i)2. However, as of this date, American Cyanamid has not complied with N.J.A.C. 7:26-7.4(a)4v and N.J.A.C. 7:26-12.3(b)2.

4. Based on the facts set forth in these FINDINGS, the Department has determined that American Cyanamid has violated the Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq. and the regulations promulgated pursuant thereto, N.J.A.C. 7:26-1 et seq., specifically N.J.A.C.7:26-7.4(a)4v, 9.4(b)2i,ii,iii, 9.4(d)2, 9.4(d)4iv, 9.4(f)5, 9.4(f)6, 9.6(e), 9.6(f)4, 9.7(f), 9.7(i)2 and 12.3(b)2.

ORDER

NOW, THEREFORE IT IS HEREBY ORDERED THAT CYANAMID SHALL:

5. Within twenty-one (21) calendar days of receipt of this Order, rectify manifest #NJA0018924, to include facility address, so as to comply with N.J.A.C. 7:26-7.4(a)4v.

6. Cyanamid shall comply with N.J.A.C. 7:26-12.3(b)2 by either:

   1. Immediately ceasing solidification process in drums or;

   2. Revising Part A application to include solidification process.

7. Within twenty-one (21) calendar days upon receipt of this Order, submit the enclosed VERIFICATION OF COMPLIANCE by certified mail, return receipt requested, or by hand delivery to:

   New Jersey Department of Environmental Protection
   Division of Hazardous Waste Management
   Bureau of Compliance & Technical Services
   CN 028
   Trenton, NJ 08625
   ATTENTION: Michael Hastry

NOTICE OF CIVIL ADMINISTRATIVE PENALTY ASSESSMENT

8. Pursuant to N.J.S.A. 13:1E-9e and based upon the above FINDINGS, the Department has determined that a civil administrative penalty should be assessed against American Cyanamid in the amount of $5,375.00.

9. Payment of the penalty is due when a final order is issued by the Commissioner subsequent to a hearing, if any, or when this Administrative Order and Notice of Civil Administrative Penalty Assessment becomes a final order (see following paragraph). Payment shall be made by certified check payable to "Treasurer, State of New Jersey," and shall be submitted to:

   New Jersey Department of Environmental Protection
   Bureau of Collections, Licensing and Management
   Services - FMPGS
   CN 402
   Trenton, NJ 08625

10. If no request for a hearing is received within twenty (20) calendar days from receipt of this Administrative Order and Notice of Civil Administrative Penalty Assessment, it shall become a final order upon the twenty-first calendar day following its receipt and the penalty shall be due and payable.

NOTICE OF RIGHT TO A HEARING

11. Pursuant to N.J.S.A. 52:14B-1 et seq. and N.J.S.A. 13:1E-9, American Cyanamid is entitled to an administrative hearing. Any hearing request shall be delivered to the address below within twenty (20) calendar days from receipt of this Administrative Order and Notice of Civil Administrative Penalty Assessment.

    New Jersey Department of Environmental Protection
    Division of Hazardous Waste Management
    CN 028
    Trenton, New Jersey 08625
    Attention: Assistant Director for Enforcement

12. American Cyanamid shall, in its request for a hearing, furnish NJDEP with the following:

    a. A statement of the legal authority and jurisdiction under which the hearing or action to be taken is to be held;

    b. A reference to the particular sections of the statutes and rules involved;

    c. A short and plain statement of the matters of fact and law asserted;

    d. The provisions of this Administrative Order and Notice of Civil Administrative Penalty Assessment to which American Cyanamid objects, the reasons for such objections, and any alternative provisions proposed.

GENERAL PROVISIONS

13. This Administrative Order and Notice of Civil Administrative Penalty Assessment is binding on American Cyanamid its principals, directors, officers, agents, successors, assigns, and any trustee in bankruptcy or other trustee, and any receiver appointed pursuant to a proceeding in law or equity.

14. Notice is given that violations of any statutes, rules or permits other than those herein cited may be cause for additional enforcement actions, either administrative or judicial. By issuing this Administrative Order and Notice of Civil Administrative Penalty Assessment the Department does not waive its rights to initiate additional enforcement actions.

15. No obligations imposed by this Administrative Order and Notice of Civil Administrative Penalty Assessment (with the exception of paragraph 8 above) are intended to constitute a debt, damage claim, penalty or other civil action which should be limited or discharged in a bankruptcy proceeding. All obligations are imposed pursuant to the police powers of the State of New Jersey, intended to protect the public health, safety, welfare and environment.

16. Notice is given that pursuant to N.J.S.A. 13:1E-9e, the Department is authorized to assess a civil administrative penalty of not more than $25,000.00 for each violation and additional penalties of not more than $2,500.00 for each day during which the violations continues after receipt of an administrative order from the Department.

17. Notice is further given that pursuant to N.J.S.A. 13:1E-9f, any person who violate N.J.S.A. 13:1E-1 et seq, or any code, rule or regulation promulgated thereunder shall be liable to a penalty of not more than $25,000.00 per day of such violation, and each day's continuance of the violation shall constitute a separate violation.

18. Notice is further given that pursuant to N.J.S.A. 13:1E-9f, any person who violates an administrative order issued pursuant to N.J.S.A.13:1E-9c, or a court order issued pursuant to N.J.S.A. 13:IE-9d, or who fails to pay a civil administrative penalty in full after it is due shall be subject upon order of a court to a civil penalty not to exceed $50,000.00 per day of such violation and each day's continuance of the violation shall constitute a separate violation.

19. Except as provided above in the Notice of a Right to a Hearing Section, this Administrative Order and Notice of Civil Administrative Penalty Assessment shall be effective upon receipt.

Ronald T. Corcory

Ronald T. Corcory
Acting Assistant Director - Enforcement
Division of Hazardous Waste Management

RTC:MH:co

T-5

NEW JE[illegible]Y DEPARTMENT OF ENVIRONMENTAL P[illegible]ECTION
DIVISION OF WASTE MANAGEMENT

20-09-03

INSPECTION REPORT

Land Ban violations

REPORT PREPARED FOR:

- [x] Generator
- [x] Transporter
- [x] HWM (TSD) Facility
- [x] LAND BAN

FACILITY INFORMATION

Name: American Cyanimid

Address: 3401 Tremley PT RD
LINDEN, NJ 07036

Lot: _____ Block: _____

County: UNION

Phone: 201-~~002 172~~ 862-6000

EPA ID#: NJD002173144

Date of Inspection: 12/15/87 & 12/16/87, 12/17/87

PARTICIPATING PERSONNEL

State or EPA Personnel: DAVE OSTER, JEFFREY STERLING, SUNICA AGRAWAL, (BHWE)

Facility Personnel: Alice Boomhower, Env. Engineer
Richard B. TABAKIN, Plant Manager

Report Prepared by Name: JEFFREY STERLING

Region: METRO

Telephone#: 201-669-3960

Reviewed by: Jack Smith Jr

Date of Review: 01-29-88

Attachment U

12/15/87 { In: 1020 out 1450
12/16/87 { In: 1250 out: 1630
12/17/87 TIME IN: 0915
TIME OUT: 1130

FACILITY NAME: American Cyanamid Co.
ADDRESS: Ft. of Trembley Pt Rd
Linden, NJ 07036
COUNTY: Union
EPA ID : NJD002173144
DATE OF INSPECTION: 12/15–12/17/87

PHOTOS TAKEN ☐ YES ☒ NO

If yes, how many? _____

SAMPLE TAKEN ☐ YES ☒ NO NO. OF SAMPLES _____

NJDEP ID # _____

MANIFESTS REVIEWED ☑ YES ☐ NO

Number of manifests in compliance _____

Number of manifests not in compliance at least 7

List manifest document numbers of those manifests not in compliance.

NJA 0230807 (2/27/87) – no date, no quantity
NJA 0312488 (no NJ waste # for PCB)
NYA 558 5175 (10/7/87) – no NJ hauler #
NJA 0291446 (7/17/87) – no generator certification (signature)
NJA 0291432 (6/16/87) – no date by generator's signature
NJA 0242800 (3/10/87) – no units (item # 14)
NJA 0242798 (4/22/87) – no amt. of waste shipped.

SUMMARY OF FINDINGS

FACILITY DESCRIPTION AND OPERATIONS

On 12/15/87 - 12/17/87 a RCRA compliance inspection was conducted at American Cyanimid Company (RCRA ID # NJD002173144). NJDEP inspectors were JEFFREY STERLING and DAVE OSTER (DHWM/MFO) and Ms. Sunila Agrawal (BHWE/DHWM). She was present only on 12/15/87. The facility was represented by Mr. Rick TABAKIN, plant manager, and Ms. Alice Boomhower.

At the time of the inspection, the company was undergoing a review of its Part B permit application. A draft permit had been prepared by the Department but it was still in the process of being reviewed. The goal of the subject Part B permit application is to permit the company to conduct hazardous waste storage activities. The facility is currently operating under "interim status" as an "existing facility."

American Cyanimid has been at this location (Tremley Pt Rd, Linden) since 1917. It currently runs on three shifts - seven days per week and employs about 235 people. The company is currently engaged in the manufacture of three (3) product lines. They are:

1. malathion (organo-phosphate pesticide)
2. mining reagents
3. Surfactants

The ~~mal~~ malathion is the primary manufactured item

SUMMARY OF FINDINGS

FACILITY DESCRIPTION AND OPERATIONS

at the facility. The company indicated that it was a non-persistent biodegradable pesticide and has been in production for over 35 years. The mining reagents are marketed under the trade name "AEROFLOAT". The surfactants are marketed under the trade name "AEROSOLS", according to the company representatives.

The primary hazardous waste stream is generated from the malathion process. This generates an organic effluent rich in toluene. This waste stream is sent offsite for incineration. Hazardous waste are also generated through the various filtering processes present at the facility. The manufacture of the mining reagents generate an acid based waste stream also. The hazardous wastes are stored in above ground tanks and 55 gallon steel drums. The drum storage area is in building # 76 (Alum Building). Throughout the facility are satellite accumulation areas. There are staging areas for the containerized waste before they are transported to the Alum Building. The organic liquid waste is currently stored in tank TA-5. The volume of this tank is 100,000 gallons. Another tank, TA3 (120,000 gallons) used to be used to store a cyanide based liquid waste stream until ≈ March of 1987. This tank, TA3, is divided into three (3) sections (40,000 gallons per compartment)

The facility indicated that only (4) production

SUMMARY OF FINDINGS

FACILITY DESCRIPTION AND OPERATIONS

buildings are now in use at this location. In 1986 a massive cutback in the workforce resulted as a result of a decline in manufacturing activities. One process that was shut down in 5/86 was the manufacture of an insecticide (synthetic pyrethroid) that was marketed as "PAYOFF" or "CYBOLT". Sodium cyanide used to be used in this process. (This is how a cyanide based waste stream used to be generated and stored in tank TA-3). This used to be made in building 123 (Cygon shop). Another process that was discontinued in 1986 (i.e., 3/86) is the production of sulfuric acid. This used to be made in building 127 and it has been demolished. The "Cygon shop" is still on site and won't be demolished.

The demolition of some buildings due to production cutbacks, etc. has generated a lot of "one-time" wastes (due to clean-up activities).

The company plans to conduct storage in Tanks TA-3 & TA5. They also plan to conduct indoor, containerized storage in Bldg 46.

The company generates process wastewater. These are piped to effluent storage tanks TA-1 & TA-2. The process wastewater are pretreated before they are discharged to the local POTW. This activity is governed under the IWMF

SUMMARY OF FINDINGS

FACILITY DESCRIPTION AND OPERATIONS

rules of the Division of Water Resources. The company also discharges noncontact cooling water to the Arthur Kill. The cooling water is pumped from the Arthur Kill. The company has a permit from the local POTW (in lieu of a NJPDES/SIU permit) and a NJPDES/DSW Permit, #NJ0001058 which will expire on 10/31/89. Process water is supplied by the city of Linden.

An inspection of the Alum building (the current drum storage area) revealed that the facility's drum management was poor. Both hazardous wastes and non-hazardous wastes were stored together. In some cases one couldn't tell which drum contained hazardous waste because they were not labeled "hazardous wastes" or "non-hazardous waste". The facility was asked to segregate hazardous from non-hazardous wastes and/or clearly label non-hazardous wastes, etc. to indicate the waste type. Poor aisle space was maintained. Because of this several drum were inaccessible for inspection. One drum was completely eaten through by corrosion, thereby exposing its contents. This drum was labeled "Y-81" - acid mud. Another drum of "acid sludge" - Y-632 had a puncture wound. The inspection log indicated that the drums were inspected and found to be OK. The facility was requested

SUMMARY OF FINDINGS

FACILITY DESCRIPTION AND OPERATIONS

to make more thorough inspections. Another drum marked Y0124 (dimethoate) had no hazardous waste label and it was not securely closed. (The internal log showed that it contained dimethoate).

Building 46 was inspected. This is where the company plans to store their containerized hazardous wastes (after approval from BHWE). The company indicated it was not being used to store hazardous wastes since BHWE had not granted them permission to do so. Several drums were seen in Bldg 46. Some were open, some were very corroded and (2) were leaking. None had hazardous waste labels. Some were marked "sampled 12/9/86". The facility insisted that ~~no~~ no hazardous wastes were within building 46. ~~Do~~

During the inspection, the facility was asked to treat all wastes that have been sampled for analysis as potentially hazardous. The poor drum ~~or~~ management of "unknown material" noted in building 46 was discussed with Ms. Boonhower of American Cyanimid. She was specifically asked to treat unknown materials/wastes as hazardous.

The tank farm area (waste storage tanks) were inspected. TA-1, TA-2 are used for the IWMF activities. TA-3 and TA5 are for hazardous wastes. TA-4 is undergoing a RCRA closure. It has a

SUMMARY OF FINDINGS

FACILITY DESCRIPTION AND OPERATIONS

residual amount of waste on the order of 20,000 gallon (These tanks are over 100,000 gal in capacity, so the residual amount is significant!!). The waste storage tanks are vented and the volatile fumes are burned in a burner (or a flare). These tanks are stored next to the Arthur Kill and are diked.

The company had some manifest violations. For instance, some manifests were not properly certified, some were not dated, some didn't show amount of waste shipped, some didn't have the correct hauler information, etc. The company was cited for violating the following codes:

NJAC 7:26-7.4(e)1, 9.6(e), 9.4(d)2, 9.4(d)4V.

These citations were discussed with the company and they were urged to comply in a timely manner. The company was very cooperative and agreed to achieve compliance as soon as possible.

Describe the activities that result in the generation of hazardous waste.

manufacturing activities → organic effluent, filter press cakes that are sometimes hazardous

oil changes → waste oil (X226, X721, etc).

Plant cleanout → assorted wastes

off-spec material → various.

Identify the hazardous waste located on site, and estimate the approximate quantities of each. (Identify Waste Codes)

314 x 55 gallon drums of assorted wastes in the Alum B/dg.

waste Types: → D002/D003, C243, and others.*

* Facility asked to label all drums so that an inspector could tell what was in each drum

Bulk quantities of D001/F005

TA-5 (tank) → 1,062 gal.

TA-3 (tank) → 6,372

Organic effluent is rich in Toluene, used as a chemical carrier at the plant. Company manifests this as D001 instead of F005. This was discussed with the company. They are aware of 40 CFR 268.

Form [illegible]-004
3[illegible]

N[illegible]ERSEY DEPARTMENT OF ENVIRONMENTAL [illegible]TECTION
DIVISION OF HAZARDOUS WASTE MANAG[illegible]T
~~5th Fl., 401 E. State St., Trenton, N.J. 08625~~
2 Babcock Pl, West Orange, NJ 07052
201-669-3960

NOTICE OF VIOLATION

ID NO. NJD002173144 DATE 12/17/87

NAME OF FACILITY American Cyanimid Co.

LOCATION OF FACILITY Foot of Tremley Pt Rd, Linden, NJ07036

NAME OF OPERATOR Alice Boomhower, Env. Engineer

You are hereby NOTIFIED that during my inspection of your facility on the above date, the following violation(s) of the Solid Waste Management Act, (N.J.S.A. 13:1E-1 et seq.) and Regulations (N.J.A.C. 7:26-1 et seq.) promulgated thereunder and/or the Spill Compensation and Control Act, (N.J.S.A. 58:10-23.11 et seq.) and Regulations (N.J.A.C. 7:1E-1 et seq.) promulgated thereunder were observed. These violation(s) have been recorded as part of the permanent enforcement history of your facility.

DESCRIPTION OF VIOLATION NJAC 7:26-7.4(e) failure to properly complete some hazardous waste manifests*, NJAC 7:26-9.6(e) failure to maintain adequate aisle space in the haz. waste drum storage area (ACUM Bldg); NJAC 7:26-~~9.7(f) contingency plan does not designate who the primary coordinator is, etc. (also needs to be updated)~~; NJAC 7:26-9.4(d)2 storing haz waste in containers

Remedial action to correct these violations must be initiated immediately and be completed by ~~1/7/88~~ 1/31/88. Within fifteen (15) days of receipt of this Notice of Violation, you shall submit in writing, to the investigator issuing this notice at the above address, the corrective measures you have taken to attain compliance. The issuance of this document serves as notice to you that a violation has occurred and does not preclude the State of New Jersey, or any of its agencies from initiating further administrative or legal action, or from assessing penalties, with respect to this or other violations. Violations of these regulations are punishable by penalties of $25,000 per violation.

NJA0230807 (2/25/87) – no date, no quantity
* NJA0312488 lacks NJ haz. waste # for PCB
- NYA5585175 (10/7/87) lacks NJ hauler number.
NJA0291446 (7/17/87) no generator certification
NJA0291432 (6/16/87) no date by generator's signature
NJA0242800 (3/10/87) – no units (item 14)
NJA0242798 (4/22/87) – no amt. of waste shipped (each). + others

Investigator, Division of Waste Management
Department of Environmental Protection
JEFFREY A. STERLING

UL-10

Form HWM-004
3/87

N[illegible]ERSEY DEPARTMENT OF ENVIRONMENTAL [illegible]TECTION
DIVISION OF HAZARDOUS WASTE MANA[illegible]NT
~~5th Fl., 401 E. State St., Trenton, N.J. 08625~~

NOTICE OF VIOLATION

ID NO. NJD002173144 DATE 12/17/87

NAME OF FACILITY American Cyanimid Co

LOCATION OF FACILITY Ft of Tremley Pt Rd, Linden, NJ 07036

NAME OF OPERATOR Alice Boomhower, Env. Eng.

You are hereby NOTIFIED that during my inspection of your facility on the above date, the following violation(s) of the Solid Waste Management Act, (N.J.S.A. 13:1E-1 et seq.) and Regulations (N.J.A.C. 7:26-1 et seq.) promulgated thereunder and/or the Spill Compensation and Control Act, (N.J.S.A. 58:10-23.11 et seq.) and Regulations (N.J.A.C. 7:1E-1 et seq.) promulgated thereunder were observed. These violation(s) have been recorded as part of the permanent enforcement history of your facility.

