02-9007-15-SI
REV. NO.

FINAL DRAFT
SITE INSPECTION REPORT
PERK CHEMICAL COMPANY, INC.
ELIZABETH, NEW JERSEY

PREPARED UNDER

TECHNICAL DIRECTIVE DOCUMENT NO. 02-9007-15
CONTRACT NO. 68-01-7346

FOR THE

ENVIRONMENTAL SERVICES DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

MARCH 29, 1991

NUS CORPORATION
SUPERFUND DIVISION

SUBMITTED BY:

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252153

SITE SUMMARY AND RECOMMENDATIONS

Perk Chemical Co., Inc. is located at 217 South First Street in Elizabeth, Union County, New Jersey. The facility is situated on 2.03 acres in an industrial/manufacturing area. The nearest residence is approximately 400 feet from the site. Figures 1 and 2 provide a site location map and site map, respectively. Perk Chemical began operations in 1962 and was originally owned by Ray Rothschild and Norman Cohen. In September 1985, Cycle-Chem, Inc. purchased the company. The current owner and parent company to Cycle-Chem is Witte-Chase Environmental Resources. At the present time Cycle-Chem bulks and stores hazardous waste chemicals at the site under a New Jersey Department of Environmental Protection (NJDEP) Hazardous Waste Facility permit. Clean Venture, a sister company, is the transporter of these wastes.

Perk Chemical was originally engaged in the transportation, storage, processing, blending, and distribution of virgin and waste chemicals. Approximately 80 percent of the production consisted of chlorinated solvent recovery and distribution. The remaining 20 percent was comprised of waste storage and shipping. Before the site was paved in 1982, there were various spills documented by the NJDEP. Drum storage was on the bare soil and many of the documented spills involved the release of contaminants onto the soil. NJDEP reports dated from March 1979 to December 1980 also indicate poor housekeeping practices which included deteriorated and leaking drums and non-segregation of waste types. Along with paving of the site a 4- to 6-inch curb surrounding the perimeter of active areas was constructed. Flood control devices have also been installed as part of a U.S. Army Corp of Engineers Flood Control project, to protect against a once in 140-year flood.

Cycle-Chem is no longer engaged in chemical processing. The company is now strictly a treatment, storage, and disposal facility (TSDF) operating under a Temporary Operating Authorization (TOA). The distillation/processing plant was shut down in February 1989. Two production wells, formerly used for cooling water, have been filled in and State certified to be inactive and closed since 1989. Most of the property is used for drum storage. There are two buildings on the South First Street side of the facility; an office building and a processing building. The office building has three adjoining trailers, one of which serves as a laboratory. The processing building is no longer in use. Two tanks are on site, both are reportedly empty, clean and awaiting removal. One, a 12,000-gallon vertical tank situated in the eastern corner was used to store trichloroethylene or perchloroethylene. This tank is surrounded by a berm. The other is a 15,000-gallon horizontal tank located in the northern corner of the facility and was used to store 1,1,1-trichloroethane. Storage and transportation is currently in tank trailers. Approximately 3,600 55-gallon drums and five 550-gallon temporary storage containers are also used to store chemicals at the facility.

During the on-site reconnaissance conducted by NUS Corp. Region 2 FIT on January 24, 1991, housekeeping practices were observed to be good. Drums were properly labeled, segregated by

SITE SUMMARY AND RECOMMENDATIONS (Cont'd)

type, and stored in an orderly manner. The site was observed to be completely paved; however, it was also observed that there were cracks in the pavement. There are no monitoring wells present on-site. The 4- to 6-inch concrete curb was observed surrounding all active storage areas, thereby preventing off-site migration of surface runoff to surrounding properties and preventing surface runoff from entering the flood control structures.

A release of contaminants to groundwater is suspected based on past housekeeping practices and prior to paving the site in 1982. Groundwater within 4 miles of the site is used for industrial purposes only. A release of contaminants to the Elizabeth River is suspected via surface runoff from the site to storm drains in the street that discharged to the river prior to 1982. Surface water is not used as a drinking water source within 15 miles downstream of the site. Based on past housekeeping practices at the site, a release to air is also suspected. There is a documented incident of worker exposure to air contaminants in March 1980, and drums were documented to be deteriorated and leaking. Based on present site conditions, threats of a release of contaminants to groundwater, surface water, and air have been eliminated. The site is presently inspected once every two weeks by NJDEP.

The Perk Chemical Co. site is given a recommendation of **NO FURTHER REMEDIAL ACTION PLANNED (NFRAP)**. This recommendation is based on no drinking water wells within a 4-mile radius of the site, no surface drinking water intakes within 15 miles downstream of the site, no sensitive environments or fisheries are suspected of being within contaminated boundaries of the site, and there presently is no threat of a release of contaminants to the air from the site.

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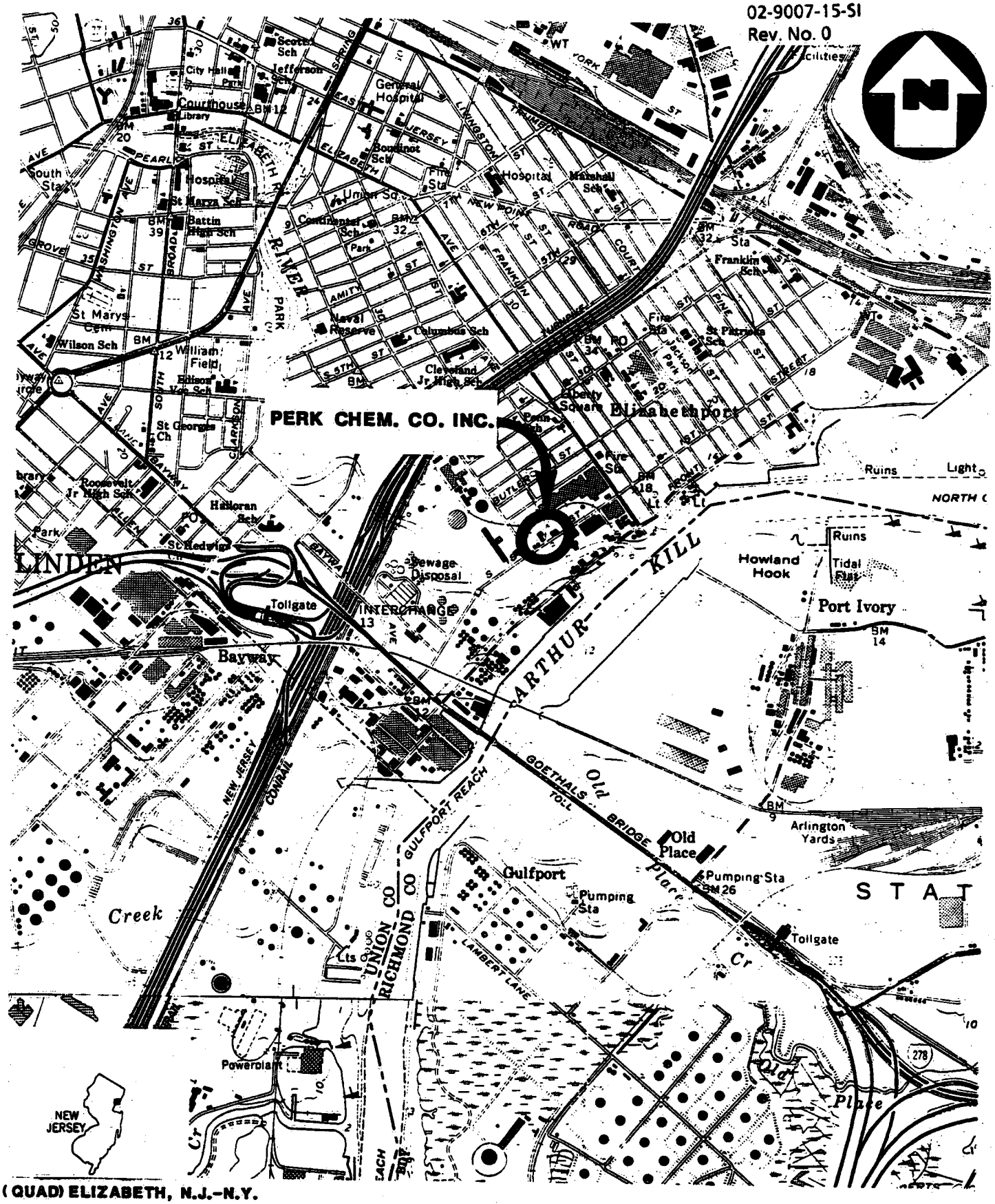

(QUAD) ELIZABETH, N.J.-N.Y.

SITE LOCATION MAP

FIGURE 1

PERK CHEM. CO. INC., ELIZABETH, N.J.

SCALE : 1" = 2000'

NUS CORPORATION

SITE ASSESSMENT REPORT: SITE INSPECTION

PART I: SITE INFORMATION

1. Site Name/Alias Perk Chem Co., Inc.

   Street 217 South First Street

   City Elizabeth State NJ Zip 07206

2. County Union County Code 039 Cong. Dist. 07

3 EPA ID No. NJD002200046

4. Block No. 2 Lot No. 865 and part of 74

5. Latitude 40° 38' 41" Longitude 74° 11' 46"

   USGS Quad. Elizabeth, NJ-NY

6. Owner Witte-Chase Environmental Resources Tel. No. 201-355-5800

   Street 201-207 South First Street

   City Elizabeth State NJ Zip 07206

7. Operator Cycle-Chem Inc. Tel. No. 201-355-5800

   Street 217 South First Street

   City Elizabeth State NJ Zip 07206

8. Type of Ownership

   ☒ Private ☐ Federal ☐ State
   ☐ County ☐ Municipal ☐ Unknown ☐ Other _____

9. Owner/Operator Notification on File

   ☒ RCRA 3001 Date 6/17/87 ☐ CERCLA 103c Date _____
   ☐ None ☐ Unknown

10. Permit Information

Permit	Permit No.	Date Issued	Expiration Date	Comments
New Jersey Department of Environmental Protection, (NJDEP) Hazardous Waste Facility	2004E2HP01	12/14/88	12/14/93	

10. **Permit Information**

Permit	Permit No.	Date Issued	Expiration Date	Comments
NJDEP Collector/Hauler	S-2841			

11. **Site Status**

☒ Active ☐ Inactive ☐ Unknown

12. **Years of Operation** 1962 to Present

13. **Identify the types of waste sources (e.g., landfill, surface impoundment, piles, stained soil, above- or below-ground tanks or containers, land treatment, etc.) on site. Initiate as many waste unit numbers as needed to identify all waste sources on site.**

(a) **Waste Sources**

Waste Unit No.	Waste Source Type	Facility Name for Unit
1	Drums	Drums
2	Tanks	Tanks/Tank Trailers
etc.	Spills	Spills

(b) **Other Areas of Concern**

Identify any miscellaneous spills, dumping, etc. on site; describe the materials and identify their locations on site.

Ref. Nos. 1, 5, 6, 38, 39

14. **Information available from**

Contact Amy Brochu Agency U.S. EPA Tel. No. (201) 906-6802

Preparer Josephine Brown Agency NUS Corp. Region 2 FIT Date March 29, 1991

PART II: WASTE SOURCE INFORMATION

For each of the waste units identified in Part I, complete the following items.

Waste Unit 1 - Drums

Source Type

	Landfill		Contaminated Soil
	Surface Impoundment		Pile
X	Drums		Land Treatment
	Tanks/Containers		Other

Description:

Perk Chemical Co., Inc. began operations in 1962. The facility was engaged in the transportation, storage, processing, blending, and distribution of virgin and waste chemicals. Waste chemicals were received and stored in either drums or tank trailers. Depending on the type of substance, the chemicals were either processed in the distillation plant, sold to others for direct use, blended with other chemicals or solidified for shipment to a disposal facility. Perk Chemical Company was purchased by Cycle-Chem, Inc. in September 1985. As of February 1989 Cycle-Chem eliminated the solvent recovery process and began to only bulk and store the chemicals. The entire facility was paved with concrete in 1982. The pavement has a minimum thickness of 6 inches. Prior to the construction of the pavement drums were stored directly on soil. Various spills and leaks onto the soil from the drums have been reported. At the time of the on-site reconnaissance by NUS Corp. Region 2 FIT, the drums were observed to be segregated by waste type, correctly labeled and stored in an orderly manner. Reports by the New Jersey Department of Environmental Protection (NJDEP) indicate poor housekeeping practices in the past.