DESCRIPTION OF VIOLATION that are in poor condition*
NJAC 7:26-9.4(d)4v identification labels (marks)
not visible on some drums **

Remedial action to correct these violations must be initiated immediately and be completed by ~~1/17/88~~ 1/31/88. Within fifteen (15) days of receipt of this Notice of Violation, you shall submit in writing, to the investigator issuing this notice at the above address, the corrective measures you have taken to attain compliance. The issuance of this document serves as notice to you that a violation has occurred and does not preclude the State of New Jersey, or any of its agencies from initiating further administrative or legal action, or from assessing penalties, with respect to this or other violations. Violations of these regulations are punishable by penalties of $25,000 per violation.

* one was corroded through and one had a puncture wound (ALUM BLOG)

[signature]
Investigator, Division of Waste Management
Department of Environmental Protection

** also some drums had no labels on them.

U-11

Form DWM-005
2/83

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT
BUREAU OF FIELD OPERATIONS

ENFORCEMENT REFERRAL

TO: Anthony J. Cavalier DATE: 1/12/88

FROM: J. Sterling thru Y. Yacous REGION: M

RE: American Cyanamid Co. (Name of Facility) NJD 002173144 (ID Number) Ft. of Tremley Pt Rd (Location Address)

(Lot and Block) LINDEN (Township) UNION (County)

P.O. Box 31, Linden, NJ 07036 (Mailing Address) Ms. Alice Boomhower (Responsible Party)

The attached inspection/investigation report(s) dated 12/15-12/17/87 is being referred and it is recommended a AO - PSO be issued for violations of:

NJAC 7:26–
- 7.4(e)1 improper completion of haz. waste manifests
- 9.6(e) poor aisle space
- 9.4(d)2 storage in containers in poor condition
- 9.4(d)4V no labels and labels not being visible

NJSA 58:10–

Suggested penalty:

ADDITIONAL COMMENTS:

Penalty assessment recommended. Company is currently undergoing a Part B permit review and are very familiar with the haz-waste codes.

No further action recommended. Company complied with regulations in timely manner (2nd class violations).

01-29-88

REVIEWED AND APPROVED BY:

U-12

White – Enforcement and Compliance Copy
Yellow – Region Copy

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
John J. Trela, Ph.D., Acting Director
2 Babcock Place
West Orange, N.J. 07052
201 - 669 - 3960

M E M O R A N D U M

2/24/88

TO: File 20-09-03

FROM: J. Sterling JAS

THROUGH: Yacoub E. Yacoub Y-Y.

SUBJECT: **Follow-up inspection @ American Cyanimid NJD002173144**

A follow-up inspection was conducted at the subject facility on 2/1/88 in order to verify whether or not they had satisfactorily responded to the following citations which were issued on 12/17/87:

NJAC 7:26 - 9.6(e), 9.4(d)2, 9.4(d)4v.

All of the problems that were noted in the drum storage area during the 12/87 RCRA inspection were found to have been corrected on 2/1/88. Unidentified waste drums were segregated from the identified wastes in a neat fashion (pending analysis).

The facility has satisfactorily responded to the NOV dated 12/17/87 and they seem committed to not allowing the same violations to occur again.

CYANAMID

American Cyanamid Company
P.O. Box 31
Linden, NJ 07036
(201) 862-6000

RECEIVED
JAN 14 1988

January 7, 1988

CERTIFIED MAIL
Return Receipt Requested

Mr. Jeffrey A. Sterling, Investigator
Bureau of Field Operations
New Jersey Department of Environmental Protection
2 Babcock Place
West Orange, NJ 07052

RE: Notice of Violation Issued 12/17/87
RCRA I.D. No. NJD002173144

Dear Mr. Sterling:

In response to the referenced Notice of Violation, the enclosed table outlines the corrective measures being implemented to address each of the four (4) cited violations. We have also assigned an additional individual to the waste drum management effort to assure that deficiencies are corrected and that compliance will be maintained.

This submission and any past or future communications or discussions regarding this matter are not intended to admit any fact or liability or to waive or affect any rights.

Very truly yours,

AMERICAN CYANAMID COMPANY

Richard B. Tabakin

Richard B. Tabakin
Plant Manager

RBT:jmp
Enclosures
002

U-14

20-09-03

Let's protect our earth

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
John J. Trela, Ph.D., Acting Director
2 Babcock Place
West Orange, N.J. 07052
201 - 669 - 3960

MEMORANDUM

JAN 20 1988

TO: File #20-09-03
FROM: Jeffrey A. Sterling
THROUGH: Yacoub Yacoub Y.Y.

SUBJECT: **American Cyanamid's Response to NOV dated 12/17/87. EPA ID #NJD002173144)**

Attached are two (2) responses, one dated 1/7/87 (should be 1/7/88) and one dated 1/7/88. Both were received on 1/11/88. These responses show that the manifest violations cited on the NOV have been corrected. This response also satisfactorily outlines what the corrective measures are going to be concerning the other citation.

This response is satisfactory pending a reinspection of the site on 2/1/88.

U-15

20-09-03

CYANAMID

American Cyanamid Company
P.O. Box 31
Linden, NJ 07036
(201) 862 6000

March 14, 1988

RECEIVED
MAR 16 1988

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Jeffrey A. Sterling, Investigator
Bureau of Field Operations
New Jersey Department of Environmental Protection
2 Babcock Place
West Orange, New Jersey 07052

RE: Follow-Up to
Notice of Violation Issued 12/17/87
RCRA I.D. No. NJD002173144

Dear Mr. Sterling:

In my letter to you dated January 7th, 1988, it was stated Cyanamid would expedite preparation of our alternate hazardous drum storage area and we hoped to complete construction by March 31st, 1988. All work has been completed in this area with the exception of upgrades to the fire protection system. Our contractor for this work will be unable to complete the task by the end of the month, and our projected completion for the total project is now April 15, 1988.

This submission and any past or future communications or discussions regarding this matter are not intended to admit any fact or liability or to waive or affect any rights.

Very truly yours,

AMERICAN CYANAMID COMPANY

Richard B. Tabakin

Richard B. Tabakin
Plant Manager

RBT:bf
#985b
CC: Sunila Agrawal

U-16

AMERICAN CYANAMID COMPANY
P. O. BOX 31, LINDEN, NEW JERSEY 07036
AREA CODE 201 862-6000

CERTIFIED MAIL
Return Receipt Requested

March 19, 1976

U. S. Environmental Protection Agency
Region II
Edison, New Jersey 08817
Attention: Mr. M. V. Polito, Chief
Emergency Response and Inspection Branch

Gentlemen:

Answers to the questions in your letter of March 9, 1976 regarding compliance with 40 CFR, Part 112, "Oil Pollution Prevention Regulation" are tabulated below:

1. Our Warners facility stores #6 fuel oil in containers with capacities greater than 660 gallons. The facility also stores kerosine in containers with capacities greater than 660 gallons. Our Linden facility stores #2 fuel oil in containers with capacities greater than 660 gallons.

2. Total above ground #6 fuel oil storage capacity at Warners is 665,000 gallons and the total kerosine storage capacity is 17,000 gallons.

3. Total underground #2 fuel oil storage capacity at Linden is 9000 gallons.

4. There have been three spills at the Warners facility during the past five years, but none of these were oil spills. Spill information follows:

   (a) On 5/16/74 approximately 100-150 gallons of 2 ethylhexanol containing about 10% of Surfactant OT-35 was spilled into the Arthur Kill. The material was contained and removed by Coastal Services, Inc. of Elizabeth, New Jersey. The U.S.E.P.A., N.J.D.E.P., U. S. Coast Guard and the Interstate Sanitation Commission were notified by telephone. A written report was sent to all four agencies on 5/22/74.

   (b) On 9/17/75, approximately 50 to 100 gallons of organic effluent was spilled into the Arthur Kill. This material was being loaded on a barge for ocean disposal under E.P.A. Ocean Disposal Permit NJ 001. The material dispersed in the water and it was not possible to contain and remove it. All four regulatory agencies were notified via telephone and the calls were followed up by a written report on 9/18/75.

Copy of Paul Brown attached

Attachment V

(c) On 3/5/76, less than 100 gallons of aqueous effluent was spilled into the Arthur Kill. This material was being stored in tankage prior to barging to sea under E.P.A. Ocean Disposal Permit NJ 001. The material dispersed in the water and it was not possible to contain and remove it. All four regulatory agencies were notified via telephone and the calls were followed up by a written report on 3/5/76.

5. A Spill Prevention Control and Countermeasure Plan was prepared as required by 40 CFR, Part 112.

   (a) The plan was certified on June 28, 1974 by:

   Mr. James A. Miller
   805 Partridge Drive
   Somerville, New Jersey
   License Number 10033

6. The SPCC Plan for No. 6 fuel oil was fully implemented on Jan. 6, 1975. The SPCC Plan for kerosine was implemented on February 10, 1975 following E.P.A. verbal approval for an extension required to allow construction completion by the contractor.

7. Facility identification is as follows:

   American Cyanamid Company
   Warners Plant
   Foot of Tremley Point Road
   P. O. Box 31
   Linden, New Jersey 07036
   Telephone (201) 862-6000

8. Substances, other than oil, that are stored at this facility are tabulated on the attached sheets.

Please contact us if you have any further questions.

Yours truly,

AMERICAN CYANAMID COMPANY

S. R. Hathaway

S. R. Hathaway
Manager, Environmental Services

SRH:mes
Attach.

REPORT OF SPILL EVENT

DATE.....August 17, 1976

LOCATION.....American Cyanamid Company
Linden, New Jersey

MATERIAL SPILLED.....50% Sulfuric Acid

QUANTITY SPILLED.....135 Gallons

SUMMARY:

A tank car containing 1970 gallons of 50% sulfuric acid developed a leak while standing on the tracks at the loading platform. The tank car could not be unloaded into another tank wagon or tank car in the normal fashion using compressed air because of the potential hazard of increasing the size of the leak and because the car's "blow leg" had been corroded away.

Coastal Services, Inc. was called in immediately and they ultimately transferred 1835 gallons of the sulfuric acid into a lined tank wagon for disposal.

The acid that dripped onto the ground was neutralized with soda ash and the area around the tank car was sand bagged to contain the acid. The spill occurred 120 feet from the nearest waterway and, consequently, none of the acid reached the water. Three Coast Guardsmen witnessed the transfer operation.

American Cyanamid personnel contacted the U. S. Coast Guard, the N. J. Department of Environmental Protection, the U. S. Environmental Protection Agency and the Interstate Sanitation Commission to apprise them of the incident.

August 18, 1976

V-3

REPORT OF WATER POLLUTION

Captain of the Port
U. S. Coast Guard
Governors Island
New York, N. Y. 10004

Date SEPTEMBER 5, 1976
Time 1200
Report #
Case #

STATEMENT OF (Person Reporting Pollution)(Operating Personnel Involved)
(Investigating Officer)( )

I understand that I do not have to make any statement whatsoever and that any statement I may make may be used as evidence against me.

AT 1140 SEPTEMBER 5, 1976 THE CGC WIRE WAS, PRECEEDING NORTH IN THE KILL, RETURNING FROM MAKING A CHARLIE KILLS PATROL. AT THIS TIME THE POSITION OF THE WIRE WAS TREMLEY POINT REACH ADJACENT THE RAWAWAY RIVER, WHERE WAS NOTICED A STREAM OF APPROXIMATELY 10 FEET WIDE OF PURPLE FOAM WAS EXTENDING FROM THE REAR OR BACK OF THE AMERICAN CYANAMID CO. TO THE PHILLIPS PETROLEUM COMPANY. IMMEDIATELY A WATER SAMPLE WAS TAKEN AND PICTURES. AFTER THE WATER SAMPLE WAS COMPLETED THE CGC WIRE THEN MOORED AT THE AMERICAN CYANAMID CO.

MR. WESLEY CRIMMINS, THE NIGHT SUPERINTENDENT MEET US AT THE DOCK AND KNEW WHY WE MOORED AT THE PLANT. MR CRIMMINS STATED THAT AN ACCIDENT HAD HAPPENED THE DAY BEFORE SEPTEMBER 4, 1976 WHEN A CLORINE INJECTOR BROKE, AND THE PURPLE FOAM WAS DISTRIBUTED WILDLY IN A WATER TROFF , AND THE WINDS AT THAT TIME BLEW THE FOAM ON THE MUD FLATS AT THE BACK OF THE PLANT. MR CRIMMINS STATED THAT WHEN THE MISHAP ACCURRED WITH THE CLORINE INJECTOR THE OPERATION WAS SECURED IMMEDIATEALY.

AT 1145 5, SEPTEMBER 1976 A SECOND SAMPLE WAS TAKEN, AND PICTURES. MR CRIMMINS STATED THAT HE WOULD HAVE A COUPLE OF MEN FROM THE PLANT WITH A FIRE HOSE SPRAY WATER ON THE PURPLE FOAM AND TRY TO CLEAN UP THE AREA. MR ROBERT KALINOFSKY SHIFT ,FOREMAN (dpg) ACCOMPANIED MR CRIMMINS ON THE INVESTAGATION OF THEPLANT.

ALL RIGHTS WERE GIVEN BEFORE ANY INFORMATION WAS RECIEVED .

NO SIGNED STATMENTS WERE GIVEN

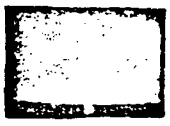
Signature W. F. Wilson Bmc
Address CGC wire
Telephone 264-0555

V-4

[illegible]
[illegible] 87
[illegible]
[illegible]
[illegible] FEB 78
[illegible] CORP NEW YORK NY
TO [illegible] NEW YORK NY
[illegible] ATLANTA [illegible] NY
[illegible] NEW YORK NY
[illegible] TWO ELIZABETH NJ
[illegible] COAST GUARD WASHINGTON DC
NO [illegible]
BT
UNCLAS
TO [illegible]
[illegible] RPTS TO NATIONAL RESPONSE CENTER
[illegible] ACID MIDLAND [illegible] AMERICAN CYANAMID CO
[illegible] WAS [illegible] KILL FISH [illegible]
[illegible]
1. [illegible] AT [illegible] 17 FEB 78 OF UNKNOWN AMOUNT OF
[illegible] MIDLAND
2. TIME OF OCCURRANCE DAY OF WEEK & HOUR OF DAY 00
3. LOCATION [illegible]
4. STATE NEW JERSEY NJ

PAGE TWO RUEDEEA7040 UNCLAS
E. WATERBODY AFFECTED KILL 043
F. SOURCE INLET LINE FOR ACID 110
G. SOURCE TO AMERICAN CYANAMID CO [illegible]
H. CAUSED PIPE RUPTURE 10
I. OPERATION ROUTINE OPERATION 01
J. MATERIAL SULFURIC ACID 0037
K. QUANTITY [illegible] [illegible]
L. AFFECTED RESOURCES 03
M. WEATHER AA
N. ANTICIPATED RESPONSE 3
O. NRC NUMBER [illegible]
C. ACTION TAKEN
A. AT 1130 17 FEB 78 PETTY OFFICER LAPID AND GRAHAM ARRIVED BY
ON SCENE AT [illegible] TO [illegible] NO SIGN OF POLLUTANTS
IN THE WATER ACID MIXED WITH WATER
B. PET WITH HM [illegible] ENVIRONMENTAL PROTECT COORDINATOR WHO
STATED THE AMOUNT OF ACID THAT HAD BEEN SPILLED INTO ANTHOR
KILL
C. NO SAMPLES AND PICTURES WERE TAKEN DUE TO [illegible] MATERIAL IN
THE WATER

PAGE THREE RUEDEEA7040 UNCLAS
D. INVESTIGATORS DEPARTED AT 1110
3. FUTURE PLANS AND RECOMMENDATIONS
A. DUTY TEAM TO REINSPECT THE FACILITY TO MAKE SURE PIPE
[illegible] WAS REPAIRED
4. [illegible] PERIOD MESSAGE TO FOLLOW [illegible] HOUR WITHIN
[illegible] TO FOLLOW
BT
[illegible]



X-3

REPORT OF SPILL EVENT

DATE.....October 31, 1978

TIME.....12:10 a.m.

LOCATION..... American Cyanamid Company
Foot of Tremley Point Road
Linden, New Jersey 07036

RECEIVING WATER..... Rahway River near the confluence of the Arthur Kill

MATERIAL SPILLED..... A mixture of dimethyldithiophosphoric acid (60%) and toluene (40%)

QUANTITY SPILLED..... Approximately 1600 gallons

SUMMARY:

A completed batch of dimethyldithiophosphoric acid (DMTA) was being pumped from the reactor to a storage tank via a filter. A vent on the top of the filter had been inadvertently left open and the DMTA-toluene mixture spilled onto the floor of the filter room. Normally, the spillage would have been contained within the filter room. However, a plug in a floor drain became dislodged and the DMTA-toluene mixture drained through the opening to the river below.

It was not possible to contain and remove the spilled material. The lighter toluene floated to the surface where it dispersed and evaporated rapidly. The heavier DMTA (Sp. Gr. about 1.2) sank below the surface where it hydrolyzed fairly quickly.

American Cyanamid personnel reported the spill to the following Agencies:

1. The U. S. Coast Guard - (800) 424-8802
2. The N. J. Department of Environmental Protection - (609) 292-5560
3. The U.S. Environmental Protection Agency - (201) 582-8730
4. The Interstate Sanitation Commission - (212) 582-0380

The site was inspected by personnel from the U. S. Coast Guard shortly after 11:00 a.m. and they determined that there were no visible signs of the spill.

The incident will be reviewed with all operating personnel and supervisors to insure that the filter vent valve is closed during all subsequent filtrations.

The floor drain has been permanently sealed off in order to prevent a recurrence.

SRH:mes
11/1/78

Rec'd 7/14/80 MC

DATE: May 21, 1980

TO: Fred N. Rubel
Chief, ER & HMI Branch

FROM: Louis W. Adams
TATL Region II

SUBJECT: Violation of Section 311(b)(3), Clean Water Act of 1977. American Cyanamid, Linden, N.J. - Case #94-79

(1) Synopsis

Approximately 1330 hours on May 1, 1980, a valve pipe on a tank truck belonging to Samson Disposal Service failed allowing approximately 1900 gallons of sulfuric acid to flow into the Rahway River. Samson Disposal Service was conducting tank cleaning operations on American Cyanamid Company tanks.

(2) Responsible Party

American Cyanamid Company
Southwood Avenue
Linden, N.J. 07036

Mailing Address:
American Cyanamid Company
P.O. Box 31
Linden, N.J. 07036

(3) Suspected Violation

Section 311(b)(3) of the Clean Water Act of 1977

(4) Persons Referred to in this Report

Louis W. Adams, Technical Assistance Team, EPA Region II

Kerry T. Webster, Biologist, Technical Assistance Team, EPA Region II

Nancy Pokotilow, Environmental Assistant, American Cyanamid Company

Peter Galain, Technical Systems, American Cyanamid Company

Bruce Comfort, New Jersey Department of Environmental Protection

Fred Rubel, Chief, Emergency Response and Hazardous Materials Inspection Branch

FRN # 141

(5) Findings of Fact

At 1355 hours, May 1, 1980, Nancy Pokotilow, American Cyanamid Company, reported a sulfuric acid spill in their plant in Linden, N.J. The amount of acid was estimated at 500-1000 gallons. The waterway affected was the Rahway River.