Hazardous Waste Quantity

The facility is permitted to store a volume of 215,000 gallons of hazardous wastes in either 55-gallon drums and/or other containers approved by the United States Department of Transportation. The maximum number of drums allowed is 4,200. During an on-site reconnaissance by NUS Corp. Region 2 FIT, there were approximately 3,600 55-gallon drums on site with a total volume of 180,000 gallons. Five other 550-gallons containers were also on site. The combined capacity of these containers is 2,750 gallons.

Hazardous Substances/Physical State

Perk Chemical (Cycle-Chem) is permitted to store all wastes except pesticides, PCBs above 50 parts per million (ppm), and materials requiring special handling. The facility handles both liquid and solid wastes. Types of materials have included virgin and spent chlorinated hydrocarbons, non-halogenated solvents, paint waste solvents, halogenated still bottoms, non-flammable and flammable organic liquids, waste oils, acids, and alkaline solutions. The facility also handles oil contaminated soils, water treatable wastes, cement solvents, and fuel blendables. For a complete listing of permitted waste types, see Reference Number 1, pages 17-29 and Reference Number 2, pages 18-25.

Ref. Nos. 1-4, 6

PART II: WASTE SOURCE INFORMATION

For each of the waste units identified in Part I, complete the following items.

Waste Unit 2 - Tanks/Tank Trailers

Source Type

____	Landfill	____	Contaminated Soil
____	Surface Impoundment	____	Pile
____	Drums	____	Land Treatment
X	Tanks/Containers	____	Other

Description:

At the present time there are two aboveground tanks at the facility. Both are reportedly empty, clean and awaiting removal. One is a 12,000-gallon steel vertical tank located in the eastern corner of the property and is enclosed by a 3-foot 6-inch dike. The second tank is a 15,000-gallon stainless steel horizontal tank situated in the northern end of the site. Two additional 12,000-gallon tanks have been removed from service.

Tank trailers are currently used for bulk liquid storage and transport. Three tank trailers are permitted for intermittent temporary storage of liquid hazardous wastes; however, during the the on-site reconnaissance several others were observed. The Hazardous Waste Facility permit also allows for solid waste from the solidification process to be stored in dump trailers or roll-off containers.

Hazardous Waste Quantity

The total hazardous waste quantity of all tanks which were in service at Perk Chemical is 51,000 gallons. The total maximum volume allowed in tank trailers is 18,500 gallons with individual capacities of 8,000, 5,500 and 5,000 gallons. Three dump trailers or roll-off containers with an approximate volume of 14,000 gallons are also permitted.

Hazardous Substances/Physical State

The aboveground storage tanks have reportedly been used to store virgin or reclaimed materials only. These tanks are no longer in service. Two have already been removed and two will be removed in the near future. The 15,000-gallon horizontal tank was used to store 1,1,1-trichloroethane. The 12,000-gallon vertical tank was used to store either perchloroethylene or trichloroethylene. The tank trailers transport and/or store bulk liquid waste chemicals which are listed in the Hazardous Waste Facility Permit, Condition 15b. Dump trailers and roll-off containers are no longer present on site, since the facility is no longer engaged in the solidification process. Types of hazardous substances permitted in the solidification process can be found in Reference Number 1, pages 25-29.

Ref. Nos. 1-4, 6

PART II: WASTE SOURCE INFORMATION

For each of the waste units identified in Part I, complete the following items.

Waste Unit 3 - Spills

Source Type

	Landfill		Contaminated Soil
	Surface Impoundment		Pile
	Drums		Land Treatment
	Tanks/Containers	X	Other

Description:

Various spills have been documented during NJDEP inspections between March 1979 and December 1980. In addition a report indicates a leak of 1,1,1-trichloroethylene occurred in 1987. Most of these spills occurred in the drum storage area on the bare soil before installation of the concrete pavement. Exact volumes and substance are unknown. In addition to these spills there is a high potential for unreported releases of hazardous substances onto the soil during the 20 years prior to paving. For a complete list of these documented spills refer to reference number 4, page 6.

Hazardous Waste Quantity

The exact quantity of hazardous wastes associated with the spills is unknown. Only two reports indicate the quantity of material released. The total of both of these spills is 12,015 gallons.

Hazardous Substances/Physical State

The specific waste substances include 12,000 gallons of perchloroethylene and 15 gallons of 1,1,1-trichloroethylene. Additional chemicals may include those stored in the drum storage area where most of the spills occurred. These substances include, but are not limited to the following: perchloroethylene, trichloroethylene, methylene chloride, carbon tetrachloride, cyclohexanone and butyl cellusolve.

Ref. No. 4-9

PART III: SAMPLING RESULTS

EXISTING ANALYTICAL DATA

There has been no known environmental sampling at Perk Chemical Co., Inc. Other then some limited drum sampling there are no existing data available.

SITE INSPECTION RESULTS

NUS Corporation Region 2 FIT did not conduct sampling at the Perk Chemical Company site.

PART IV: HAZARD ASSESSMENT

GROUNDWATER ROUTE

1. **Describe the likelihood of a release of contaminant(s) to the groundwater as follows: observed release, suspected release, or none. Identify contaminants detected or suspected and provide a rationale for attributing them to the site. For observed release, define the supporting analytical evidence.**

   A release of contaminants to groundwater is suspected due to various reported spills and poor housekeeping practices prior to paving of the site in 1982. Excavations made on the Perk Chemical Company site during construction of a flood control project were observed to contain multi-colored leachate on the walls and partially filling the excavations. The leachate was also noted to have an odor (Ref. No. 9 pp. 28). Contaminants suspected of being released may include perchloroethylene, trichloroethylene, methylene chloride, carbon tetrachloride, cyclohexanone and butyl cellusolve. There are no groundwater monitoring wells on site; therefore, a release of contaminants to groundwater cannot be documented.

   Ref. Nos. 4-9

2. **Describe the aquifer of concern; include information such as depth, thickness, geologic composition, areas of karst terrain, permeability, overlying strata, confining layers, interconnections, discontinuities, depth to water table, groundwater flow direction.**

   The aquifer of concern is the Passaic Formation, which was formerly known as the Brunswick Formation. The Passaic Formation is the most extensive and important aquifer in Union County. It is located from 15 to 30 feet below the ground surface in the vicinity of the site. The bedrock is composed of thin-bedded shales, mudstones, and sandstones which range in thickness from 6,000 to 8,000 feet. Overyling a majority of the Passaic Formation is a stratum of unconsolidated glacial sediments, consisting of clay, silt, sand, gravel, and boulders. The permeability of the glacial till and silty clay is 10^{-5} to 10^{-7} cm/sec. The thickness of these sediments generally range from 0 to 200 feet. Groundwater within the aquifer of concern occurs along joints and fracture zones which decrease in volume with depth. The permeability of fractured shale is 10^{-3} to 10^{-5} cm/sec. Groundwater in the area exists under confined and unconfined conditions resulting in both artesian and water table conditions, respectively. The confining layers consist of silt and clay beds. There is direct regional hydraulic connection between the glacial deposits and the bedrock, and also with adjacent surface water. The local groundwater flow is presumed to be southwest toward the Elizabeth River.

   Ref. Nos. 10, 11, 12, 14

3. **Is a designated well head protection area within 4 miles of the site?**

   There is no designated well head protection area within 4 miles of the site.

   Ref. No. 17

4. **What is the depth from the lowest point of waste disposal/storage to the highest seasonal level of the saturated zone of the aquifer of concern?**

   The depth from the lowest point of waste disposal/storage (spills) to the highest seasonal level of the saturated zone of the aquifer of concern is 1 to 15 feet. According to soil borings and test pits for a nearby site groundwater has been observed to exist from 1 to 15 feet.

   Ref. No. 12

5. **What is the permeability value of the least permeable continuous intervening stratum between the ground surface and the aquifer of concern?**

The permeability value for the silts and clays overlying the Brunswick Shale is 10^{-5} to 10^{-7} cm/sec.

Ref. No. 10

6. **What is the net precipitation for the area?**

The net precipitation for the area is approximately 18 inches.

Ref. No. 18

7. **What is the distance to and depth of the nearest well that is currently used for drinking purposes?**

There are no known wells currently used for drinking purposes within a 4-mile radius of the site. All wells used for potable water supply within 4 miles of the site are reported to be closed.

Ref. Nos. 15, 20, 21, 24-31

8. **If a release to groundwater is observed or suspected, determine the number of people that obtain drinking water from wells that are documented or suspected to be located within the contamination boundary of the release.**

A release of contaminants to groundwater is suspected; however, there are no people known to be served by groundwater within 4 miles of the site. The city of Elizabeth is served by Elizabethtown Water Company and the Newark Water Company. Elizabethtown Water Company receives its water from the Raritan River and Newark Water Company receives its water from the Pequanock Water Shed.

Ref. Nos. 19-26, 29, 30, 31

9. **Identify the population served by wells located within 4 miles of the site that draw from the aquifer of concern.**

Distance	Population
0 - ¼ mi	0
>¼ - ½ mi	0
>½ - 1 mi	0
>1 - 2 mi	0
>2 - 3 mi	0
>3 - 4 mi	0

Ref. Nos. 19-26, 29, 30, 31

10. **Identify uses of groundwater within 4 miles of the site (i.e. private drinking source, municipal source, commercial, irrigation, unuseable).**

Groundwater within 4 miles of the site is used for commercial and industrial purposes.

Ref. Nos. 19-26, 29, 30, 31

SURFACE WATER ROUTE

11. Describe the likelihood of a release of contaminant(s) to surface water as follows: observed release, suspected release, or none. Identify contaminants detected or suspected and provide a rationale for attributing them to the site. For observed release, define the supporting analytical evidence.

Based on past housekeeping practices and site conditions, there is a suspected release of contaminants to surface water. On July 25, 1979, approximately 11,300 gallons of perchloroethylene leaked through a break in a storage tank weld. Sewer catch basins were sandbagged and a vacuum tanker was used to retrieve the liquid; however, contaminants may have reached the Elizabeth River through an 18-inch storm sewer outlet. A release of contaminants to surface water from present site conditions and practices is not suspected. There is no potential for surface runoff to leave the site due to a 4- to 6-inch curb surrounding the perimeter of the active waste storage areas.

Ref. Nos. 4, p. 4; 5; 6; 7

12. Identify the nearest downslope surface water. If possible, include a description of possible surface drainage patterns from the site.

The nearest downslope surface water is the Elizabeth River 0.25 mile southeast of the site, which empties into the Arthur Kill 2.5 miles downstream. The possibility of overland migration is minimal due to a 4- to 6-inch concrete curb surrounding the active areas of the facility. There are no storm drains on site; however, storm drains located on South First Street do discharge to the Elizabeth River.

Ref. Nos. 5, 6, 13, 23

13. What is the distance to the nearest downslope surface water? Measure the distance along a course that runoff can be expected to follow.

The distance to the Elizabeth River is less than 0.25 mile.

Ref. Nos. 5, 13

14. Determine the floodplain that the site is located within.

Portions of the site are located in the 100-year flood hazard boundry of the Elizabeth River. As part of a U.S. Army Corp of Engineers Flood Control Project for the Elizabeth River Basin, concrete floodwalls and steel floodgates were constructed along the north and Third Avenue sides of the site, and a concrete retaining wall on a portion of the South First Street side. The remainder of the site is protected against flood waters by 3-foot 6-inch high concrete block walls and 6-foot high dikes. These flood control devices were designed to protect against a once in 140-year flood.

Ref. Nos. 3, p. 11; 5; 32

15. What is the 2-year 24-hour rainfall?

The 2-year 24-hour rainfall is approximately 3.5 inches.

Ref. No. 37

16. **Identify drinking water intakes in surface waters within 15 miles downstream of the site. For each intake identify: the distance from the point of surface water entry, population served, and stream flow at the intake location.**

There are no drinking water intakes in surface waters within 15 miles downstream of the site.