Fred Rubel, Chief, Emergency Response and Hazardous Materials Inspection Branch, requested that the Technical Assistance Team (TAT) respond at 1405 hours.

TAT members Louis Adams and Kerry Webster departed Edison for Linden, N.J. at 1440 hours and arrived at the American Cyanamid Plant at 1515 hours. They met with:

Bruce Comfort	NJDEP
Nancy Pokotilow	Environmental Assistant, American Cyanamid
Peter Galain	Technical Systems, American Cyanamid

After signing in, the party walked to the scene of the spill which was a tank cleaning operation in the rear of the American Cyanamid property on the banks of the Rahway River.

American Cyanamid had engaged Samson Disposal Service to clean out five tanks which were used in the past to store sulfuric acid. Upon cleaning of the acid residue from these tanks, the tanks were to be dismantled for disposal.

Samson was draining the residual acid from the tanks into two tank trucks. One of the tank trucks which contained 2500 gallons of sulfuric acid developed a leak at the weld where the valve pipe attaches to the tank.

The leaking tank truck was moved about 100 yards from its position by the old acid tanks to a new site adjacent to a cluster of tanks surrounded by a dike wall. The remaining acid in the leaking tank truck was pumped into the diked area. Approximately 200 gallons pooled on the ground around the tank truck. Samson's second tank truck was then used to pump the acid from the diked area and pooled area around the leaking truck. A total of 600 gallons of waste acid was recovered. The remaining 1900 gallons (original 2500 gallons minus 600 gallons recovered = 1900 gallons) flowed directly into the Rahway River.

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The waste acid spilled adjacent to the old storage tanks was flushed with water and went directly into the Rahway River. The acid residual in the diked area and pool area around the leaking tank truck was neutralized with soda ash and flushed with water.

American Cyanamid took two samples of the waste acid and analyzed them in their laboratory (Enclosure 2). The two samples showed 20.79% and 20.75% sulfuric acid. Additional questioning confirmed that the results were in per cent by weight and that the specific gravity of the samples, respectively, was 1.2432 and 1.3244 at 25°C.

Based upon the data from sample 1 of the waste acid, 4220 pounds of sulfuric acid flowed into the Rahway River. This quantity was determined by the following calculation:

1900 gals acid waste X 8.33 lbs/gal X 1.2838 X .2077 = 4220 lb sulfuric acid

The investigation was completed at 1605 hours. Louis Adams called Mike Polito at EPA and briefed him on the results of the investigation. The team departed American Cyanamid at 1430 hours.

(6) Conclusions

a. A violation of Section 311(b)(3) of the Clean Water Act of 1977 occurred when a tank truck operated by Samson Disposal Services on American Cyanamid Company property ruptured spilling 1900 gallons of sulfuric acid into the Rahway River.

Enclosures

1- Site diagram
2- Sample analysis results

V-9

REPORT OF A DISCHARGE EVENT

LOCATION.....American Cyanamid Company
Foot of Tremley Point Road
Linden, New Jersey 07036
Telephone (201) 862-6300

RECEIVING WATER.....The Arthur Kill

MATERIAL DISCHARGED.....Acrylonitrile and Acrylamide

On November 26, 1980 at approximately 1500 hours, it was determined that the COD in a sample taken from outfall Serial No. 00D was higher than the NPDES permit limitation. The analysis was run on a 24-hour composite sample routinely taken from Tuesday to Wednesday.

A grab sample was taken and a subsequent analysis indicated the presence of a material with a double carbon bond. Personnel in the Acrylamide Department commenced an investigation to determine the source of the material which was assumed to be acrylamide.

Early on November 27, 1980, it was determined that the material was leaking from an interstage heat exchanger in the continuous acrylamide process. The reactor associated with the leaking heat exchanger was taken out of service as soon as possible in order to replace the plates in the heat exchanger. It is estimated that the leaking heat exchanger was off-line at about 0600 hours on November 27, 1980.

Following analysis of a number of additional samples, it was determined on Wednesday, December 3, 1980, that the process material which had leaked from the heat exchanger contained about 8% of acrylonitrile (a reportable substance) and 23% of acrylamide (a non-reportable substance). Consequently, acrylonitrile discharged to the Arthur Kill at a rate of approximately 2000 pounds per day.

It was not possible to contain and remove the discharged material since it dispersed and dissolved. There is no evidence that the discharged material had a negative impact on the receiving waters.

American Cyanamid Company personnel reported the discharge to the following agencies on Wednesday, December 3, 1980 when the data became available.

1. The U. S. Coast Guard — Hot Line — Washington
2. The N. J. Department of Environmental Protection - Trenton, NJ
3. The Interstate Sanitation Commission - New York City
4. The U. S. Environmental Protection Agency - Edison, NJ

A number of steps will be taken to prevent a recurrence as detailed below.

1. A template has been fabricated to be used to insure that the heat exchanger gaskets are installed properly. The plates will be inspected by Acrylamide Department supervision before the heat exchangers are reassembled.

2. The heat exchangers will be pressure tested after assembly and prior to being put into service. Both the process side and the cooling side will be pressure tested.

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3. Samples of the cooling water discharging from each heat exchanger will be taken and analyzed immediately after they go on line to determine if there are any leaks.

ATTACHMENT 2

REPORT OF SPILL EVENT

DATE . . . . . January 12, 1981

TIME . . . . . 8:00 a.m.

LOCATION . . . . . American Cyanamid Company
Foot of Tremley Point Road
Linden, New Jersey 07036

MATERIAL SPILLED . . . . . 550 gallons of dilute mixed acid (sulfuric acid and nitric acid)

BACKGROUND

Nitric acid is mixed with 35% oleum in storage tank V-12, a brick-lined, 24,500 gallon tank, located in the Sulfuric Acid Department. The fumes from V-12, and from the adjacent Nitric Acid Storage tank, V-13, are controlled by a Venturi Scrubber and Brinks Mist Eliminator.

SUMMARY

On January 12, 1981 at approximately 8:00 a.m., the Sulfuric Acid Department clerk, carrying out his daily inventory procedure, noticed that V-12 was leaking. The acid was dripping onto the ground in the immediate area of the tank. The entire area was immediately covered with soda ash in order to neutralize the acid.

Upon investigation, it was discovered that the discharge line from the scrubber and mist eliminator had frozen and plugged; the water backed into V-12 and diluted the oleum, causing a high heat of reaction and an increase in corrosivity. The acid diffused through the brick wall, and corroded the steel wall. Analysis of the acid indicated that it was diluted to 27% sulfuric acid.

American Cyanamid personnel reported the spill to the following Agencies:

1. The U. S. Coast Guard: (800) 424-8802 (National Response Center).
2. The N. J. Dept. of Environmental Protection: (609) 292-5360.
3. The U. S. Environmental Protection Agency: (201) 548-8730.
4. The Interstate Sanitation Commission: (212) 581-0380.

The site was inspected by personnel from the Linden Bureau of Fire Prevention, representing the N.J.D.E.P., and the Agency was satisfied with the containment and cleanup of the spill.

The spent soda ash and the underlying gravel will be placed in drums for shipment to an approved secure landfill.

In order to prevent a recurrence, a seal system will be provided for the scrubber to prevent water from backing up. The water line will be heat-traced and insulation to prevent freezing.

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REPORT OF SPILL EVENT

DATE . . . . . January 18, 1981

LOCATION . . . . . American Cyanamid Company
Foot of Tremley Point Road
Linden, New Jersey 07036

MATERIAL SPILLED . . . . . 98% Sulfuric Acid

QUANTITY SPILLED . . . . . Estimated 30 Tons

On January 18, 1981 at approximately 12:15 p.m., it was reported that 98% sulfuric acid was dripping onto the ground from an overhead transfer line. Production of 98% acid was discontinued as soon as the leak was noted. The section of line that was leaking, about 6 feet of 4 inch line was removed and replaced. The pipe was corroded through at nine different points.

Inventory records indicate that approximately thirty tons of acid dripped onto the ground. None of the acid went directly to the Arthur Kill which is approximately 10 feet from the spot of the leak.

The area was covered with soda ash to neutralize the acid. Later the spent soda ash and underlying gravel were removed and placed in drums for disposal in a secure landfill.

American Cyanamid personnel reported the incident to the following Agencies on January 18, 1981.

1. U. S. Coast Guard National Response Center (800) 424-8802.
2. The U. S. Environmental Protection Agency (201) 548-8730.
3. The New Jersey Dept. of Environmental Protection (609) 292-7172.

The incident was reported to the Interstate Sanitation Commission on January 19, 1981 since their offices were closed on Sunday January 18, 1981. (212) 582-0380.

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ATTACHMENT 5

REPORT OF SPILL EVENT

DATE . . . . . March 18, 1981

TIME . . . . . 12:40 p.m.

LOCATION . . . . . American Cyanamid Company
Foot of Tremley Point Road
Linden, New Jersey 07036

MATERIAL SPILLED . . . . . 80 gallons (1,200 pounds) of
93% Sulfuric Acid

BACKGROUND

Sulfuric acid is produced at the Warners plant. The various grades of acid are stored in a number of storage tanks.

SUMMARY

The Sulfuric Acid Handler was in the process of taking the daily sample from storage tank TA-6 which contained sulfuric acid. As he started to open the sample valve, acid began to leak from the flange between the tank nozzle and the sample valve.

The Acid Handler immediately notified his supervisor. The area was roped off and two pumps were activated to pump the acid from TA-6 to two adjacent storage tanks, TA-4 and TA-7. It took approximately eighty (80) minutes to pump the tank level below the leak. It is estimated that eighty (80) gallons (1 gpm) or 1200 pounds of acid leaked from the tank.

Within ten minutes of the onset of the leak, soda ash was placed on the ground to contain and neutralize the sulfuric acid. No acid reached the Arthur Kill. The spent soda ash and the underlying gravel was placed in 55 gallon steel drums for disposal in a secure landfill.

The site was inspected by personnel from NJDEP's Bureau of Emergency Response during the cleanup operation.

The gasket in the flange was replaced and stainless steel bolts were used in place of carbon steel to re-fasten the sample valve.

American Cyanamid personnel reported the spill to the following agencies:

1. The U. S. Coast Guard at 800-424-8802 - National Response Center.
2. The N. J. Department of Environmental Protection (609) 292-7172.
3. The U. S. Environmental Protection Agency (201) 548-8730.
4. The Interstate Sanitation Commission (212) 582-0380.

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ATTACHMENT 6

REPORT OF SPILL EVENT

DATE: . . . . . March 24, 1981

TIME: . . . . . About 0530 hours

LOCATION: . . . . . American Cyanamid Company
Foot of Tremley Point Road
Linden, New Jersey 07036

RECEIVING WATER: . . . . . Arthur Kill

MATERIAL SPILLED: . . . . . 400 Gallons of No. 6 Fuel Oil

BACKGROUND:

The existing incinerator has been modified to burn No. 6 fuel oil. A new No. 6 fuel oil storage tank and handling system was installed. The system was pressure tested prior to introducing No. 6 oil. No leaks were noted.

SUMMARY:

At about 0530 hours on March 24, 1981, the incinerator foreman noticed oil on the incinerator platform. He checked the No. 6 fuel oil system and found a leak in the recirculation line behind the control room. The fuel oil recirculating pump was shut off to reduce the pressure on the line in order to stop the leak. The foreman notified the Night Superintendent who in turn called Clean Venture to come in to contain and clean up the spill. Clean Venture personnel had a temporary boom in place by 0635 and a permanent boom in place by 0730. Little or none of the oil escaped into the Arthur Kill.

The insulation was stripped away and the location of the leak was determined. Temporary repairs were made immediately. Permanent repairs will be made before the line is put back into service.

The site was inspected by four U. S. Coast Guardsmen.

The Night Superintendent reported the incident to the following agencies:

1. The U. S. Coast Guard at 800 - 424-8802 - National Response Center.
2. The N. J. Department of Environmental Protection (609) 292-7172.
3. The U. S. Environmental Protection Agency (201) 548-8730.
4. The Interstate Sanitation Commission (212) 582-0380.

ATTACHMENT 7

REPORT OF SPILL EVENT

DATE.....August 7, 1981

TIME.....0145 Hours

LOCATION.....American Cyanamid Company
Foot of Tremley Point Road
Linden, New Jersey 07036

MATERIAL SPILLED.....300 Gallons of 20% Oleum

SUMMARY:

Twenty (20) percent oleum was being produced and pumped to storage in Tank TA-2 located at the edge of the plant along the Arthur Kill.

At 1:45 a.m., the acid plant operator noted TA-2 was overflowing onto the concrete pad. The Operator notified the Foreman immediately and the flow of oleum was diverted to another storage tank to prevent further overflow.

The Foreman notified the Night Superintendent who called in personnel from Clean Venture to neutralize the spill with soda ash. The contaminated soda ash was placed in drums for disposal in a secure landfill.

The Night Superintendent reported the spill event to the following agencies:

1. The U. S. Coast Guard - (800) 424-8802 National Response Center

2. The N.J. Department of Environmental Protection - (609) 292-5560

3. The U. S. Environmental Protection Agency - (201) 548-8730

4. The Interstate Sanitation Commission - (212) 582-0380

It is estimated that less than 300 gallons of oleum reached the Arthur Kill. The acid rapidly dispersed in the saline water and could not be contained and removed.

SRH:mes
8/7/81

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At the time of the tank overflow, the level gage indicated that the tank was only 58% full. The high level alarm failed to sound. The level alarm is on a sensor independent of the level gage.

The level gage and high level alarm have been repaired. The Instrument Department will determine if a more reliable gage can be purchased and installed. Manual tank gaging procedures will be established to back up the instrumentation.

SRH:mes
8/7/81

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ATTACHMENT 8

RECORD OF SPILL EVENT

DATE.....September 17, 1981

TIME.....10:30 a.m.

LOCATION.....American Cyanamid Company
Foot of Tremley Point Road
Linden, New Jersey 07036

MATERIAL SPILLED.....No. 6 Fuel Oil
Less than fifty gallons

BACKGROUND

No. 6 fuel oil is used at the Warners Plant to produce steam.

SUMMARY

A heat exchanger used to keep the No. 6 fuel oil warm enough to be pumpable developed a leak. The No. 6 oil left the Powerhouse via outfall No. 00D. The oil accumulated in a manhole and eventually a small amount exited the outfall. The oil was contained by a permanent boom maintained by Cyanamid and little or none of it escaped. Clean Venture was retained to remove the oil.

American Cyanamid personnel reported the spill to the following agencies:

1. The U. S. Coast Guard at 800-424-8802 - National Response Center.

2. The N. J. Department of Environmental Protection (609) 292-7172.

3. The U. S. Environmental Protection Agency (201) 548-8730

4. The Interstate Sanitation Commission (212) 582-0380

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

MAR 13 1985

~~I. F. Rubel~~ (1)
2. File

.T American Cyanamid

FROM Charles E. Hoffmann, Attorney
Office of Regional Counsel

TO: Michael Polito
Response and Prevention Branch

EPA has settled an action against American Cyanamid Company for a July 11, 1982 sulfuric acid spill at its Warners Plant in Linden, New Jersey. In preparation for possible litigation, Mr. John Bee (who had inspected the spill site at the time) was made available for this case pursuant to a Technical Direction Document No. 8308-21. Fortunately, the case settled and we did not need to use his services to a great extent. This TDD can be closed out now.

Thank you for assisting in the successful bringing of this case.

Rcd 3/18/85

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EPA Form 1320-6 (Rev. 3-76)

ecology and environment, inc.
300 McGAW DRIVE, RARITAN CENTER, 2ND FLOOR, EDISON, NEW JERSEY 08837, TEL. 201-225-9659
International Specialists in the Environmental Sciences

MEMORANDUM

TO: Robert Cobiella
Emergency Response Section, U.S. EPA

FROM: John Bee, TAT II

SUBJECT: American Cyanamid
Warners Plant
Linden, New Jersey
Sulfuric Acid Spill of July 11, 1982
TDD #2-8207-28

DATE: July 14, 1982

On July 12, 1982 between 1:30 and 4:30 p.m., John Bee of the Technical Assistance Team responded to the scene of a sulfuric acid spill at American Cyanamid, Warners Plant, Tremley Road, Linden, New Jersey 07036, as directed by TDD #2-8207-28.

According to the Emergency Incident Telephone Report and later confirmed in an interview on July 12, 1982 with Neil Mulvey, Environmental Coordinator for American Cyanamid, the following statements were made by Neil Mulvey:

> "At 0400 hrs. on July 11, 1982, approximately 8.3 tons of sulfuric acid was spilled, by overfilling, from Tank V-20 during a manufacturing process of sulfuric acid by American Cyanamid.
>
> The spill ran down a (4" diameter) overflow pipe on the upright tank, onto the ground around the tank, then seeped into the ground. Mr. Mulvey believed that the acid quickly reached the Arthur Kill some 20 ft. from the tank through the permeable ground and by seeping through a wooden bulkhead.
>
> A high-level alarm was in operation on the tank but, the spill was not discovered until 0625 hrs., 2-1/2 hours after the spill. The NRC was notified at 1200 hrs. on the following day, July 12, 1982.
>
> Fifty pounds of soda lime was added at the time of discovery of the spill followed by 200 additional pounds on July 12, 1982.
>
> A water hose was used to flush the soda lime into the soil during July 12, 1982."

Observations on July 12, 1982:

The foundation of the tank (see Photo #1) is composed of very permeable and porous fill, 1-6" pebbles in a sandy, fill matrix; a sink hole was observed next to a concrete abutment 5 ft. from the tank where water flowing from a hose was disappearing into the ground at 20 gallons per minute.

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The tank sits 20 ft. from the Arthur Kill and 6 ft. above the water level (see Photo #2). A brown staining of the waters of the Arthur Kill was observed (see Photo #3).

A white powder indicated to be soda lime was spread on the ground around the tank and was being flushed into the soil (see Photo #1). Duplicate samples of the pool of liquid at the base of Tank V-20 was taken at 1509 hrs. on July 12, 1982 by John Bee. One sample was given to American Cyanamid. The American Cyanamid sample was tested at 1522 hrs. in their chemistry laboratory using a Beekmen Chem-Mate instrument under the supervision of John Bee. The pH of the water was 7.25.

American Cyanamid was informed that proper neutralization for 8.3 tons of 99% sulfuric acid would involve the addition of 9 tons of soda lime (mole for mole). However, dilution of the acid occurred with rain water and water hosed on the spill.

Discussion and Recommendations:

Bearing in mind the permeability of the fill foundation of the tank, the acid released from the 4-inch pipe would have quickly seeped into the ground, reached the water table, and flowed into the Arthur Kill.