Ref. Nos. 15, 19, 22, 24, 26, 27, 28

17. **Identify fisheries that exist within 15 miles downstream of the point of surface water entry. For each fishery specify the following information:**

Fishery	Water Body Type	Flow (cfs)
Raritan River	Large River	10,000
Raritan Bay	Bay	N/A

Ref. Nos. 33, 34

18. **Identify sensitive environments that exist within 15 miles of the point of surface water entry. For each sensitive environment specify the following:**

Environment	Water Body Type	Flow (cfs)
Shooters Island	Bay	N/A
Pralls Island	Large River	10,000
Island of Meadows	Large River	10,000
Wetlands	Large River	10,000

According to the Department of Environmental Conservation, Region 2 Fish and Wildlife Section, Pralls Island, Shooters Island, and Island of Meadows are classified by the State of New York as significant habitats for nesting by colonial birds. Shooters Island is upstream of the site but is identified because of the tidal nature of the Arthur Kill.

Ref. Nos. 13, 34, 35, 36

19. **If a release to surface water is observed or suspected, identify any intakes, fisheries, and sensitive environments from question Nos. 16-18 that are or may be located within the contamination boundary of the release.**

There are no intakes, fisheries, or sensitive environments believed to be located within the suspected contamination boundary of the release.

Ref. Nos. 13, 15, 19, 22, 24, 26, 27, 28, 33, 34, 35, 36

SOIL EXPOSURE PATHWAY

20. **Determine the number of people that occupy residences or attend school or day care on or within 200 feet of the site property.**

There are no people who occupy residences or attend school or day care on or within 200 feet of the site property.

Ref. Nos. 6, 13

21. **Determine the number of people that work on or within 200 feet of the site property.**

The number of people that work on the site property is 42. The total number of people that work on or within 200 feet of the site property is estimated to be between 50 and 100.

Ref. No. 5

22. **Identify terrestrial sensitive environments on or within 200 feet of the site property.**

There are no terrestrial sensitive environments on or within 200 feet of the site property.

Ref. Nos. 13, 35, 36

AIR ROUTE

23. **Describe the likelihood of release of contaminants to air as follows: observed release, suspected release, or none. Identify contaminants detected or suspected and provide a rationale for attributing them to the site. For observed release define the supporting analytical evidence.**

Based on past practices at the site, particularly prior to 1980, a release to air is suspected. Perk Chemical has been cited in the past for emission of organic vapors to the atmosphere without a permit. Numerous spills have been documented at the site and drums were observed to be in poor and leaking conditions. There was at least one report of worker exposure to air contaminants on March 13, 1980. Based on present site conditions, a release to air is not suspected. During the NUS Corp. Region 2 FIT on-site reconnaissance, housekeeping was observed to be good and all drums were in good condition, properly segregated, stacked and labelled. The site is presently inspected once every two weeks by NJDEP.

Ref. Nos. 4, pp. 5-7; 6, 9

24. **Determine populations that reside within 4 miles of the site.**

Distance	Population
0 - ¼ mi	865
>¼ - ½ mi	3,282
>½ - 1 mi	21,248
>1 - 2 mi	42,153
>2 - 3 mi	86,788
>3 - 4 mi	120,393

Ref. No. 16

25. **Identify sensitive environments and wetlands acreage within ½ mile of the site.**

There are approximately 5 acres of wetlands within 0.5 mile south of the site.

Ref. Nos. 13, 36

26. If a release to air is observed or suspected, determine the number of people that reside or are suspected to reside within the area of air contamination from the release.

Based on present site conditions a release to air is not suspected. The number of people that reside within 0.25 mile of the site is 865.

Ref. Nos. 6, 16

27. If a release to air is observed or suspected, identify any sensitive environments, listed in question No. 25, that are or may be located within the area of air contamination from the release.

Based on present site conditions a release to air is not suspected.

Ref. Nos. 6, 13, 35, 36

ATTACHMENT 1

EXHIBIT A

PHOTOGRAPH LOG

PERK CHEM CO., INC.
ELIZABETH, NEW JERSEY

ON-SITE RECONNAISSANCE: JANUARY 24, 1991

PERK CHEM CO., INC.
ELIZABETH, NEW JERSEY
JANUARY 24, 1991

PHOTOGRAPH INDEX

ALL PHOTOGRAPHS WERE TAKEN BY JOSEPHINE BROWN

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1P-2	Photo looking south at opening in berm.	1234
1P-3	Photo looking southwest at standing water.	1236
1P-4	Photo looking east at former well location.	1240
1P-5	Photo looking northwest at flood control structure.	1241
1P-6	Photo looking southwest at valve in trench, cracked concrete and electronic security device.	1244
1P-7	Photo looking southwest at locked side gate and raised concrete curb.	1246
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2P-6	Photo looking southwest at drums in staging area.	1322
2P-7	Photo looking southwest at drums.	1322
2P-8	Photo looking southeast at empty tank formerly used for storage of perchloroethylene.	1325
2P-9	Photo looking southeast at empty tank formerly used for storage of perchloroethylene.	1330
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PERK CHEM CO., INC.
ELIZABETH, NEW JERSEY
JANUARY 24, 1991

PHOTOGRAPH INDEX
(cont'd)