Residual acid in the pore spaces in the soil would have remained and reacted with the soda lime added later and flushed into the soil. The acid would have reacted with carbonates etc. in the sandy matrix to give the gas bubbling observed. The torrential downpour in the afternoon of July 12, would further have diluted the acid.

It would not be cost effective to try to recover any of the acid or continue lime applications. From pH measurement of the surface water flowing quickly into the soil the acidified, sandy soil will soon recover to neutrality.

The spill was not reported in a timely fashion to the National Response Center (NRC).

Mr. Mulvey and John Bee observed brown staining of the water of the Arthur Kill from seeps at the bulkhead. American Cyanamid has four NJPDES Permitted Outlets 0001058A, B, C, and D. Mr. Mulvey indicated none of these outlets were responsible from the discoloration.

I recommend that the following measures be taken:

1) A follow-up SPCC inspection should be conducted of the over 634,000 gallon storage of oil on site.

2) A copy of this report should be forwarded to Gunner Lewis, COTP New York, Governors Island, New York 10004, for his information in investigating Coast Guard jurisdiction and spill violation report.

Attachments

V-21

Form VSC-005
6/82

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT

INCIDENT REPORT

D.W.M. ASSIGNED CASE NUMBER	83-03-09-004C	HOT LINE ☐	INDEXED ☐
DATE 03-09-83	TIME (Military) 1430	D.W.M. ID NO. ECO 211	

INCIDENT REPORTED BY:

NAME Anonymous	PHONE	
AFFILIATION thru John DeFina - D.W.M. - N.F.O.		CODE
STREET		
CITY	STATE	ZIP CODE

INCIDENT LOCATION:

NAME American Cyanamid	PHONE		
STREET Kenilworth Point Road	UTM VERT	UTM HORIZ	
CITY Linden Union	COUNTY 20	STATE	ZIP CODE

SOURCE OF SPILLED AND/OR DISCHARGED SUBSTANCE: Confirmed ☐ Alleged ☐ More Than 1 Source ☐

COMPANY NAME Same as I.C.		PHONE	
CONTACT	TITLE		
STREET		DEP COMPANY NO.	
CITY	COUNTY	STATE	ZIP CODE

SUSPECTED SPILLED AND/OR DISCHARGED SUBSTANCE: ☐ Confirmed ☐ Alleged ☐ More Than 2 Substances

1. Tank Bottoms - H_2SO_4			SUBSTANCE NO.
AMOUNT SPILLED Unknown	UNITS	A/P/E	S/L/G/M
2.			SUBSTANCE NO.
AMOUNT SPILLED	UNITS	A/P/E	S/L/G/M

DATE OF INCIDENT Ongoing	TIME (Military)	TEMP.	WEATHER	WIND (Dir. & Vel.)
SPILL ORIGIN Acid Concentration Tower				CODE
CAUSE Deliberate Dumping				CODE
WATER BODY AFFECTED Arthur Kill				CODE
ASSOCIATED FIRE AND/OR HAZARDS Assoc. Acid Hazards				

INCIDENT REFERRED TO:

AGENCY	PHONE
CONTACT	AGENCY CODE

PRIMARY D.W.M. INVESTIGATOR Hill Spaccetti	FOLLOWUP
NO FURTHER ACTION	DATE

COMMENTS:

1) Acid Concentration tank has a 4" valve at its base. During clean outs (approx every 3 months) the tank bottoms are discharged thru this valve directly into the Arthur Kill.
2) Responsible party is Head operator who authorizes this discharge

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DIVISION OF WATER
BUREAU OF FIELD OPERATIONS

INVESTIGATIVE REPORT

Inspector: F. Scaccetti Date: 4/4/83 Time: 1530 DWM Incident Report #: 83-03-09

Company Name: American Cyanamid Co. Telephone: (201) 862-6000

Street: Foot of Tremblay Point Road Property Owner: American Cyanamide

Town: Linden, N.J. 07036 Address: Bearden Ave

County: Union Wayne, N.J. 074

Lot: 8 Block: 587 (30.8 acres)

Type Ownership:

Investigative Findings:

4/4/83 - 1015 hrs - Arrived on site.

1035 hrs - Met with Neil Muluey, Environmental Coordinator, American Cyanamide Co.

Present for the investigation and discussions were the following;

1) F. Scaccetti - N.J.D.E.P. - D.W.M.
2) Paul Samalonis - Sanitary Inspector, Linden Health
3) Neil P. Muluey - American Cyanamide Co. Environmental Co-ordinator

Company Information

American Cyanamide Co., Foot of Tremblay Point Road, Linden, is a multi-purpose facility producing the following product lines;

1) H_2SO_4
2) mining products
3) water treatment chemicals
4) pesticides

Kg 4-29-83

4-29

Findings and Summary:

Each of these product lines are produced in a separate plant on the company's 30.8 acre property.

H_2SO_4 Plant

American Cyanamide Co. has the capacity to produce H_2SO_4 at a rate of 700 tons per day

Process

The principal steps in the process consist of burning sulfur (S) in air to form sulfur dioxide (SO_2), combining the sulfer dioxide with oxygen (O_2) to form sulfur trioxide (SO_3), and combining the sulfer trioxide with water (H_2O) to form a solution containing sulfuric acid (H_2SO_4) - (see attached process description).

According to Mr. Mulvey the acid concentration tanks referenced in the incident report are identified by the company as absorbent towers (see map). Within the absorbent towers (SO_3) is absorbed into circulating H_2SO_4 to produce specific concentrations of H_2SO_4 ranging from 93% - 100% (H_2SO_4). Acid from the tower's bottom is circulated through coolers and is returned to the top of the tower (see process description). Mr. Mulvey stated that since the acid is re-circulated no acid sludge is generated

N-26

Findings and Summary:

According to Mr. Mulvey no hazardous waste is generated by the H_2SO_4 plant. Off spec material is sold at a discount or blended off in following batches (recycled)

Tour

1125 hrs - Non-contact cooling water is pumped from the Arthur Kill and used in H_2SO_4 plant's process. The water upon exiting the cooling tower is discharged to the Arthur Kill. According to Mr. Mulvey this discharge is the only discharge into the Arthur Kill from the H_2SO_4 plant. The discharge is permitted under N.P.D.E.S. (see attached), continuously monitored for pH and designated by the company as Outfall C - (see map)

1135 hrs - The writer observed the monitoring equipment operating. pH readings were within the permitted standards (see N.P.D.E.S permit)

Monitoring records are kept for a period of three years. Several chart recordings were reviewed while in Mr. Mulvey's office and found to be in compliance with discharge standards.

Agency Contacts

Mr. Mulvey stated that Phil Cole, Hazardous Substance Co

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Report #: 53-03-08-004C

Page 5 of 8

Project: American Cyanamid

Date: 4/5/83

Findings and Summary:

Conducted a 2-day inspection regarding D.P.C.C. regulations.

Ernie Kuhlwein, Hazardous waste, is routinely contacted for R.C.R.A. information and receives the company's yearly reports.

An E.P.A. contractor conducted a R.C.R.A. inspection in 1982 (no date/time was provided).

Samples / Photographs

No samples or photographs were taken.

Summary

From the information I have received and reviewed it appears that the H_2SO_4 plant's process would not generate the material alleged to be discharged in the incident report.

1235 hrs -- Secured site.

4-78

REPORT OF SPILL EVENT

DATE: April 6, 1983

TIME: Approximately 8:15 A.M.

LOCATION: American Cyanamid Company
Warners Plant
Foot of Tremley Point Road
Linden, New Jersey 07036
Sulfuric Acid Department

MATERIAL SPILLED: 20% Oleum

QUANTITY: Approximately 1670 lbs. of equivalent sulfuric acid

SUMMARY:

On April 6, 1983, at approximately 8:15 A.M., an estimated 100 gallons of 20% oleum (equivalent to 1670 lbs. of 100% sulfuric acid) overflowed from a tank wagon and spilled onto the surrounding ground area. Some of the spilled material reached a nearby storm drain. Soda ash was immediately applied to the affected ground area and to the storm drain in order to neutralize the spilled acid. Samples taken at a manhole downgradient from the spill area indicated the acid was effectively neutralized by the soda ash. Residual soda ash and gravel was collected and placed in 55 gallon steel drums for disposal in a secure landfill.

Operating procedures require the operator to remain in the immediate area during all oleum transfers. During this transfer, the operator left the area momentarily and did not observe the level in the tank wagon. The operator was given disciplinary suspension and all loading operators were re-instructed to remain in the area during all material transfers.

Both the U. S. Coast Guard, National Response Center and the N. J. Department of Environmental Protection were notified of the incident.

Ms. Nancy Koblis of the Linden Board of Health conducted an inspection of the site.

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Form VSC 006
8/82

20/09

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT

20-09-03

INCIDENT REPORT

D.W.M. ASSIGNED CASE NUMBER 83-08-26-0416		HOT LINE ☒	INDEXED ☒
DATE 8-26-83	TIME (Military) 1820	D.W.M. ID NO. 209	

INCIDENT REPORTED BY:

NAME USCG NY thru Trenton Dispatch		PHONE 212-668-7936
AFFILIATION QM #3 Wright		CODE
STREET		
CITY	STATE	ZIP CODE

INCIDENT LOCATION:

NAME AMERICAN CYANIMIDE		PHONE 201-862-6000	
STREET		UTM VERT	UTM HORIZ
CITY LINDEN	COUNTY 20	STATE	ZIP CODE

SOURCE OF SPILLED AND/OR DISCHARGED SUBSTANCE: Confirmed ☐ Alleged ☐ More Than 1 Source ☐

COMPANY NAME		PHONE	
CONTACT	TITLE		
STREET		DEP COMPANY NO.	
CITY	COUNTY	STATE	ZIP CODE

SUSPECTED SPILLED AND/OR DISCHARGED SUBSTANCE: ☐ Confirmed ☐ Alleged ☐ More Than 2 Substances

1. Sulfuric Acid + Dense fog - cloud			SUBSTANCE NO.
AMOUNT SPILLED	UNITS	A/P/E	S/L/G/M
2.			SUBSTANCE NO.
AMOUNT SPILLED	UNITS	A/P/E	S/L/G/M

DATE OF INCIDENT 8-26-83	TIME (Military) 1807	TEMP.	WEATHER	WIND (Dir. & Vel.)
SPILL ORIGIN NA				CODE
CAUSE Plant startup				CODE
WATER BODY AFFECTED				CODE
ASSOCIATED FIRE AND/OR HAZARDS				

INCIDENT REFERRED TO:

AGENCY Air Pollution	PHONE
CONTACT 1855 - Received call back from Jim Ross for additional information.	AGENCY CODE

PRIMARY D.W.M. INVESTIGATOR NFA [illegible]	FOLLOWUP
NO FURTHER ACTION	DATE

COMMENTS:

1830 - Call USCG and spoke with QM Wright who stated that BP Oil called in compliant - reported 3 people ill. USCG was responding. I told him to go through Trenton Dispatch if he needs assistance from DEP. Sulfuric acid forming was an immersion resulting from plant startup.

1845 - Called Trenton Dispatch and updated and advised they notify Air Pollution - [illegible] stated [illegible] would contact Jim Ross

X-29

CYANAMID

REPORT OF SPILL EVENT

DATE: October 4, 1983

TIME: Approximately 3:30 PM

LOCATION: American Cyanamid Company
Warners Plant
Foot of Tremley Point Road
Linden, New Jersey 07036
Building 125

MATERIAL SPILLED: 12% Acrylamide Solution

QUANTITY: Approximately 50 gallons; equivalent to 52 lbs. acrylamide.

SUMMARY:

On October 4, 1983, at approximately 3:30 P.M., an estimated 50 gallons of 12% acrylamide solution (equivalent to 52 lbs. of acrylamide) overflowed from a reactor vessel and spilled onto the roof and surrounding ground area. The area was decontaminated and the residuals were placed into drums for disposal at a secure chemical landfill.

The overflow from the reactor vent line was caused by the use of excessive pressure to clear a blockage in a transfer line leading to the reactor. Operating procedures have been modified to prevent a recurrence.

Both the U. S. Coast Guard, National Response Center and the N. J. Department of Environmental Protection were notified of the incident.

V-30

CYANAMID

REPORT OF SPILL EVENT

DATE: January 22, 1984

TIME: Approximately 1:20 PM

LOCATION: American Cyanamid Company
Warners Plant
Foot of Tremley Point Road
Linden, New Jersey 07036
Building 125

MATERIAL SPILLED: 50% Acrylamide Solution

QUANTITY: Approximately 350 gallons, equivalent to 1500 lbs. of acrylamide.

SUMMARY:

On January 22, 1984, at approximately 1:20 PM, an estimated 350 gallons of 50% acrylamide solution spilled from a reactor located in Building 125 onto the surrounding ground area. An estimated 20 gallons (150 lbs. of acrylamide) reached a nearby storm drain. The spilled material was picked up with an absorbent and placed into drums for disposal at a secure chemical landfill.

The release was caused when a valve was inadvertently left open. Equipment and operating procedures have been modified to prevent recurrence and the operator involved was given a disciplinary suspension.

Both the U. S. Coast Guard, National Response Center and the N. J. Department of Environmental Protection were notified of the incident. Representatives from the U. S. Coast Guard and the Linden Board of Health visited the site.

V-34

CYANAMID

REPORT OF SPILL EVENT

DATE:	May 21, 1984
TIME:	Approximately 1:00 AM
LOCATION:	American Cyanamid Company Warners Plant Foot of Tremley Point Road Linden, New Jersey 07036 Building 125
MATERIAL SPILLED:	50% sodium hydroxide
QUANTITY:	Approximately 690 gallons (equivalent to 4,400 pounds of 100% sodium hydroxide)

SUMMARY:

On May 21, 1984, at approximately 1:00 AM, an estimated 690 gallons of 50% sodium hydroxide (equivalent to 4,400 pounds of 100% sodium hydroxide) leaked from a storage tank circulating line and spilled onto the surrounding ground area. The spilled material was absorbed with sand and placed in drums for disposal in a secure landfill.

The spill resulted from a failure in the fiberglass circulating line. The fiberglass line was removed and replaced with a stainless steel line.

Both the U. S. Coast Guard, National Response Center and the N. J. Department of Environmental Protection were notified. Representatives from the U. S. Coast Guard and the Linden Board of Health visited the site.

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CYANAMID

REPORT OF SPILL EVENT

DATE:	December 7, 1982
TIME:	Approximately 9:00 AM
LOCATION:	American Cyanamid Company Warners Plant Foot of Tremley Point Road Linden, New Jersey 07036 Building 46
MATERIAL SPILLED:	50% Caustic Soda Solution
QUANTITY:	188 gallons (1,175 pounds of 100% caustic soda)

SUMMARY:

On December 7, 1982 at approximately 9:00 AM, an estimated 188 gallons of 50% caustic soda solution (equivalent to 1,175 pounds of 100% caustic soda) spilled from a leaking storage tank (TA-23) located north of Building 46 onto the surrounding ground area. An absorbent was immediately applied to the affected area in order to contain the spilled material. The absorbent along with the contaminated soil was removed from the area and placed in drums for disposal in a secure landfill.

The caustic soda solution in the tank is maintained at an elevated temperature in order to prevent freezing. Failure of the temperature control system caused the temperature of the solution to rise above normal operating levels and resulted in corrosion and subsequent leaking of the storage tank.

Residual caustic soda solution in TA-23 was transferred to another tank and TA-23 was taken out of service. The tank and the temperature control system will be repaired before the vessel is placed back into service.

Both the U. S. Coast Guard, National Response Center, and the N. J. Department of Environmental Protection, Bureau of Emergency Response were notified of the incident. At 2:30 PM on December 7, 1982, Mr. Paul Samalonis of the Linden Board of Health visited the plant to investigate the incident.

V-22

CYANAMID

REPORT OF SPILL EVENT

DATE:	July 15, 1984
TIME:	Approximately 5:30 PM
LOCATION:	American Cyanamid Company Warners Plant Foot of Tremley Point Road Linden, New Jersey 07036 Building 69 Tank Farm
MATERIAL SPILLED:	Toluene
QUANTITY:	Approximately 2000 pounds (275 gallons)

SUMMARY:

On July 15, 1984, at approximately 5:30 PM, an estimated 2000 pounds (275 gallons) of toluene leaked from a transfer line between a storage tank and Building 69 and spilled onto the surrounding ground area. Contaminated soil was removed and placed into drums for disposal in a secure landfill.

The spill resulted from a failure in a section of the transfer line. The failed section of the transfer line was replaced. Operating procedures have been modified to prevent recurrence.

Both the U. S. Coast Guard, National Response Center and the N. J. Department of Environmental Protection were notified. Representatives from the U. S. Coast Guard, the Linden Board of Health and the Linden Fire Department visited the site.

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State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT
120 Rt. 156, Yardville, N.J. 08620

DR. MARWAN M. SADAT, P.E.
DIRECTOR

LINO F. PEREIRA
DEPUTY DIRECTOR

12 OCT 1984

MEMORANDUM

TO: Dr. Marwan M. Sadat, Director
Division of Waste Management

FROM: Joseph A. Rogalski, Assistant Director
Field Operations - Enforcement and Compliance

SUBJECT: American Cyanamid Incident of October 6, 1984

Attached hereto is a report from Robert Leary of our Central Field Operations office regarding an emergency response to the American Cyanamid facility in Linden, New Jersey on October 6, 1984.

At approximately 10:00 a.m. on October 6, 1984 a 12,000 gallon storage tank filled to 96 percent of its capacity with crude malathion blew off its rupture gasket and manhole cover spewing approximately 7,000 to 8,000 gallons of the product into the atmosphere. The discharge continued for approximately two (2) hours and a considerable area was contaminated. The tank and facility is located approximately 200 to 300 yards west of the Rahway River in an industrial area. Immediately adjacent to the facility is a docking facility and at the time of the discharge two (2) tankers were at the adjoining piers. The plume traveled in a southeasterly direction over the tankers, the Rahway River and toward Staten Island, N.Y., Woodbridge, Carteret, Perth Amboy, Sayreville and Old Bridge. Representatives of our Department (Air and Division of Waste Management) were at the scene and the U.S. Coast Guard was present. Immediat cleanup activity was commenced which included the spreading of soda as. to break down the malathion and the scrubbing of surfaces by soap and water and vacuuming.

The initial inquiry revealed that the malathion in the tank is usually kept at a 135 degree to 140 degree temperature and for some unexplained reason the temperature rose considerably over 212°F (gauge indicator limit) and caused the rupture of the tank. The investigation is continuing in order to determine what had gone awry. In the meantime, management at the American Cyanamid plant is exploring different avenues on how to dispose

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of the remaining contents of the tank. Division of Water Resources personnel and this Division are working in concert to address the disposal problems and we are continuing the investigation to ascertain what caused the mishap.

For your information.

J.A.R.