Photo Number	Description	Time
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3P-1	Photo looking northeast showing properties and land uses in the area.	1345
3P-2	Photo looking northwest at hole in the wall of the processing plant.	1348
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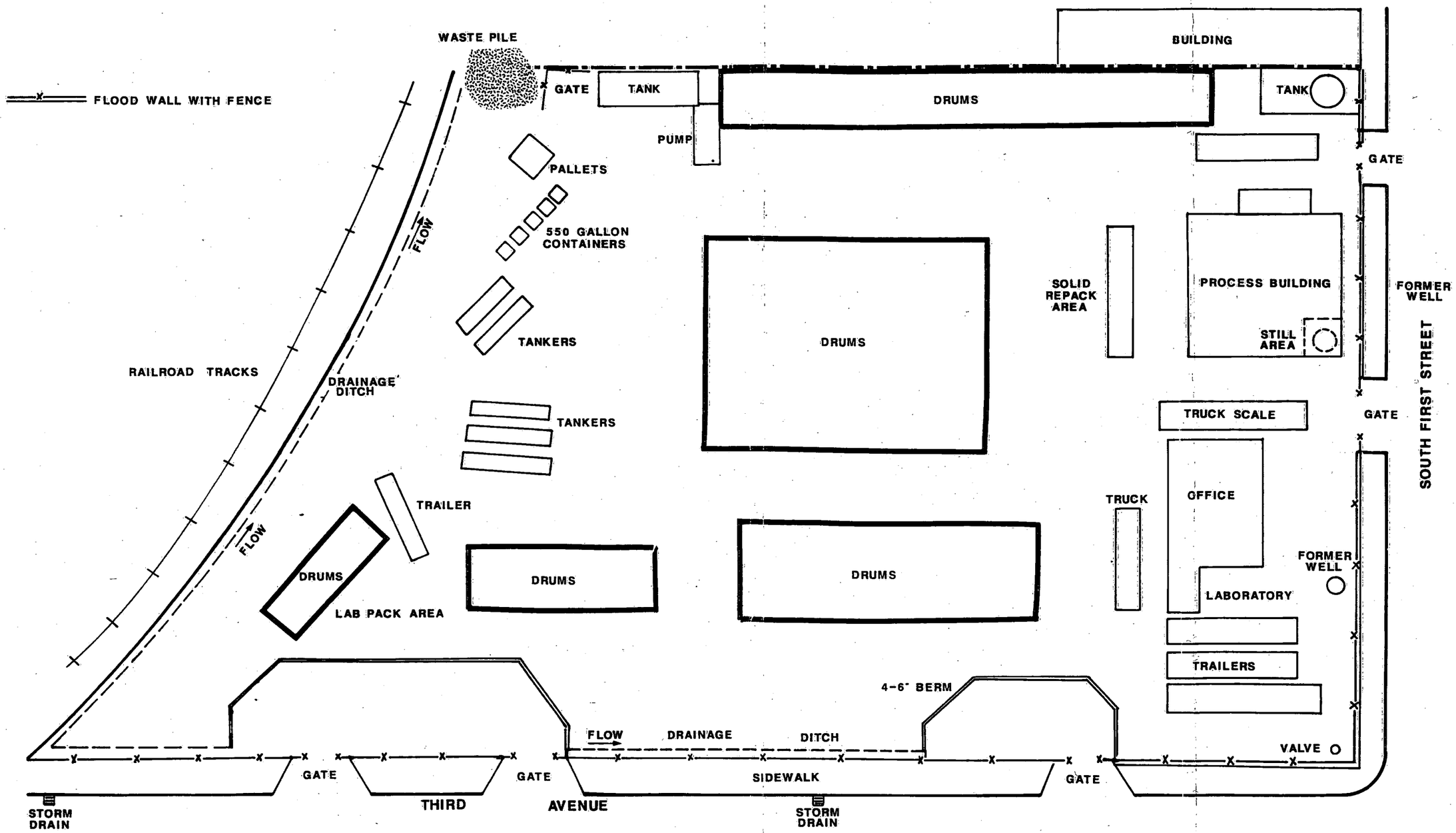

SITE MAP

PERK CHEMICAL CO. INC., ELIZABETH, N.J.

NOT TO SCALE

FIGURE 2

NUS CORPORATION

1P-1 January 24, 1991 1230
Photo looking northwest at the front entrance of Cycle-Chem (Perk Chem) on South First Street.

1P-2 January 24, 1991 1234
Photo looking south at opening in berm.

PERK CHEM CO., INC., ELIZABETH, NEW JERSEY

1P-3 January 24, 1991 1236
Photo looking southwest at standing water.

1P-4 January 24, 1991 1240
Photo looking east at former well location.

1P-5 January 24, 1991
Photo looking northwest at flood control structure. 1241

1P-6 January 24, 1991
Photo looking southwest at valve in trench, cracked concrete and electronic security device. 1244

PERK CHEM CO., INC., ELIZABETH, NEW JERSEY

1P-7 January 24, 1991
Photo looking southwest at locked side gate and raised concrete curb.

1246

PERK CHEM CO., INC., ELIZABETH, NEW JERSEY

1P-8,9

January 24, 1991
Photos looking northwest to northeast at drum storage area.

1253

PERK CHEM CO., INC., ELIZABETH, NEW JERSEY

1P-10,11

January 24, 1991
Photos looking northwest to northeast at drum storage area.

1253

1P-12 January 24, 1991 1259
Photo looking southeast at tank trailers and drums.

1P-13 January 24, 1991 1301
Photo looking southwest at drum storage area.

2P-1 January 24, 1991 1301
Photo looking north at cracked pavement, and offsite at houses and parking lot.

2P-2 January 24, 1991 1312
Photo looking northeast at waste pile and northern gate.

2P-3 January 24, 1991 1315
Photo looking northeast at empty trichloroethylene tank behind wooden pallets.

2P-4 January 24, 1991 1315
Photo looking southwest at five 550 gallon tanks.

2P-5 January 24, 1991 1318
Photo looking southeast at tank.

2P-6 January 24, 1991 1322
Photo looking southwest at drums in staging area.

PERK CHEM CO., INC., ELIZABETH, NEW JERSEY

2P-7 January 24, 1991 1322
Photo looking southwest at drums.

2P-8 January 24, 1991 1325
Photo looking southeast at empty tank formerly used for storage of perchloroethylene.

PERK CHEM CO., INC., ELIZABETH, NEW JERSEY

2P-9 January 24, 1991 1330
Photo looking southeast at empty tank formerly used for storage of perchloroethylene.

2P-10 January 24, 1991 1332
Photo looking southeast at locked gate on South First Street.

2P-11 January 24, 1991 1336
Photo looking south at former processing building.

2P-12 January 24, 1991 1338
Photo looking northeast at location of second well.

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2P-13 January 24, 1991 1340
Photo looking east showing properties and land uses in the area.

2P-14 January 24, 1991 1341
Photo looking southeast showing properties and land uses in the area.

PERK CHEM CO., INC., ELIZABETH, NEW JERSEY

3P-1 Janaury 24, 1991 1345
Photo looking northeast showing properties and land uses in the area.

3P-2 January 24, 1991 1348
Photo looking northwest at hole in the wall of the processing plant.

PERK CHEM CO., INC., ELIZABETH, NEW JERSEY

3P-3 January 24, 1991 1348
Photo looking northeast at manhole covers on South First Street.

3P-4 January 24, 1991 1355
Photo looking southeast at sewer drain on Third Avenue.