FO1:kaw
Attachment

N-35

ADM-112

MEMO

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO Vince Krisak

FROM Robert Geary DATE 10-11-84

SUBJECT American Cyanamid incident on October 6, 1984

October 6, 1984

As off hours duty officer I was contacted by Trenton Dispatch. Lou Spitz, Night Supervisor called Trenton Dispatch reporting that malathion is coming out the top of a storage tank through a manhole and rupture gasket. Trenton Dispatch reported that complaints are coming in concerning strong odors in neighboring towns. I arrived at American Cyanamid at 1205 hours. When I arrived on-site various agencies were already present: Linden Fire Department, Air Pollution Control, Middlesex County Health Department. Middlesex County Health Department was also taking air samples downwind.

On the site I met with Adolph Groeller, Manager of Environmental Services for American Cyanamid. He said that shortly after 10 A.M. that morning a loud noise came from a storage tank area. An in process crude malathion storage tank blew off its manhole cover and rupture gasket. The material in the tank is normally at 135° - 140°, but the temperature gauge indicated the contents to be in excess of the gauge's limit of 212°F. Fumes were coming out of the top of the tank. The tank had been filled to 96% capacity on Friday afternoon. I was told that the tank had heating coils. To correct the situation all valves to the tank were closed. The fire crew from American Cyanamid started spraying water on the tank and also in the tank. The Linden Fire Department reported to the scene. The tank fumed vigorously until 12:10 hours. The fumes were carried by the wind in a southerly direction, toward Staten Island, Woodbridge, Carteret, Perth Amboy, Sayreville and Old Bridge. I was told that the tank had gone down to 12% of capacity according to the safety manager. Approximately 7,000 - 8,000 of product went off site. I was told by Adolph Groeller that all of the material was airborn and that a concrete containment area around the tanks would contain any spillage.

The Coast Guard arrived on site at 1240 hours. Jim Ross arrived soon after the Coast Guard arrived. An inspection of the tank area revealed a significant amount of spillage on nearby buildings and on the ground. Some material was in the Rahway River. The company was advised to hire a clean-up contractor to remedy this situation. Clean Venture arrived on site at 1510 hours. I spoke to John Malool, Hazardous Materials Supervisor for Clean Venture. He told me that a boom would be placed in the river. A vacuum truck will be employed as necessary to remove material. Contaminated surfaces will be washed with a soap and bleach solution or soda ash will be applied which breaks down malathion. Also dikes will be constructed to control any runoff. The Coast Guard will monitor the cleanup until it is completed. Satisfied that adequate remedial measures were underway, I left the site at 1755 hours.

October 8, 1984

I returned to the site to check on the cleanup status. A boom was in the Rahway River to contain any runoff. All affected surfaces had been cleaned with soda ash

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or a soap and bleach mixture. A dike was in place at the edge of the site. Some contaminated soil was removed. Clean Venture workers were removing soda ash applied to a pad area where tanks had been formerly located. The contaminated solids were being put into drums for disposal at a CECOS site. The liquids generated from the cleanup were put into Clean Venture's vacuum truck and then discharged into American Cyanamid's treatment plant. The processed waste from their treatment plant goes into the Linden-Rosselle Sewerage System for further treatment. Two ships in the Arthur Kill had been contaminated. The ships were tested for their contamination level. Since the contamination was low, the Coast Guard allowed the ships to be washed down with sea water. The cleanup is nearly complete except for the 12,000 gallon tank.

In addition to the on-site cleanup, American Cyanamid has sampled areas affected by the malathion. Adolph Groeller told me that 50 swab samples were taken. American Cyanamid will analyse the 50 samples and ETC of Edison will do a split on 25 of the samples. The standard that they are considering to be safe is 1.9/mg/ft^2 or less which is the malation standard for mosquito control in urban areas. The Coast Guard and Clean Venture have been on the site continuously. The Coast Guard has brought in the National Oceanagraph and Atomospheric Administration for technical expertise. EPA has also been on the site. Adolph Groller told me that the 12,000 tank was not heated by coils or any other external means. The crude malathion is placed into the tank at 140°F and remains in the range of 135° - 140°F due to the tank being insulated. The cause of the overheating in the tank remains unknown.

FOC13:efw

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ADMIN

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

MEMO

TO Robert Leary and File

FROM Vince Krisak DATE October 11, 1984

SUBJECT American Cyanamid, Linden

On Tuesday, October 9, 1984, I received a phone call from Jim Ross, who stated that he had received a call from Dr. Jake Marchessi (American Cyanamid) who outlined the disposal methodology of the remaining materials in the malathion tank that ruptured.

I placed a call to Dr. Marchessi and asked him to explain what the company's intentions were with regard to the disposal of the contents of the tank. Dr. Marchessi stated that the tank contains approximately 5000 gallons of water and 2000 gallons which is considered the "heel". The company would like to pump the water through their treatment system then discharge into the Linden-Roselle POTW line.

Dr. Marchessi stated that the remaining solids would be treated as hazardous waste and would be placed in drums by contractor personnel (Clean Venture).

As a representative of the Division of Waste Management, Bureau of Field Operations, I have no problems with the disposal methodology for the solid hazardous waste, however, I was concerned about the legality of the disposal of the liquids from the tank. After my conversation with Dr. Marchessi, I contacted Robert Plumb from the Division of Water Resources to notify him about the company's intentions. Mr. Plumb stated that he would check their files and permits to determine if the water can be treated and discharged on site.

On Wednesday, October 10, 1984, I received a call from Mr. Groeller, who is the manager of American Cyanamid - Environmental Department.

Mr. Groeller stated that he has permission from the Linden-Roselle POTW to discharge the treated material into the sewer line. Mr. Groeller stated that he has also been in contact with Mr. Robert Plumb and Mr. Robert Pfeiffer of the Division of Water Resources.

Mr. Groeller stated that his company would like to begin the operations on Thursday, October 11, 1984. I informed Mr. Groeller that Mr. Robert Leary, DWM, would be on site to monitor the disposal activity.

I was contacted by Mr. Robert Plumb, who stated that the DWR did not have any problems with the water discharge as long as permission was granted by the POTW. Mr. Plumb would verify if permission was granted by Linden-Roselle.

I advised Mr. Plumb to have someone from DWR at the site on Thursday morning to monitor the compliance with the DWR regulations.

Mr. Plumb advised me that the DWR will not allow the discharge into the pre-treatment plant until the liquids are analyzed and a written proposal is submitted for their review. Mr. Plumb contacted Mr. Groeller and informed him about the Department's requirements. Mr. Groeller stated that the company

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will store the liquids on site in a tank until the samples are analyzed and the pre-treatment is documented and approved.

Robert Leary, DWM, was advised to split samples with American Cyanamid.

At this time the exact cause of the problem is not known, American Cyanamid is in the process of investigating the incident. Mr. Groeller will prepare a release when all the information is compiled.

Vince Krisak

Vince Krisak, Supervisor
Bur. of Field Operations
Central Region

FOC19:dg

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MEMO NEW JERSEY STATE DEPARTMENT ENVIRONMENTAL PROTECTION

TO Vince Krisak

FROM Robert Leary R.L. DATE 10-23-84

SUBJECT American Cyanamid Meeting on October 17, 1984

At this meeting the following topics were discussed:

1. Community sampling on October 7, 1984.

   Swabs moistened with isopropyl alcohol were used on one square foot surfaces in the communities sampled. Forty-nine samples were taken which were analyzed by American Cyanamid. Another twenty five adjacent samples were taken which were analyzed by Environmental Testing and Certification. American Cyanamid used flame ionization detection and nitrogen phosphorpus detection methods. American Cyanamid feels that there is background interference with the flame ionization detection method so each sample was also analyzed using the nitrogen phosphorous detection method. Environmental Testing and Certification utilized the electron cathode detection method. E.T.C. also used GC/MS on two of the samples. The Coast Guard employed the National Oceanographic and Atmospheric Administration as its scientific liasion. As a guideline for malathion concentration in the community, the standard for mosquito control was used. This standard is 2.3 fluid ounces per acre which is equivalent to 1.9mg/ft^2. All of the community samples are below this level. The test results indicate that the malathion concentrations were highest within approximately two miles of the plant. The Center for Disease Control indicates that there is no health hazard from these concentrations of malathion.

2. Middlesex County Health Department and D.E.P. sampling.

   Draeger tubes did not indicate the presence of mercaptan or hydrogen sulfide. Charcoal tube samples where 90 liters of air were filtered were negative for malathion.

   Six soil samples were taken in the Carteret area. All were negative except for the Pactank Atlanta facility where results were 17ppb.

   Six water samples were taken in the Carteret area. Two of the samples were positive for malathion at levels of .0025 ppb and .0049 ppb.

   The DEP sample from the Rahway River is still being analyzed. A split sample was analyzed by American Cyanamid and has 4300 ppb.

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On October 7, 1984, American Cyanamid took eight samples from the Rahway River and the Arthur Kill. The highest level for malathion was directly downwind from the malathion tank at 1480 ppb. Other levels were 1.5 ppb to 44 ppb.

An aqueoussample of the waste water from 3-C was taken and a solid sample from TA-3.

3. Blood Test Results.

The only hospital to take blood samples to check for cholinesterase suppression was Rahway Hospital. Sixty blood samples were taken at Rahway Hospital, none had any cholinesterase suppression. Twenty patients had elevated cholinesterase levels. Sixty five people were examined at other hospitals and one was admitted.

4. Cleanup Status.

Soda ash has been applied to the malathion spillage, swept up and placed in drums, as well as the dike material. The buildings have been decontaminated. The solidified malathion has to be removed from TA-3. American Cyanamid is waiting for analytical results on the waste water.

5. Probable cause of incident.

Phillip Riffe, American Cyanamid's Manager of Corporate Safety and Loss Prevention, spoke about the probable cause of the incident. He prefaced his presentation by explaining that American Cyanamid is not 100% certain of the cause, but their research so far indicates that the most probable cause of the incident is leakage in heat exchanger unit HE-3. The heat exchanger was pressure tested and found to be leaking. The heat exchanger uses salt water as a coolant. American Cyanamid research indicates that malathion contaminated with sodium ions causes an exothermic reaction after an incubation period. Their research indicates that this is the most probable cause of the October 6, 1984 incident. Phillip Riffe emphasised that every possible avenue will be investigated before any final conclusions are drawn concerning the cause of this incident.

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1119A

MALATHION SWAB SAMPLING
OCTOBER 7, 1984

Sample No.	Time	City	Location	Description	ACCO Results Milligrams Malathion per Sq. Ft.
C- 1	1349	Metuchen	Amboy Ave. & Walsh Ave.	Metal Plate	0.11
C- 2	1408	Perth Amboy	Baker Pl. & New Brunswick Ave.	Metal Sign	<0.01
C- 3	1421	Perth Amboy	Arnesen Square	Electrical Box	<0.01
C- 4	1437	Perth Amboy	State St.	Brick Surface	<0.01
C- 5	1454	Woodbridge	Main St.	Electrical Box	0.04
C- 6	1504	Iselin	Woodbridge Mall - Route 9	Electrical Box	<0.01
C- 7	1514	Woodbridge	Green St. & North St.	Electrical Box	0.04
C- 8	1523	Iselin	Lincoln Blvd. & Green St.	Electrical Box	0.01
C- 9	1533	Edison	James St. & Route 27	Electrical Box	0.03
C-10	1559	Fords	Fords Avenue	Glass Surface	0.01

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MALATHION SWAB SAMPLING
OCTOBER 7, 1984

Sample No.	Time	City	Location	Description	ACCO Results Milligrams Malathion per Sq. Ft.
B- 1	1348	Staten Island	Gulf Ave. Upwind	Lamp Pole	0.11
B- 2	1405	Staten Island	Chelsea Ave. Upwind	Metal Appliance	0.05
B- 3	1427	Staten Island	Arthur Kill Rd. & Ellis Pl.	Sewer Plate	0.02
B- 4	1445	Staten Island	Ellis St.	Plastic Table Top	0.02
B- 5	1502	Staten Island	Bentley St.	R/R Car	0.05
B- 6	1516	Staten Island	Clermont Ave. & Connecticut Ave.	Wrecked Car	0.03
B- 7	1538	South Amboy	Rt. 35 & Drive In	Electrical Box	0.05
B- 8	1548	South amboy	Sixth St. & Felton Ave.	Concrete Slab	0.04
B- 9	1622	Old Bridge	Bordentown-Amboy Tpk.	Metal Railing	0.04
B-10	1630	Old Bridge	Route 527	Garbage Dumpster	0.04
B-11	1644	South River	Rt. 527 Mid State Mall	Clothing Box	0.04
B-12	1659	East Brunswick	Ryders Lane	Clothing Box	0.03
B-13	1717	Sayreville	Main St. & Allgair St.	Mail Box	0.03
B-14	1732	Sayreville	Raritan St.	Clothing Box	0.04
B-15	1752	Edison	Post Rd. & Raritan Park.	Electrical Box	0.03
B-16	1758	Edison	Woodbridge Ave. & Old Post Rd.	R/R Box	0.02

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Sample No.	Time	City	Location	Description	ACCO Results Milligrams Malathion per Sq. Ft.
A-17	1720	Carteret	Carteret Ave. & Pine St.	Slate Patio	0.10
A-18	1730	Carteret	Elm St. & Polk Ave.	Stop Sign	0.02
A-19	1745	Carteret	GATX Gate #6	Metal Sign	0.04
A-20	1800	Carteret	Lefferts St.	Auto Hood	0.05
A-21	1810	Carteret	Roosevelt Ave. & Leick Ave.	Concrete Slab	0.04
A-22	1820	Carteret	Hayward Ave. & Jeanette St.	Mail Box	0.03
A-23	1835	Rahway	Woodbridge Ave. near Randolph Ave.	Metal Sign	0.03

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1119A

Sample No.	Time	City	Location	Desc...	
A- 1	1415	Woodbridge	Christopher Ave.	Sheet Metal	0.03
A- 2	1440	Woodbridge	Amboy Ave. & New St.	Traffic light box	0.02
A- 3	1450	Woodbridge	Amboy Ave. & St. Joseph St.	Gasoline pump	0.05
A- 4	1505	Woodbridge	Amboy Ave. & School St.	Slate Patio	0.28
A- 5	1515	Woodbridge	Watson Ave. & Brookfield Ave.	Traffic Sign	0.02
A- 6	1530	Woodbridge	Rahway Ave. & Cordington Ave.	Mail Box	0.02
A- 7	1540	Woodbridge	Prospect Ave. & Ridgedale	Concrete	0.03
A- 8	1550	Seawaren	West St.	Painted Wood Surface	0.30
A- 9	1605	Port Reading	Woodbridge Ave. & R/R	Metal R/R Box	[illegible]
A-10	1615	Port Reading	Lee St.	Macadam Road	0.02
A-11	1630	Port Reading	Rosewood Lane & Blackstone Rd.	Mail Box	0.07
A-12	1635	Port Reading	Rosewood Lane & Sunset Dr.	Mail Box	0.0[illegible]
A-13	1645	Port Reading	Majestic Dr. & Toppen St.	Stop Sign	0.[illegible]
A-14	1655	Port Reading	Division St. & Daniel St.	Mail Box	[illegible]
A-15	1700	Port Reading	Division St. & Daniel St.	Field Blank	
A-16	1710	Carteret	Carteret Ave. & Emerson St.	Glass Surface	

U.S. ENVIRONMENTAL PROTECTION AGENCY

POLLUTION REPORT

DATE: October 10, 1984

Region II
Response and Prevention Branch
Edison, NJ 08837

(201) 321-6670 - Commercial
(201) 548-8730 - 24 Hour Emergency

TO: C. Daggett, EPA
W. Librizzi, EPA
F. Rubel, EPA
J. Marshall, EPA
M. Sadat, NJDEP
USCG 3rd District (mer)
ERD, EPA Washington, (Data Gram)
USCG COTPNY
NRC
G. Berkowitz, NJDEP
J. Rogalski, NJDEP
D. Blazey, EPA
C. Simon, EPA

POLREP NO.: One (1) and Final
INCIDENT NAME: American Cyanamid Malathion Release
SITE/SPILL NO: 18-85
POLLUTANT: Malathion
CLASSIFICATION: Major
SOURCE: American Cyanamid Plant
LOCATION: Linden, New Jersey
AMOUNT: 8,000 Gallons
WATER BODY: Arthur Kill

1. SITUATION:

A. At 1100 hrs on October 6, 1984, EPA Standby Officer received notification from NRC of a malathion release from American Cyanamid's Linden, New Jersey facility located on the shore of the Arthur Kill.

B. It was determined that at 1000 hrs, a pressurized tank containing 8,000 gallons of malathion had overheated, blew a manhole, and released an undetermined amount of malathion (initial estimate was 7,000 gallons) and other unidentified products into the atmosphere.

C. A plume was released from the plant. Twenty nine (29) crew members from two nearby ships including the Tropic Sun, were directly exposed to the plume and were hospitalized. The plume travelled in a southwesterly direction, passing over a portion of Staten Island, NY and the Middlesex County New Jersey communities of Port Reading, Woodbridge, Carteret, Sayreville, East Brunswick, Old Bridge, Matawan and Monroe

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Township. This prompted widespread citizen complaints of irritating vapors throughout the area. Some residents reported to local hospitals complaining of nausea and illness.

D. Coast Guard Captain of the Port, New York was OSC according to EPA/CG boundaries.

E. The release from Cyanamid's pressurized vessel was terminated at 1207. Prevailing northeast winds at 5-10 mph eventually dissipated the plume. Citizen complaints to EPA subsided at about 1330.

2. <u>ACTION TAKEN:</u>

A. Incoming phone calls from citizens were taken at EPA's office in Edison. The public was advised to stay indoors, closing all windows until plume dissipated.

B. EPA dispatched TAT to spill site and found Coast Guard on scene in OSC capacity coordinating plant cleanup and sampling. It was also determined that the Middlesex County Health Department had already notified communities downwind and was coordinating a sampling effort throughout New Jersey's Middlesex County.

C. EPA supplied 40 carbon tubes and 30 sample jars to Middlesex County Department of Health Officials to support their air and surface water sampling efforts.

D. TAT conducted visual surveys of surrounding communities to check out unsubstantiated reports of extensive dust or powder fallout. The reports proved erroneous.

E. EPA requested computer model of potential plume movement from NRC. Information was received.

F. At Coast Guard request for technical assistance, EPA provided toxicological and decontamination procedure guidance for malathion to Coast Guard OSC.

G. EPA obtained aerial photographic support. Photographs were transmitted to the Coast Guard.

H. EPA worked to independently verify acceptable background malathion levels as presented to EPA and the USCG by American Cyanamid.

I. EPA attended meeting with American Cyanamid on October 9, 1984 to discuss ongoing cleanup and sampling effort.

3. FUTURE PLANS AND RECOMMENDATIONS:

A. Obtain copies of results of air sampling efforts by the Middlesex County Health Department. Assist in evaluation of sampling data.