PERK CHEM CO., INC., ELIZABETH, NEW JERSEY

3P-5 January 24, 1991 1359
Photo looking east at sewer drain and rear of facility on Third Avenue.

ATTACHMENT 2

REFERENCES

1. New Jersey Department of Environmental Protection (NJDEP), Hazardous Waste Facility Permit, Cycle-Chem, Inc., Facility Permit No. 2004E2HP01, December 14, 1988.

2. Letter from Thomas Sherman, Chief, NJDEP, Bureau of Hazardous Waste Engineering, to William Molnar, Regulatory Compliance Officer, Cycle-Chem, Inc., Re: Modification to Hazardous Waste Facility Permit. December 28, 1990.

3. RCRA Permit Application for Perk Chemical Co., Inc., prepared by Storch Engineers, Revised by Kenneth L. Woodruff and Associates, January 1986.

4. Site Assessment Summary, Perk Chemical Company, Inc., prepared by Joseph A. DeSantis, NJDEP, Bureau of Planning and Assessment, date unknown.

5. U.S. Environmental Protection Agency (EPA) Preliminary Assessment Report, Perk Chemical Company, Inc., prepared by NJDEP, Division of Hazardous Waste Management, Bureau of Planning and Assessment, December 28, 1988.

6. Field Notebook No.0669, Perk Chemical Co. Inc., TDD No. 02-9007-15, On-Site Reconnaissance, NUS Corp. Region 2 FIT, Edison, New Jersey, January 24, 1991.

7. Letter from Ray Rothschild, President, Perk Chemical Company, Inc., to New Jersey Department of Environmental Protection, Re: Report on chemical spill. September 24, 1979.

8. Communications Center Notification Report, New Jersey Department of Environmental Protection, Division of Environmental Quality - Bureau of Communications and Support Services, December 1, 1987.

9. Project Note: To Perk Chem Co. Inc. file, from J. Brown, NUS Corp., March 18, 1991. Subject: NJDEP Inspection Reports.

10. Freeze, Allan R. and John A. Cherry. Groundwater New Jersey, Prentice Hall, 1979.

11. Nemickas, B., Geology and Ground-Water Resources of Union County, New Jersey, U.S. Geological Survey, Water Resources Investigations 76-73. June 1976.

12. Project Note: To Perk Chem Co., Inc. from J. Brown, NUS Corp., March 27, 1991. Subject: Soil Profile.

13. Four Mile Vicinity Map for Perk Chemical Co., Inc., based on U.S. Department of the Interior, Geological Survey Topographical Maps, 7.5 Minute Series, "Elizabeth Quadrangle, NY-NJ", 1966, revised 1981, "Perth Amboy Quadrangle, NJ-NY" 1956, revised 1981, "Roselle Quadrangle, NJ "1955, revised 1981.

14. Miller, D.W. The New Jersey Ground-Water Situation, Geraghty and Miller Special Report, August 1979.

15. NJDEP, Division of Water Resources, Water Supply Overlay Sheet No. 26, 1976.

16. General Sciences Corporation, Graphical Exposure Modeling System (GEMS). Landover, Maryland, 1986.

17. Letter from Maureen Krudner, Geologist, Ground Water Management Section, U.S.EPA, to Rich Feinberg, NUS Corporation, Re: NJ Wellhead Protection Plan. March 14, 1991.

REFERENCES (CONT'D)

18. Hazard Ranking System (HRS) Field Testing Project net precipitation data. May 1988.

19. Telecon Note: Conversation between Arlene Potts, Elizabethtown Water Company, and Richard Settino, NUS Corp., May 10, 1990. Re: Water supply.

20. Telecon Note: Conversation between Richard A. Sadowski, Elizabethtown Water Company, and W.J. Foss, NUS Corp., February 14, 1990. Re: Groundwater use.

21. Telecon Note: Conversation between Joan Moran, City of Elizabeth Water Utility, and W.J. Foss, NUS Corp., February 14, 1990. Re: Groundwater use.

22. Telecon Note: Conversation between Lisa Balboa, City of Elizabeth Water Department, and Richard Settino, NUS Corp, May 1, 1990. Re: Water supply.

23. Telecon Note: Conversation between Ray Zwarcyz, City of Elizabeth Public Works Department, Engineering Department, and Richard Settino, NUS Corp, May 22, 1990. Re: Storm drain information.

24. Telecon Note: Conversation between Receptionist at New York City Water Department, and Angie Perez, NUS Corp., May 4, 1990. Re: Water supply.

25. Telecon Note: Conversation between John Tarasuk, City of Newark Water Department, and Richard Settino, NUS Corp., May 10, 1990. Re: Water supply.

26. Telecon Note: Conversation between Ed Tencza, Bayonne Water Department, and J. Brown, NUS Corp., November 14, 1990. Re: Water supply.

27. Telecon Note: Conversation between South Amboy Water Department, and J. Brown, NUS Corp., November 19, 1990. Re: Surface water use.

28. Telecon Note: Conversation between Middlesex Water Company, and J. Brown, NUS Corp., November 19, 1990. Re: Water supply.

29. Telecon Note: Conversation between Pat Iacono, Certified Processing Corp., and Richard Settino, NUS Corp., May 7, 1990. Re: Well use information.

30. Telecon Note: Conversation between Jon Haila, Hayward Industries, and W.J. Foss, NUS Corp., March 9, 1990. Re: Well use information.

31. Telecon Note: Conversation between Tony Martin, Secur-Image Technologies, Inc., and Richard Settino, NUS Corp., May 7, 1990. Re: Well use information.

32. Telecon Note: Conversation between Mrs. McKenna, Engineering Department, City Hall of Elizabeth, and J. Brown, NUS Corp., November 15, 1990. Re: Floodplain information.

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33. Telecon Note: Conversation between Bob Soldwedel, Division of Fish, Game and Wildlife, and J. Brown, NUS Corp., November 19, 1990. Re: Fisheries information.

34. Telecon Note: Conversation between Joseph Pane, Fish and Wildlife Section, Region 2, Deptartment of Environmental Conservation, LIC, NY, and John Rieckhoff, NUS Corp., February 5, 1991. Re: Fish and Wildlife information.