B. Coordinate future actions, as needed, with USCG, New York State and New Jersey State officials.

C. Polreps to be generated by Coast Guard OSC on further activities.

CASE PENDS_____ CASE CLOSED__X__ SUBMITTED BY_____

W. G. Tawadros, OSC
Response and Prevention
Branch, U.S. EPA

DATE RELEASED_____

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MALATHION: A PROFILE OF ITS BEHAVIOR IN THE ENVIRONMENT

Charles J. Dobroski, Jr., M.S. and Walter P. Lambert, Ph.D.

Submitted To:

U.S. Department of Agriculture
Animal and Plant Health Inspection Service
Plant Protection and Quarantine
Contract No. 53-6395-1-151

Submitted By:

Roy F. Weston, Inc.
West Chester, Pennsylvania 19380

W.O. 1876-06-01

Disclaimer: Mention of a proprietary name or product does not constitute endorsement by USDA. The Department also does not imply that products listed herein are more effective than others of equal standards produced by other companies.

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pH	Pesticide	Condition	Half-life (days)
6.2	Malaoxon	Sterile	7.5
		Nonsterile	6.5
7.2	Malaoxon	Sterile	5.1
		Nonsterile	4.6
8.2	Malaoxon	Sterile	3.9
		Nonsterile	3.5

pH had more of an effect than the presence of a microbial community.

Table III-1 lists some typical degradation rates for some pesticides in soil.

3. Degradation in Water (Aquatic Environment)

a. Hydrolysis

Laboratory tests reveal that malathion breaks down in water by two competing pathways. One yields compounds that are nontoxic to aquatic organisms. The second, which is favored in colder water (35°F), results in the formation of acids of malathion which may be toxic and more persistent than the parent compound (Wolfe et al., 1977). When malathion undergoes hydrolysis in water, the products are dependent on pH. Hydrolysis in basic solutions has as its primary products diethyl fumarate and dimethyl phosphorodithioic acid (DMPTA). In acid solutions, the products are dimethyl phosphorothionic acid and 2-mercapto-diethyl-succinate (Muhlmann and Schrader, 1957). Acid hydrolysis of malathion is five times slower than basic hydrolysis and proceeds much too slowly to be significant at temperatures and pH values common to the aquatic environment. Data indicate that the malathion monoacids derived from basic hydrolysis are about 18 times more stable than malathion under the same conditions, and thus are anticipated to be a major concern to aquatic organisms (Konrad et al., 1969).

MEMO

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO Bruce Comfort

FROM Robert Leary R.L. DATE 11-7-84

SUBJECT American Cyanamid, Wood Avenue, Linden, Union County, ~~Acrylamide spill on October 24, 1984~~

Date of Investigation: October 29, 1984

Incident Report #84-10-24-03C

On October 24, 1984, around midnight, acrylamide was being pumped from bulk storage to a rail car. The rail car was situated near Building 70 behind the utilities department. The employee who was supposed to be attending the operation left the area and went to the employee locker room. The automatic shutoff on the filling nozzle did not work. The acrylamide overflowed out of the top of the rail car and down its sides. Most of the spill went into pans underneath the rail car. Some of the material splashed onto the adjacent ground. When the pans underneath were filled to capacity, the excess flowed into a sump. The capacity of the pans is approximately 800 gallons and the capacity of the sump is approximately 2000 gallons. Some of the splashed material entered into the storm drain system.

Remedial measures taken to cleanup this acrylamide spill: All spill material from pans, sump, and storm drains went to effluent department for treatment. All contaminated gravel and soil was removed. Approximately 50 gallons of acrylamide was pumped from four (4) storm drains. After pumping the acrylamide from the storm drains, the non-pumpable residual was tested and found to be at 2000 ppm. The residuals in the storm drains were neutralized with sodium metabisulfite.

RECOMMENDATIONS:

I recommend a PSO for this preventable incident.

FOC13:efw

#58

CYANAMID

REPORT OF SPILL EVENT

DATE:	January 4, 1985
TIME:	Approximately 10:15 PM
LOCATION:	American Cyanamid Company Warners Plant Foot of Tremley Point Road Linden, New Jersey 07036 Building 123 Storage Tank Farm
MATERIAL SPILLED:	Dimethylphosphorochloridothionate (DMPCT)
QUANTITY:	Approximately 1150 gallons 800 gallons contained in dike 300 gallons on ground 50 gallons to atmosphere

SUMMARY

On January 4, 1985, at approximately 10:15PM, a safety release disc on a 1500 gallon auxiliary storage vessel ruptured, releasing 1150 gallons of DMPCT. The surrounding concrete containment dike captured 800 gallons. Approximately 50 gallons were released to the atmosphere and about 300 gallons were spilled onto the ground. Foam was applied to the spilled material in order to reduce fuming. The material was immediately neutralized and cleaned up. Contaminated soil and other debris were placed into containers for disposal in a secure landfill.

The event was caused by a self-heating reaction that resulted from an increase in temperature of the material due to winter steam tracing being applied. The self-heating reaction caused the pressure to build and the safety release disc to rupture. This was the first time that DMPCT was being stored in this tank during cold weather since the steam tracing was added in 1982.

In order to prevent a recurrence, the following corrective actions were taken: only store this material in unheated storage tanks; record hourly temperature readings during tank usage; establish an emergency cooling procedure; and extensive retraining of operating personnel.

All appropriate agencies were notified of the incident. The site was inspected by the N. J. Department of Environmental Protection, U. S. Coast Guard, Middlesex County Health Department, and the N. J. State Police. A $5,000.00 penalty was paid to the N. J. Department of Environmental Protection.

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ref. 6-85
Incident 201-85

TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION
EPA CONTRACT 68-01-6669

TAT-02-F-01412

MEMORANDUM

TO: John Ulshoefer
Response and Prevention Branch, U.S. EPA

FROM: Rodolfo Hafner, TAT II WJK for RH

SUBJECT: Emergency Response
Warners Plant, Tremley Point
Linden, New Jersey

DATE: January 18, 1985

BACKGROUND:

On January 14, 1985 at 2305 hrs., an oleum leak was reported by the American Cyanamid, Warners Plant in Linden, New Jersey (see Figure #1). The spill occurred at the sulfuric acid plant and originally a quantity of less than one gallon was reported to EPA.

SITUATION:

At 1407 hrs. on January 15, 1985, TAT members Rodolfo Hafner and James Manfreda arrived at the American Cyanamid, Warners Plant located at the foot of Tremley Point Road in Linden, New Jersey.

According to Neal Mulvey, Manager of Environmental Services (201) 862-6000, Ext. 462, the incident occurred when a pinhole leak developed on an insulated 12-inch steel pipe which recirculates oleum between the oleum tower and the oleum pump tank. The leak developed in the form of a mist at a welded joint on an elbow. The flow rate through this line according to Mr. Mulvey was 1200 gpm and the pressure was 20 to 30 psi. The leak was discovered by plant personnel who noticed a grayish cloud at the point of the leak which is about 25 feet above the ground.

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As soon as the leak was discovered, the oleum system was shut down and the system was drained through a 2-inch steel pipe pump tank discharge line. This pump discharge line, at this time, also developed a pinhole leak which dripped into the ground and was neutralized with soda ash and washed with water. Some soda ash was present on the ground when TAT visited the plant. Apparently, it was used to neutralize the oleum drip from the 2-inch steel pipe under repair. The total amount reported to TAT by Mr. Mulvey at the time of the visit was less than 10 gallons not 1.0 as originally reported. The reportable quantity is 1,000 gallons. Mr. Mulvey stated that the plant had notified the U.S. Coast Guard, the NJDEP and the Middlesex Health Department but after returning to Edison, TAT checked with the U.S. Coast Guard and the Middlesex Health Department and they had not received any notification about the spill. The NJDEP had called the plant and told them that they may visit the site on January 16, 1985. TAT departed the American Cyanamid, Warners Plant for Edison at 1502 hrs.

In accordance with TDD #2-8501-06, TAT checked the American Cyanamid file to see if this incident had a relation to a similar incident, a sulfuric acid spill two years ago at the same plant. Upon checking the files, TAT found that in the "American Cyanamid Company, Warners Plant, Linden, New Jersey - Discharge Prevention, Containment or Countermeasure Plan (DPCC Plan)" a copy of which was sent to Mr. Charles Hoffman, Attorney for Water Enforcement Branch by Mr. J. B. Halliday, Plant Manager of American Cyanamid, Attachment 12, pg. 27 under the heading Sulfuric Acid Plant and Sulfur Recovery Area states"...acid resistant asphalt paving will be installed to prevent possible spills of hazardous substances from entering the waterways." At the time of the TAT visit on January 15, 1985, the spill area was covered by blue road stone and not by acid resistant asphalt paving.

Attachments

RH:ls

N-54

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TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION
EPA CONTRACT 68-01-6669

TAT-02-F-01417

MEMORANDUM

TO: Peter J. Capitano PJC
Response and Prevention Branch, U.S. EPA

FROM: Craig A. Moylan, TAT II CAM

SUBJECT: American Cyanamid Release
Linden, New Jersey

DATE: January 23, 1985

BACKGROUND:

On January 21, 1985 at 1846 hrs. a vapor release occurred from Tank #170-3 in Building 69 at the American Cyanamid Plant in Linden, New Jersey. This 2,000 gallon formulation tank contained the organophosphate insecticide CYGON 400, which is comprised of approximately 55% dimethoate, and 45% organic solvents. The two solvents used are cyclohexanone (35%) and petroleum distillate Tenneco-500 (9%). An emulsifier is also added to the mixture.

The release occurred as the tank temperature gauge reached its highest level (i.e 150°F). The vapor release occurred through the atmospheric vent, and was reported to be approximately 4,700 pounds of material. Considering the components of CYGON 400, this is equivalent to a release of 567 gallons.

American Cyanamid officials stated that they notified the U.S. Coast Guard via the National Response Center, the New Jersey Department of Environmental Protection, and the Middlesex County Health Department.

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PERSONNEL REFERRED TO IN THIS REPORT:

Name	Address/Phone No.
Mark Haulenbeek Chief, Site Mitigation Section	U.S. EPA, Response and Prevention Branch Woodbridge Avenue GSA Depot Edison, NJ 08837 (201) 321-6647
Peter J. Capitano, Investigator	" " " (201) 321-6664
W. Gad Tawadros, Standby Officer	" " " (201) 321-6648
Craig A. Moylan, Investigator	Weston/SPER Division 300 McGaw Dr., 2nd Floor Raritan Center Edison, NJ 08837 (201) 225-6116
Daniel Burgoyne, Investigator	New Jersey Department of Environmental Protection Environmental Quality Room #510 1100 Raymond Blvd. Newark, NJ 07102 (201) 648-2075
Richard F. Kozub, Inspector	Middlesex County Health Department Air Pollution Control 280 Hobart Street Perth Amboy, NJ 08861 (201) 826-3100
John Borden, Coordinator	Office of Emergency Management City of Linden 831 Erchama Street Linden, NJ 07036 (201) 486-5861
Captain Blazjowsky	Linden Fire Department Chief's Office 1205 Elizabeth Ave. Linden, NJ 07036 (201) 862-4126

X-56

Name	Address/Phone No.
E. J. Yacker, Industrial Relations Manager	American Cyanamid Company South Wood Ave. P.O. Box 31 Linden, NJ 07036 (201) 862-6000
Neil P. Mulvey, Manager, Environmental Services	" " "

SITUATION:

On January 21, 1985 at 1846 hrs., a release of the organophosphate insecticide CYGON 400 occurred from Tank #170-3 in Building 69 at the American Cyanamid Plant in Linden, New Jersey (Figure 1). American Cyanamid reportedly notified Federal, State, County and local agencies/officials. At 1906 hrs., the Linden Fire Department arrived on-site and Captain Blazjowsky was asked to standby by American Cyanamid officials. There were no reports of a fire and/or explosion at the release site. At approximately 1901 hrs., the release was stopped by the utilization of a salt water cooling system at Tank #170-3.

The Technical Assistance Team (TAT) was notified of the incident at 1940 hrs. by the EPA Standby Officer, W. Gad Tawadros, and tasked to collect additional background information. TAT contacted the National Response Center (NRC) and the New Jersey Department of Environmental Protection. Approximately 100 phone calls were received by the NRC, beginning at 1900 hrs. Complaints were being called in from residents of Staten Island, Brooklyn, and Nassau County, Long Island. Skunk-like odors in the air were reported and residents complained of experiencing headaches, nausea, vomiting and general irritation. The weather was bitterly cold with a temperature of 8°F and steady winds from the southwest at 10-15 mph.

At 2035 hrs., W. Gad Tawadros tasked TAT to report to Edison, meet Peter J. Capitano and respond to the American Cyanamid Plant. TAT notified Mark Haulenbeek upon arrival in Edison and obtained preliminary toxicology information from the CIS System on dimethoate, the principal component of CYGON 400.

At 2230 hrs., the EPA Response Team arrived at the American Cyanamid Plant. A few reporters were inside the facility gatehouse. Also present were Daniel Burgoyne of the New Jersey Department of Environmental Protection (NJDEP), Richard F. Kozub of the Middlesex County Health Department (MCHD) and John Borden of the Linden Office of Emergency Management. At

N-57

2235 hrs., the EPA Response Team met with E. J. Yacker of American Cyanamid. After a brief preliminary discussion, a meeting was held with Neil P. Mulvey, Manager of Environmental Services at American Cyanamid. The following discussion summarizes the available details concerning the incident.

The release occurred from a 2,000 gallon mixing vessel (formulation tank) when the normal operating tank temperature (90°F) rose to at least 150°F. This latter reading reflects the upper limit on the tank temperature gauge. A batch of CYGON 400 was being formulated in the mixing vessel at the time of release. There was no fire and/or explosion associated with the incident. However, a pressure disc on the vessel ruptured. In addition, there apparently was no pressure indicator gauge employed for this vessel. This tank (i.e #170-3) is suspended between the second and third floors of Building 69 with no available means of containment.

The vessel was virtually full when the incident occurred, and the vapor release was estimated to be approximately 4,700 pounds of material. This corresponds to 567 gallons that escaped through the atmospheric vent out of Building 69 in the southeastern part of the facility. In addition, five (5) gallons of liquid product spilled onto the concrete floor. Absorbent was used to cleanup this material.

The organic phosphate insecticide CYGON 400 is formulated by dissolving dimethoate [i.e. 0,0-dimethyl S-(N-methylcarbamoyl methyl) phosphorodithioate] in a mixture of two solvents. Dimethoate is a white crystalline solid with a mercaptan odor and comprises approximately 55% of the mixture to formulate CYGON 400. The two solvents used are cyclohexanone (35%) and Tenneco 500, a petroleum distillate (9%). An emulsifier is also added to the mixture.

The cause of the incident is not known at this time. It is possible that an exothermic reaction occurred resulting in thermal product decomposition. Information provided from the CYGON 400 Material Safety Data Sheet (Appendix A) indicates that thermal decomposition occurs at temperatures exceeding 120°F. Thermal decomposition of CYGON 400 may produce carbon monoxide, carbon dioxide, sulfur dioxide and phosphorus trioxide. When the release occurred, the tank temperature indicator was at its maximum of 150°F.

At 0030 hrs., on January 22, 1985, the EPA Response Team inspected the mixing vessel (i.e. Tank #170-3). American Cyanamid requested that no photographs be taken by the EPA Response Team. It was agreed that pictures of Tank #170-3 and the atmospheric vent would be taken by American Cyanamid and be provided to EPA.

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At 0105 hrs., the Response Team left the site.

DISCUSSION:

Dimethoate (i.e. CYGON 400) is used as a contact and systemic insecticide and acaricide. This organophosphate insecticide is used against a wide range of insects, and is distributed primarily in five (5) gallon containers by American Cyanamid. It is applied at rates of 0.3 to 0.7 kg active ingredient/acre on a wide range of crops. Dimethoate's duration of action as an insecticide is approximately fifteen (15) days after application.

Organic phosphate insecticides are among the most poisonous materials commonly used for pest control. In terms of acute human exposure to dimethoate, a very high hazard exists via the oral and dermal routes. The oral LD50 of dimethoate for humans has been reported to be 30 mg/kg. The acceptable daily intake for humans is 0.02 mg/kg wt. Dimethoate is also a cholinesterase inhibitor. Symptoms of overexposure include weakness, headache, nausea, vomiting, diarrhea, abdominal cramps, excessive salivation and excessive sweating. It was reported by Neil Mulvey that four (4) Cyanamid workers sought medical attention as a result of the release.

FUTURE PLANS AND RECOMMENDATIONS:

American Cyanamid will conduct an investigation concerning the cause of the incident including sample analysis of the remaining material in Tank #170-3. Formulation of CYGON 400 has ceased pending the results of this investigation. EPA has requested a copy of the written report including photographs of the tank and atmospheric vent.

Attachments

CAM:ls

V-59

Daggett
Vcc Libuzzi/Acton
Marshall
Metzger
Simon
Response due 6/3/85
RA Signature

The Brooklyn Union Gas Company
195 MONTAGUE STREET
BROOKLYN, NEW YORK 11201-3631

F. W. McPHILLIAMY
SENIOR VICE PRESIDENT
HUMAN RESOURCES

718 TELEPHONE 403-2788

May 7, 1985

Mr. Christopher J. Daggett
Director Region II
US Environmental Protection Agency
26 Federal Plaza
New York, New York 10278

Dear Mr. Daggett:

The Brooklyn Union Gas Company distributes natural gas to over one million customers in New York City's boroughs of Brooklyn, Queens, and Staten Island with a total population of 3,600,000 people. On January 21, 1985 a chemical release from the American Cyanamid plant located in Linden, New Jersey severely impacted residents of Staten Island and Brooklyn. The release also impacted Brooklyn Union by our necessary response to hundreds of "gas odor in the air" calls caused by the Cyanamid release. Since each of these calls must be fully investigated for safety and regulatory reasons, a large percentage of our manpower was occupied with the calls caused by the release, limiting our ability to respond to an actual incident that might have occurred simultaneously.

During the 1970s, there was a succession of incidents of this nature caused by similar releases from the American Cyanamid plant. Brooklyn Union was repeatedly impacted in the manner described, and the quality of life for many residents of Staten Island and Brooklyn was sorely effected (we have attached a report that relates this history). The problem was finally resolved in 1977 when New Jersey Department of Environmental Protection forced Cyanamid to cease one of their processes. Due to the events of January 21, 1985 we are concerned that incidents of this type may

X-60

again occur, and we believe that American Cyanamid's operations and environmental protection systems deserve further scrutiny. We are concerned about adverse environmental consequences of these releases, possible associated health effects, and the disruption of our operations and the ensuing deterioration of safety in these boroughs.

We have written this letter to inform you of the manner in which such noxious releases impact Brooklyn Union and its customers. We also wish to offer our willingness to cooperate with the City of New York in actions taken to insure that incidents as described are averted in the future.

Sincerely yours,

Fred W. McPhilly

FWM/ak
Attachment

V-69

Report Concerning the January 21, 1985

Odor Incident

The Brooklyn Union Gas Company distributes natural gas to the people of Brooklyn, Queens, and Staten Island. The purpose of this letter is to a) present the problems experienced by The Brooklyn Union Gas Company during the most recent odor incident attributable to the American Cyanamid chemical plant in Linden, N.J., b) provide a brief chronology of similar American Cyanamid odor incidents in the past, and c) express our concern over this unbearable problem and our intent to pursue the matter to a satisfactory end.

On January 21, 1985 Brooklyn Union was innundated with nearly 650 calls from Staten Island and Brooklyn residents complaining of a strong "gas" odor in the air. The odor was eventually traced to a release of hundreds of gallons of the American Cyanamid insecticide "Cygon - 400" from their Linden plant. Although the news media reported that the insecticide gas was not dangerous when released outdoors over a large open area, numerous residents of Brooklyn and Staten Island suffered headaches, nausea, and vomiting.

Regulations and prudent operations require that we respond to each and every gas odor or gas leak call we receive. A

V-62

serviceperson must be dispatched to the location reported, and a thorough investigation of the premises, both inside and outside, must be performed to determine the existence or absence of a natural gas leak. Each investigation requires nearly an hour to complete, and surveying hundreds of locations is extremely disruptive to our operations. The necessity of performing so many surveys over a short period of time severely reduces our ability to respond to actual emergency situations, thereby endangering our customers and the citizens of our Service territory. True gas leaks may be masked by "odors in the air" and go unreported as a result. Reported leaks, as well as calls for service on heating equipment, may not be reached because manpower is investigating odors. On January 21, we were forced to divert thirty servicepersons, eight supervisors, and eight dispatchers from our work to handle the emergency situation created by the chemical spill and resulting odor emanating from the American Cyanamid Linden plant.

Releases from chemical and industrial plant operations have impacted Brooklyn Union's operations in the past. Throughout January and February of 1975, we were besieged by numerous odor complaint calls. These calls directly coincided with the startup of American Cyanamid's "Counter" process; the complaints ceased when the process was halted. Again, in October, November, and December of 1975, during the second startup of the

V-13

"Counter" process, Brooklyn Union received an abnormally high number of odor complaints. Over 800 odor complaints were received on December 15th alone. The calls continued through January 29, 1976, when the "Counter" process was shut down.

Further incidents occurred during June, July, and into September of 1976. An unprecedented number of calls were recorded, severely hampering our ability to respond as expeditiously as possible; 1,300 calls on June 19, 900 calls on July 30, and 1,500 calls on September 14. Again, these incidents directly corresponded to problems experienced by American Cyanamid when charcoal filter systems failed at the Linden Plant and while barging the process effluent out to sea.

Problems continued through 1977, although we were assured by American Cyanamid that improvements to operations were made to "put an end" to the odor incidents. On the evening of November 11, 1977, Brooklyn Union received 3,500 odor complaints from residents of Staten Island and Brooklyn. Earlier that day, American Cyanamid had again started the "Counter" process after a shutdown on November 3. These problems were finally resolved by the intervention of NJDEP, and the complete cessation of the process.

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Our response to all of these incidents has come at a very high price. The safety of the residents in the communities we serve has been compromised by the chemicals American Cyanamid has released and the substantial portion of our manpower diverted from our normal operations (and possibly from true emergency situations that could have arisen) to handle these odor crises.

The safety and health of the people of Staten Island and Brooklyn (our customers and neighbors) are of paramount importance to our company. We share their concerns, and we believe that the history of American Cyanamid's releases of these materials substantially and adversly impacts their sense of security and quality of life.

The odor incidents have a considerable financial impact on our company, and therefore our customers. From January 1975 to November 1977, we expended approximately $56,000 to handle the complaints we received as a result of chemical releases from American Cyanamid facilities. Our customers should not be forced to pay for the costly errors made during the operation of their process plants, and we are concerned that another cycle of incidents similar to those described is beginning.

cal.cyanamid

X-65

REPORT OF SPILL EVENT

DATE:	April 12, 1985
TIME:	Observed at Approximately 7:45 AM
LOCATION:	American Cyanamid Company Warners Plant Foot of Tremley Point Road Linden, New Jersey 07036 Cygon Department
MATERIAL SPILLED:	50% Sodium Hydroxide Solution
QUANTITY:	Approximately 1,300 gallons (Equivalent to Approximately 8,000 pounds of Sodium Hydroxide)

SUMMARY:

On April 12, 1985, Caustic Soda storage tank TA-130-1 developed a leak resulting in the release of approximately 1,300 gallons of 50% Sodium Hydroxide solution onto the ground. The leak was the result of corrosive failure caused by a local hot spot in the presence of caustic solution where a heating panel coil made direct contact with the tank wall. Upon discovery of the leak, the contents remaining in the tank were transferred to auxiliary storage and absorbent material was placed beneath the tank to contain leaking material. The contaminated area was neutralized with a 12% acetic acid solution. The storage tank has been taken out of service and a replacement installed.

Both the U. S. Coast Guard, National Response Center and the N. J. Dept. of Environmental Protection were notified of the incident. Representatives from Roy F. Weston Associates (USEPA Contractor) and the Linden Fire Department visited the site.

X-66

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TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION
EPA CONTRACT 68-01-6669

TAT-02-F-01583

MEMORANDUM

TO: Peter J. Capitano
Response and Prevention Branch, U.S. EPA

FROM: Shari E. Kossey, TAT II WJK for

SUBJECT: American Cyanamid Malathion Release
Linden, New Jersey

DATE: April 29, 1985

BACKGROUND:

At approximately 1130 hrs. on Wednesday, April 24, 1985, personnel from American Cyanamid's Warner Plant in Linden, New Jersey noticed a leaking tank. The tank, TA #54 is located in the southwest quadrant of the facility which contains technical grade (95% pure) malathion liquid. Plant management quickly notified the New Jersey Department of Environmental Protection, the U.S. EPA, the National Response Center, and the U.S. Coast Guard. Cleanup operations were initiated by American Cyanamid to removed the spilled material.

PERSONNEL REFERRED TO IN THIS REPORT:

Name	Affiliation
Peter J. Capitano Investigator	U.S. EPA, Response and Prevention Branch Woodbridge Avenue GSA Depot Edison, NJ 08837 (201) 321-6664
Shari Kossey, Investigator	Weston/SPER Division 300 McGaw Dr., 2nd Floor Raritan Center Edison, NJ 08837 (201) 225-6116

Name	Affiliation
Neil P. Mulvey, Manager, Environmental Services	American Cyanamid Company South Wood Avenue P.O. Box 31 Linden, NJ 07036 (201) 862-6000
Mark E. Meyer, Environmental Coordinator	" " "
Petty Officer K. Bryn	U.S. Coast Guard
Petty Officer S. Mack	" " "
Petty Officer W. Hogan	" " "
Petty Officer J. Linneman	" " "

SITUATION:

On April 24, 1984 at approximately 1500 hrs., the investigative team of Peter Capitano (U.S. EPA) and Technical Assistance Team (TAT) member Shari Kossey responded to the spill. Upon arrival, the team presented their credentials to Mark Meyer, Environmental Coordinator for the plant. The group proceeded to inspect the area where the spill occurred.

Located in the south western portion of the facility tank TA #54 holds 20,000 gallons of technical grade (95% pure) malathion. The spill occurred during the transfer of malathion from one storage tank TA #32 to tank TA #54. Approximately 600 gallons of liquid was displaced from tank TA #54, 500 gallons of which were contained within the curbed area surrounding the tank. The remaining 100 gallons of malathion spilled onto the gravel-covered ground near tank TA #54. Puddles of the liquid formed in some areas.

The overflow apparently was due to "operator error" in failing to monitor the level gauge. The tank was not equipped with a high level alarm to indicate when the volume reached capacity. No vapor cloud was observed.

Corrective actions performed by plant workers were as follows. The liquid material contained within the curbed area and puddles outside the curb were pumped back into the facility in order to be re-worked. The remaining cleanup consisted of the application of sorbent material (speedy-dry) to visibly affected areas and then collecting the contaminated gravel, soil and sorbent material into 55-gallon drums for disposal. Any residual malathion was then hydrolyzed by applying sodium metabisulfite.

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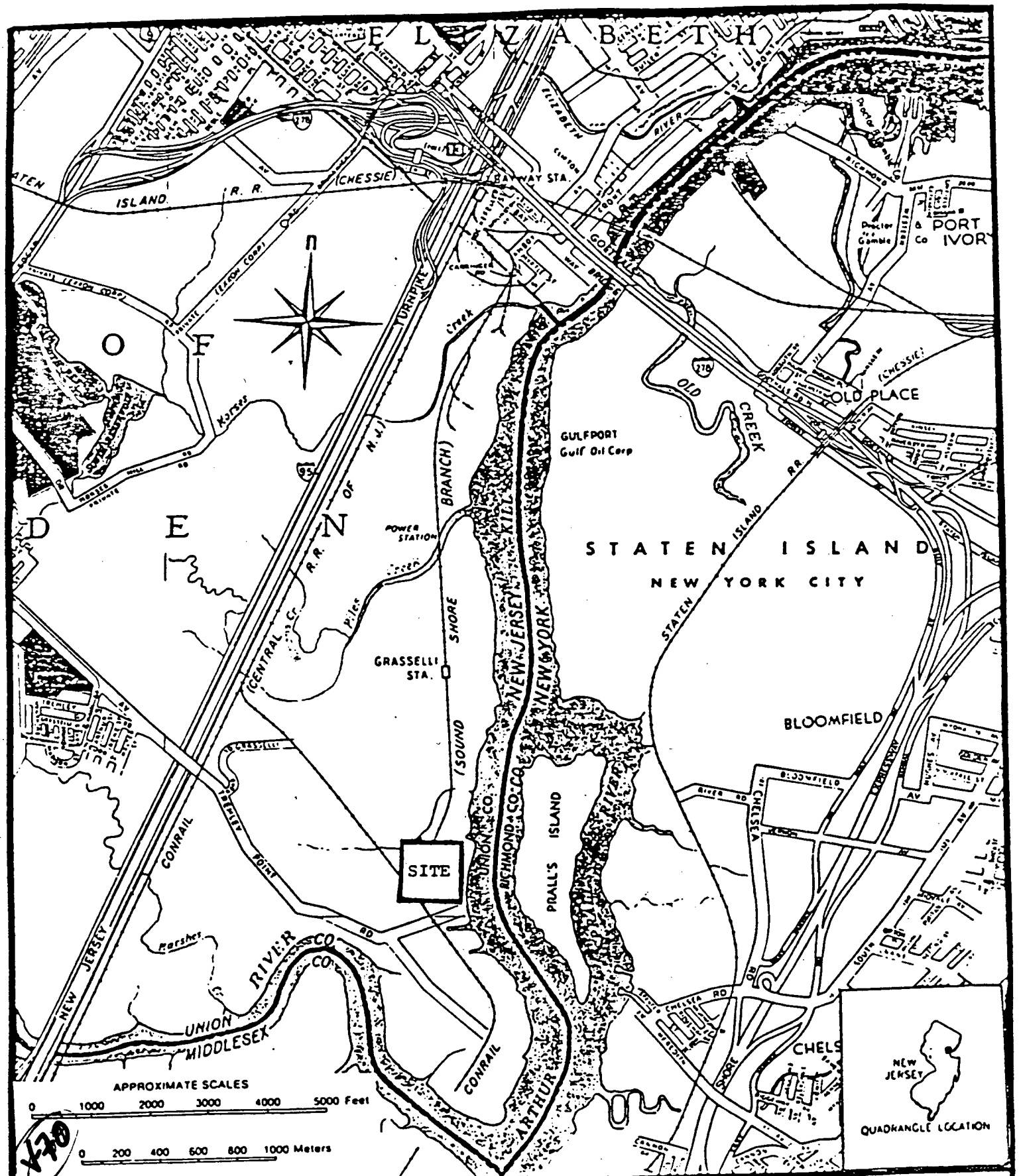
Shari Kossey contacted Mark Meyer by phone Tuesday, April 30, 1985. Cyanamid stated that a total of thirteen (13) 55-gallon drums containing contaminated sorbent material, gravel and soil were collected.

SEK:ls

A-69



WESTON	SPILL PREVENTION & EMERGENCY RESPONSE DIVISION	EPA PM P. Capitano	FIGURE 1
In association with ICF, Inc., Jacobs Engineering Inc. & Tetra Tech, Inc		TAT PM S. Kossey	American Cyanamid Linden, N.J.

Form DEQ-023 A
3/87

TD LOG# 2717

[redacted]Y JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTIC[redacted]
DIV. OF EN[redacted]ENTAL QUALITY – BUR. OF COMMUNICATIONS AND S[redacted]T SERVICES
Phone: 609-292-7172

COMMUNICATIONS CENTER NOTIFICATION REPORT

RECEIVED-
COMMUNICATIONS
AND SUPPORT SERVICES
1987 MAY 2 P 2:29

CASE NO. 87 (Yr) - 05 (Mo) - 11 (Day) - 1429 (Time)

DATE 05 (Mo) - 11 (Day) - 87 (Yr)

REC'D BY LEONARD (Initials)

REVIEWED BY JCM

INCIDENT REPORT BY:
Name: DAN CALLAHAN Phone 201-862-6000
Street: P.O.BOX 31
City: LINDEN State: NJ
Affiliation/Title: AMERICAN CYANAMID 07830

INCIDENT LOCATION: ___ Transportation X Facility ___ Other
Name (Site): AMERICAN CYANAMID Phone
Street: TREMLEY POINT ROAD
City: LINDEN County: UNION State: NJ Zip Code
Date of Incident: 05 (Mo) - 11 (Day) - 87 Time: 1400

IDENTITY OF SUBSTANCE(S) SPILLED, RELEASED, ETC.: X Known ___ Suspected ___ Unknown
Name of Substance(s) [Gas, Liquid, Solid]: #2 FUEL OIL
CAS Number:
Amount Released/Spilled: UNKNOWN ___ Actual ___ Potential ___ Estimated
Substance Contained (Y/N/U)
Type of Release/Spill: X Terminated ___ Continuous ___ Intermittent
Hazardous Material (Y/N)

NATURE OF INCIDENT: ___ Complaint X Munic. Notification ___ Emergency ___ Sub. 20

INCIDENT DESCRIPTION:
___ Fire ___ Explosion ___ Air Rel ___ Spill ___ MVA ___ Derailment ___ Smoke/Dust
___ Odors ___ Sewage ___ NJPDES ___ Noise ___ Illegal Dumping ___ Wildlife
___ Equip Start-up/Shutdown, Equip Fail/Upset, etc.
X Other (specify) UNDER GROUND TANK FAILED LEAK RATE TEST.
Injuries (Y/N/U) Public Exposure (Y/N/U)
Facility Evacuation (Y/N/U) Police at Scene (Y/N/U)
Contamination of ___ Air X Land ___ Water Assistance Requested (Y/N/U)
Potable Water Source (Y/N/U) Wind Direction/Speed /
Receiving Water Precipitation (rain/snow)
Location Type: ___ Residential X Industrial ___ Rural ___ Sensitive Population (Hosp.,School,Nurs. Home)

STATUS AT INCIDENT SCENE TEST SHOWED LEAK RATE IN ESSENCE OF PERMISSABLE LIMIT . LEAK RATE WAS .1 GALLONS PER HOUR (PERMISSABLE) .05 GALLONS PER HOUR. MAY MAY NOT BE TANK, BUT PIPING SYSTEM WILL ISOLATE TANK TO CONFIRM.

RESPONSIBLE PARTY: X Known ___ Suspected ___ Unknown
Company Name: AMERICAN CYANAMID Phone
Contact Title
Street: TREMLEY POINT ROAD
City: LINDEN County: UNION State: NJ Zip Code

OFFICIALS NOTIFIED (Name/Title):

NJSP:	/	Phone	Date/Time /	(T/M)
Local Health	MRS. DARRAR / LINDEN HD	Phone 486-3800	Date/Time 0511 / 1448	(T/M)
Local Munic:	/	Phone	Date/Time /	(T/M)
USEPA:	/	Phone	Date/Time /	(T/M)

INCIDENT REFERRED TO:
___ DEQ ___ DWR ___ DSWM ___ DHSM X DHWM ___ DOH ___ DFG ___ DPF ___ DCJ ___ DCR
Region: ___ Northern X Metro ___ Central ___ Southern X ER1 ___ ER2

1. Name/Affil	PRIIT PALS / REG. 1	Phone	Date/Time 0511 / 1436	(T/M)
2. Name/Affil	BOB ZOLLMER / DHWM-M	Phone 669-3960	Date/Time 0511 / 1450	(T/M)
3. Name/Affil	/	Phone	Date/Time /	(T/M)

IMMEDIATE DEP RESPONSE (Y/N) [Emergency (Y/N) Enforcement (Y/N)]

COMMENTS NO BER RESPONSE AND HAND CARRIED TO DHWM-C FOR THEIR ACTION PER PRIIT PALS.

V-71

COPIES: White - Lead Agency Yellow - Comm. Center Pink - A310 Goldenrod - Other

87-07-27-09M

Form DEQ-023 A
3/87 RECEIVED-
TRENTON DISPATCH

TD LOG# 4584

JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIV. OF ENVIRONMENTAL QUALITY – BUR. OF COMMUNICATIONS AND SUPPORT SERVICES
Phone: 609-292-7172

1987 JUL 24 A 1:45

COMMUNICATIONS AND SUPPORT SERVICES

COMMUNICATIONS CENTER NOTIFICATION REPORT

CASE NO. 87 (Yr) - 07 (Mo) - 24 (Day) - 01:45 (Time)

DATE 07 (Mo) - 24 (Day) - 87 (Yr) REC'D BY Clugsten (Initials) REVIEWED BY 20-09-03

INCIDENT REPORT BY:
Name Dan Callahan Phone 201-862-6000
Street Tremly Point Road
City Linden Union State
Affiliation/Title American Cyanimid

INCIDENT LOCATION: ___ Transportation XX Facility ___ Other
Name (Site): American Cyanimid Phone 201-862-6000
Street Tremly Point Road
City Linden County Union State ___ Zip Code ___

Date of Incident: 07 (Mo) - 24 (Day) - 87 Time: 01:15

IDENTITY OF SUBSTANCE(S) SPILLED, RELEASED, ETC.: XX Known ___ Suspected ___ Unknown
Name of Substance(s) [Gas, Liquid, Solid]: Organic Hazardous Waste (D001)
CAS Number: ___
Amount Released/Spilled 100 lbs. Plus ___ Actual ___ Potential XXX Estimated
Substance Contained (Y/N/U)
Type of Release/Spill: XX Terminated ___ Continuous ___ Intermittent

Hazardous Material (Y/N)

NATURE OF INCIDENT: ___ Complaint XX [redacted] Notification ___ Emergency ___ Sub. 20

INCIDENT DESCRIPTION:
___ Fire ___ Explosion ___ Air Rel XX Spill ___ MVA ___ Derailment ___ Smoke/Dust
___ Odors ___ Sewage ___ NJPDES ___ Noise ___ Illegal Dumping ___ Wildlife
___ Equip Start-up/Shutdown, Equip Fail/Upset, etc.
___ Other (specify)

Injuries (Y/N/U) Public Exposure (Y/N/U)
Facility Evacuation (Y/N/U) Police at Scene (Y/N/U)
Contamination of ___ Air XX Land XX Water Assistance Requested (Y/N/U)
Potable Water Source (Y/N/U) Wind Direction/Speed ___ / ___
Receiving Water Arthur Kill Precipitation (rain/snow) ___
Location Type: ___ Residential XX Industrial ___ Rural ___ Sensitive Population (Hosp.,School,Nurs. Home)

STATUS AT INCIDENT SCENE A weld failure on an over head transfer line caused the spill. Material sprayed onto the ground and into the Arthur Kill. Plant personnel will do the clean up.

RESPONSIBLE PARTY: XX Known ___ Suspected ___ Unknown
Company Name American Cyanimid Phone 201-862-6000
Contact Dan Callahan Title ___
Street Tremly Point Road
City Linden County Union State ___ Zip Code ___

OFFICIALS NOTIFIED (Name/Title):
NJSP: Trooper Arthurs / N.J.SP Phone 609-882-2000 Date/Time 07/24 / 02:09 (T/M)
Local Health ___ / ___ Phone ___ Date/Time ___ / ___ (T/M)
Local Munic: ___ / ___ Phone ___ Date/Time ___ / ___ (T/M)
USEPA: Bob Harris / EPA Phone ___ Date/Time 07/24 / 02:00 (T/M)

INCIDENT REFERRED TO:
XX DEQ ___ DWR ___ DSWM ___ DHSM ___ DHWM ___ DOH ___ DFG ___ DPF ___ DCJ ___ DCR
Region: ___ Northern ___ Metro ___ Central ___ Southern XX ER1 ___ ER2
1. Name/Affil Chris Dwyer / ER/1 Phone 201-928-5927 Date/Time 07/24 / 01:59 (T/M)
2. Name/Affil ___ / ___ Phone ___ Date/Time ___ / ___ (T/M)
3. Name/Affil ___ / ___ Phone ___ Date/Time ___ / ___ (T/M)

IMMEDIATE DEP RESPONSE (Y/N) [Emergency (Y/N) Enforcement (Y/N)]

COMMENTS 02:12 Disp. 19 Linden FD called in same incident.
02:25 Officer Allison Linden Police Dept. called same incident in.
02:34 P O McGeever U.S.C.G same incident.
Trenton Dispatch will telefax to DHWM-M and Div. FG&W.

V-72

White - Lead Agency Yellow - Comm. Center Pink - A310 Goldenrod - Other

ADM-012

MEMO

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO FILE

FROM CLARE P. SULLIVAN, HSMS IV, BUREAU OF PLANNING AND ASSESSMENT DATE

SUBJECT AMERICAN CYANAMID, LINDEN

The following spill reports and violations were obtained from the files of the Middlesex County Health Department, Air Pollution Program.

1. June 11, 1980
American Cyanamid was issued a Notice of Prosecution for the use of Tanks TA-40, TA-41, and TA-42 without conforming to all conditions and provisions of the permit, as well as a Notice of Prosecution for the installation and use, without obtaining a permit, of a storage tank.

2. June 20, 1980
Numerous odor complaints were received from residents of Staten Island, N.Y. An investigation revealed the odors were as the result of a leaking pump on Tank TA-2.

3. March 25, 1982
2130 pounds (150 gallons) of 77% sulfuric acid was discharged to a gravel covered area surrounding Tank V-19 due to a check valve malfunction. The spill was nuetralized with water and sodium carbonate.

4. July 21, 1982
A Notice of Prosecution was issued to Cyanamid for the installation and operation of three (3) feed tanks (144B, 146B, and 148B) without obtaining a permit.

5. July 27 and 28, 1982
The Middlesex County Health Department and New York Department of Environmental Conservation investigated a series of garlic/onion odor complaints believed to be originating from the Warners Plant. The source of these odors was believed to be a leaking gasket occuring during transfer operations.

6. February 2, 1983
Middlesex County Health Department issued a Notice of Violation regarding the number two flare at Building 69 due to the emissions of hydrogen sulfide. Extensive odor complaints were received from Roselle, Linden, Rahway, and Colonia.

7. January 4, 1984
Cyanamid was issued a Notice of Prosecution for fugitive emissions of dimethylphosphorochloridothionate from Tank TA-140-11.

8. February 15, 1985
Cyanamid was issued a Field Record of Violation due to the operation of an unlit flare thereby causing the release of approximately eighty (80) pounds of hydrogen sulfide to the atmosphere.

9. June 6, 1986
A chemical fire (type unknown) resulted in a plume which extended south to Carteret and resulted in numerous odor complaints.

X-73

The following spill reports and violations were obtained from files of the Middlesex County Health Department, Hazardous Materials Program.

1. November 15, 1983
   The overheating of Reactor 150-4, which is located in Building 123, caused a rupture disc to burst causing the release of 500 gallons of Methyl Bis Acrylamide (MBA) to the atmosphere. MBA is a final product whose constituents are sulfuric acid, para formaldehyde and acrylonitrile. The product was released as a mist which settled nearby and was absorbed with sand and collected in drums.

2. September 2, 1986
   A 0955, 150 gallons of calcium cyanide powder was spilled in Building 47 during equipment removal proceedings. This spill was confined to the area of a chemical sewer. Air monitoring using Dregger tubes was undertaken by American Cyanamid and levels of 30 part per million (ppm) cyanide were measured inside the building and 2-4 ppm were measured outside. The area was evacuated and the material was drummed. At 1700 on the same day, the same type of spill, in a larger quantity (unknown amount), occurred causing the death of twenty (20) pigeons which were roosting in the building's rafters.

CS:mz

V-74

Form ADM-012

MEMO

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO FILE DATE

FROM CLARE P. SULLIVAN, HSMS IV, BUREAU OF PLANNING AND ASSESSMENT

SUBJECT AMERICAN CYANAMID SITE INSPECTION

On June 19, 1987 the writer, Debbie Mazur and Dennis Gray conducted a site inspection at American Cyanamid in Linden. Air monitoring equipment used by NJDEP included the Foxboro brand Organic Vapor Analyzer (OVA) and the HNu Photoionization Detector (Spans 9.8).

At 0830 we met American Cyanamid representatives Dan Callahan and Joel Jerome to inspect Cyanamid's Carteret Landfill. At the time of the inspection, monitoring wells were being installed in conjunction with their NJPDES permit. This landfill, which is the site of mud impounds, received wastes from the Alum production process until 1973 and the Yellow Prussiate Soda (YPS) process until 19/0. The total quantity received is unknown. Wastes were deposited via pipeline from the main facility. These impounds are estimated to be six (6) feet deep and cover a large portion of the 110 acre site. No significant readings were observed on either instrument at this landfill however, garlic odors were detected.

We next went to the Linden warehouse, which is currently undergoing ECRA review. This warehouse operates under a separate EPA ID number from the main facility. At a sewer near the former pilot plant building, a reading of 280 parts per million (ppm) as methane and 40 ppm as benzene were observed on the OVA and HNu respectively. No further significant readings were detected at this location.

The Linden landfill is located adjacent to the warehouse facility. Atop this landfill, there were areas which were void of vegetation. Mr. Callahan requested that we do not probe on the landfill itself. No significant readings were detected in areas surrounding the landfill. However, several conduits were observed which led from the landfill and went under the road and slurry wall to discharge points in a drainage ditch and Piles Creek. At the base of one such conduit, a milky white discoloration of the drainage ditch was observed. A garlic odor and a fertilizer odor were noted around a monitoring well installed at the northeast corner of the landfill.

Dan Callahan and the NJDEP representatives next went to the main facility. According to Mr. Callahan, Cyanamid purchased the property from the Ammo-Phos Corporation, who had been in operation at this location since the 1870's, and utilized existing buildings and operations. Current products manufactured are Malathion, surfactants, and mining products. The entire portion of the plant to the northeast of the main building is inactive at this time. The manufacture of Cygon ceased in 1985, PAM manufacture ceased in 1985 and the manufacture of sulfuric acid ceased in 1986. At the time of the inspection, demolition of the sulfuric acid plant was taking place. Presently, the only structures which house manufacturing operations are Buildings 45, 69 and 132.

The entire facility was asphalt covered, therefore no soil gas readings were obtained. There were odors present throughout the facility particularly in the area of Building 69, an odor which Mr. Callahan identified as phosphorus pentasulfide (P_2S_5). Also present throughout the facility was a garlic odor.

Attachment W

Building 76, the former Alum plant, is where hazardous wastes are currently stored. NJDEP, Bureau of Hazardous Waste Engineering has approved the closure of this building and the transfer of these operations to Building 47, as indicated in the company's Part B application. However, the company has decided not to move operations to Building 47 and is in the process of deciding on another location.

Building 76 was observed to be in extremely poor condition, with holes in the roof and large sections of the walls rusted away. Drums were stored on pallets, however, there was large amounts of standing water on the floor. No form of secondary containment was observed. During the inspection, there was no evidence of release from any of the drums.

Storage and treatment of hazardous wastes take place in Tanks TA-3 and TA-5 which are located on piers extending over the Arthur Kill. There was no evidence of release from either tank. According to Mr. Callahan, additional curbing has been added around Tank TA-3 to provide additional containment capacity.

Tanks TA-4 and TA-6 are presently empty but will not be removed at this time.

CS:mz

W2

ADM-012

MEMO

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO FILE

FROM CLARE P. SULLIVAN, HSMS III, BUREAU OF PLANNING AND ASSESSMENT DATE

SUBJECT AMERICAN CYANAMID, LINDEN, UNION COUNTY

On June 21, 1987 the writer spoke with a representative from the controller's office at the Elizabethtown Water Company regarding the four wells noted on the survey of water withdrawal points located within five miles of the American Cyanamid Facility. These four wells are out of service due to the poor water quality. They would only be put into service again in an extreme water emergency.

The writer than contacted Mr. Holnick, Assistant Superintendent of the Rahway Water Department. The five wells noted in the above mentioned survey are used for potable water which is pumped to the water distribution system which serves the City of Rahway.

CS:mz

Attachment X

LEGEND

WATER SUPPLY

- AREA SERVED BY PRIVATE WATER SERVICE COMPANIES
- AREA SERVED BY REGIONALLY OWNED WATER SERVICE COMPANIES
- AREA SERVED BY MUNICIPALLY OWNED WATER SERVICE COMPANIES
- AREA NOT PRESENTLY SERVED BY WATER SERVICE
- PUBLIC SUPPLY WELLS
- WATER MAIN ACROSS HIGHWAY FOR FUTURE USE
- SURFACE WATER INTAKE
- —W— MAJOR WATER MAINS

SEWAGE, LANDFILL

- AREA SERVED BY PUBLIC SEWAGE SERVICE
- AREA NOT PRESENTLY SERVED BY SEWAGE SERVICE
- SANITARY LANDFILLS
- SEWAGE TREATMENT PLANTS (CAPACITY <0.3mgd)
- SEWAGE TREATMENT PLANTS (CAPACITY ≥0.3mgd)
- —S— MAJOR SEWAGE TRANSMISSION LINES

DRAINAGE BASIN

- DRAINAGE BASIN BOUNDARY
- RIVER BASIN BOUNDARY
- HUDSON DRAINAGE BASIN NAME
- STREAMS AND RIVERS
- FLOOD PRONE AREAS

POPULATION

- COUNTY BOUNDARY
- MUNICIPAL BOUNDARY
- ( ) POPULATION DENSITY IN PERSONS PER SQUARE MILE
- [ ] AREA IN SQUARE MILES
- % PERCENT AREA OF MUNICIPALITY ON BLOCK
- MARKET ROADS
- BUILT UP AREAS
- STATE BOUNDARY

A. Elizabeth, Roselle

B. Arthur Kill-Morses Creek, Rahway, Elizabeth

C. 1. Cranford = Non-recording temperature and precipitation gauges
Springfield - Recording precipitation gauge

2.

Map No.	Location	Period of Record
68	Elizabeth River at Nye Ave., Irvington	7/23/38
69	Elizabeth River at Lyons Ave., Irvington	7/23/38
70	Elizabeth River at York Ave., Irvington	7/23/38
71	Elizabeth River at Chancellor Ave.,Irvington	7/23/38
73	West Branch Rahway River at Millburn	1938,1940-1950
74	Rahway River near Springfield	1938-

Water Quality Standards: (explained in Atlas Sheet description)
FW2 except where classified FW3

D. Brunswick Formation (Trb), Basalt Flows (Trbs)

E. 1. Physiographic Province: Piedmont
Subdivision: Triassic Lowlands
Major Topographic Features: Wisconsin Terminal Moraine, Red Sandstone Plain
Elevations (ft.above sea level): ridges 500, valleys 50
Relief (ft.): 450

2. a. Normal Year: 47"
Dry Year: 39"
Wet Year: 55"
b. January: 32°F
July: 74°F
c. 242 days. Last killing frost: 4/20; first killing frost: 10/20

3. a. About 75% is urban or suburban. Areas of Clark, Cranford, Elizabeth, Hillside, Irvington, Millburn, Springfield, Union, Westfield are included.
b. Agricultural production is not a significant land use.
c. About 15% covered by oak forest. Forested areas primarily within the Watchung Reservation, South Mountain Reservation, and Rahway River Park System.
e. Traprock from quarries in Springfield.
d. Garden State Parkway, U.S.22, N.J.28, N.J.24, and N.J.527.
Railroads - Lehigh Valley, Penn Central, Central Railroad of New Jersey, Erie-Lackawanna, Rahway Valley

F. Essex County:
South Mountain Reservation
Union County:
Lenape Park
Rahway River Parkway
Galloping Hill Park and Golf Course
Warinanco Park
Short Hills Water Company:
Private Watershed

H. First Presbyterian Congregation of Connecticut Farms, Union

I. Water Well Records

Location	Owner	Year Drilled	Screen Setting or Depth of Casing	Total Depth	g/m Yield	Formation
26-21-131	City of Orange	1960	75	75	No test	Q
26-21-138	Twp. of Millburn	1967	83	300	214	Trb
26-21-151	Millburn Springfield Co.	1956	37	645	75	Trbs-Trb
26-21-155	Short Hills Water Co.			84	677	Q
26-21-159	"			76	690	"
26-21-167	Hudson Mfg.	1966	80	210	60	Trb
26-21-175	Baltrusal Golf Club			288	32	"
26-21-177	"			515	94	"
26-21-229	Maplewood Country Club	1963	54	298	488	"
26-21-246	Elizabethtown Water Co.			400	93	"
26-21-247	"			130	400	"
26-21-268	Voorhees & Son			220	126	"
26-21-275	Bardy Farms	1955	30	450	150	"
26-21-289	Interchemical Corp.			349	200	"
26-21-294	Ansco	1949	60	385	200	"
26-21-352	Olympic Park			300	420	"
26-21-364	Irvington, City of			452	45	"
26-21-391	Bennet Oil Co.			298	100+	"
26-21-395	Hatfield Cable & Wire Co.			380	150	"
26-21-397	Cooper Alloy Foundry Co.			325	95	"
26-21-399	Atlas Tool Co.	1959	51	300	165	"
26-21-419	Prince & Ganska Farm			255	275	"
26-21-448	"	1954	58	420	300	"
26-21-451	Howard Johnson's Rest.			200	110	"
26-21-461	Potter Engineering			70	180	Q
26-41-463	Accurate Bushing Co.	1974	135	250	165	Trb
26-21-484	Plainfield-Union Water Co.			250	160	"
26-21-491	Elizabethtown Water Co.	1965	123-1/2	300	400	"
26-21-521	Kratt, Wm. & Co.			345	210	"
26-21-527	Pyro-Plastics			344	250	"
26-21-533	Food Fair Stores, Inc.	1955	27'9"	485	110	"
26-21-538	Union Co. Park Commission			84	350	Q
26-21-566	Sucad, Inc.			235	70	Trb
26-21-573	Plainfield-Union Water Co.	1955	181'10"	522	448	"
26-21-586	Rotary Pen Co.	1962	43.5	405	120	"
26-21-589	"	1963	47	402	165	"
26-21-591	White Laboratories, Inc.			470	530	"
26-21-627	Garden State Bowling Alley	1958	41	425	250	"
26-21-659	Progressive Products			150	198	"
26-21-663	Elizabethtown Water Co.			400	525	"
26-21-666	Schering Corp.	1955	50	475	550	"
26-21-742	Diamond Expansion Bolt Co.	1963	51	260	300	"
26-21-745	Circle Plastics Co.	1962	40	302	250	"
26-21-751	Aeolian Co.			136	175	"
26-21-761	Lampert Dairy Farms, Inc.	1967	23/52	270	.6	"
26-21-798	Fibro Corp.	1957	67	250	75	"
26-21-827	Gibson Associates	1956	32'4"	271	274	"
26-21-834	Plainfield-Union Water Co.	1957	36'8"	509	457	"

6-41

26-21-838	All Disc Records	1963	36	300	215	Trb
26-21-867	Food Fair Stores, Inc.			304	150	"
26-21-881	Benderson Development, Inc.	1963	21'8"	300	383	"
26-21-916	National Color Laboratory	1964	41.5	282	239	"
26-21-935	Leland Tube Co.	1965	33	500	100	"
26-21-964	Lampert Dairy Farms, Inc.	1959	62.5	803	72	"
26-21-995	Eastern Packing Co.			400	100	"

J. Geodetic Control Survey monuments described
Index Maps 25,26; adjacent Index Maps 30,31

A. Elizabeth

B. Arthur Kill-Elizabeth, Elizabeth Channel, Morses Creek; Passaic-Lower Passaic

C. 1. Newark WSO AP - Detailed meteorologic data

2.

Map No.	Location	Period of Record
67	Elizabeth River at Irvington	1931-1938
68	Elizabeth River at Nye Ave., Irvington	7/23/38
72	Elizabeth River at Elizabeth	1921-

3.

262	Passaic River at Harrison	1967-1971
272	Elizabeth River at Morris Ave., Elizabeth	1964-

Water Quality Standards: (explained in Atlas Sheet description)
FW3, TW2 except where classified TW3

D. Brunswick Formation (Trb), Stockton Formation (Trs), Diabase (Trdb)

E. 1. Physiographic Province: Piedmont
Subdivision: Triassic Lowlands
Major Topographic Features: Wisconsin Terminal Moraine, Red Sandstone Plain, Hackensack Meadows, Newark Bay, Palisades Ridge
Elevations (ft.above sea level): ridges 300, valleys 0
Relief (ft.): 200

2. a. Normal Year: 44"
Dry Year: 36"
Wet Year: 53"

b. January: 32°F
July: 74°F

c. 243 days. Last killing frost: 4/15; first killing frost 10/20

F. Essex County:
Weequahic Park
Union County:
Elizabeth River Park
Warinanco Park

H. Boxwood Hall/Boudinot Mansion, Elizabeth (State Owened)