35. Letter from Clifford G. Day, Supervisor, United States Department of the Interior, Fish and Wildlife Service, to Josephine Brown, NUS Corp. February 1, 1991.

36. National Wetlands Inventory, U.S. Department of the Interior, Fish and Wildlife Service, "Elizabeth Quadrangle, N.J." Overlay, based on aerial photography dated October 29, 1976.

37. 2-year 24-hour Rainfall Map, Rain Frequency Atlas of the United States, U.S. Government Printing Office, Washington D.C.

38. U.S. EPA Superfund Program, Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), p. 197, March 1991.

39. Congressional Districts, Election Division, New Jersey Department of State, Trenton, N.J., January 1987.

REFERENCE NO. 1

RECEIVED DEC 16 1988

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. 08625-0028
(609)633-1408

Michele M. Putnam
Deputy Director
Hazardous Waste Operations

Lance R. Miller
Deputy Director
Responsible Party Remedial Action

Hazardous Waste Facility Permit

Under the provisions of N.J.S.A. 13:1E-1 et seq. known as the Solid Waste Management Act, this permit is hereby issued to:

Cycle-Chem, Inc.
217 South First Street
Elizabeth, New Jersey 07206

For the Purpose of Operating a:	Hazardous Waste Storage and Treatment Facility and Transfer Station
on Lot No.:	865 and part of 74
Block No.:	2
in the Municipality of:	Elizabeth
County:	Union
Under Facility Permit No.:	2004E2HP01

This permit is subject to compliance with all conditions specified herein and all regulations promulgated by the Department of Environmental Protection.

This permit shall not prejudice any claim the State may have to Riparian land nor does it permit the registrant to fill or alter, or allow to be filled or altered, in any way, lands that are deemed to be Riparian, Wetlands, stream encroachment or flood plains, or within the Coastal Area Facility Review Act (CAFRA) zone or allow the discharge of pollutants to waters of this State without first acquiring the necessary grants, permits, or approvals from the Department of Environmental Protection or the U.S. Environmental Protection Agency.

December 14, 1988
Date

Frank Coolick
Acting Assistant Director

December 14, 1993
Expiration Date

This permit, along with the referenced engineering plans and report herein specified, shall constitute the sole Hazardous Waste Facility Permit for Cycle-Chem, Inc., Elizabeth City, Union County. Any Registration or approval previously issued by the Division of Hazardous Waste Management or its predecessor agencies is hereby superseded.

This permit is issued and is effective for a term of five years. This permit is not transferable to any person. The Department will require revocation and reissuance of the permit in accordance with N.J.A.C. 7:26-1 et seq. whenever ownership or operational control of a facility changes. The permittee need not comply with the conditions of this permit to the extent and for the duration such noncompliance is authorized by an emergency permit (N.J.A.C. 7:26-12.9).

The permit is conditioned upon compliance with and implementation of the following:

1) Duty to Comply

The permittee shall comply with all conditions of this Permit. Any permit non-compliance constitutes a violation of the Solid Waste Management Act (N.J.S.A. 13:1E-1.1 et seq.) and is grounds for enforcement action; for permit termination, revocation and reissuance, modification; or for denial of a permit renewal application.

Any generator, hauler, facility operator or any other person who discharges or is responsible for discharge of hazardous waste on land or in the waters of the State of New Jersey or at any place other than an approved hazardous waste facility shall be subject to penalties pursuant to N.J.S.A. 58:10A-1 et seq.

2) Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall submit a complete application for a new permit at least 180 days prior to permit expiration.

3) Duty to Halt or Reduce Activity

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

4) Duty to Mitigate

The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from non-compliance with this permit.

5) Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain the facility and systems of treatment and control, and related appurtenances, which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this permit.

The permittee shall establish transfer operation work order form for the facility. A transfer operation work order form shall be completed for each transfer of waste performed. The form should include the specific identification of the wastes to be transferred and specific identification of the container, tank, or tank truck or trailer to which the waste is to be transferred, as well as any specific operating procedures to be employed during the transfer operation. If a discrepancy occurs in any of these areas, then the transfer operator shall obtain written approval from supervisory personnel before continuing the transfer operation.

6) Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated non-compliance, does not stay any permit condition.

7) Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege.

8) Duty to Provide Information

The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit.

9) Right of Entry

The permittee shall allow an authorized representative of the Department upon presentation of credentials to:

a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records shall be kept under the conditions of this permit;

b) Have access to and copy any records that should be kept under the conditions of this permit;

c) Inspect any facilities, equipment (including monitoring control equipment), practices, or operations regulated or required under this permit; and

d) Sample or monitor for the purposes of assuring permit compliance or as otherwise authorized by the Solid Waste Management Act (N.J.S.A. 13:1E-1.1 et seq.), any substances at any location.

10) Monitoring and Records

Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

a) The permittee shall retain records of all monitoring information, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of the Department at any time.

b) Records of monitoring information shall include:

1) the date, exact place, and time of sampling or measurement;
2) the individual(s) who performed the sampling or measurement;
3) the date(s) analyses were performed;
4) the individual(s) who performed the analyses;
5) the analytical techniques or methods used; and
6) the results of each analysis.

11) Signatory Requirement

All applications, reports, or information submitted to the Department shall be signed and certified pursuant to N.J.A.C. 7:26-12.2(1).

12) Reporting Requirements

a) Upon issuance of this permit, the permittee shall comply with the procedure outlined in Conditions 12(a)1 and 12(a)2 below. Failure to comply with the aforementioned procedure shall be cause for immediate revocation of this permit:

1) The permittee shall submit to the Department, by certified mail or hand delivery, within ninety (90) days of the effective date of this permit, a letter signed by

the permittee and a registered professional engineer stating that the facility layout and design is in compliance with the approved Engineering Plans and Reports (see Condition 13). This shall include the submittal of a revised set of engineering drawings outlined in Condition 13 and the following:

a) A detailed drawing depicting the facility layout to be employed during the period of construction of the tanks, including the arrangement of containers to be stored in the temporary storage area (which shall include 30 inch aisle spaces), the area where the tank farm construction will take place, the three tank trailers, the dump trailers or roll-off containers, the office and laboratory trailers, and the traffic patterns for the tank trucks and construction equipment entering and leaving the facility.

b) A detailed drawing depicting the facility layout to be employed after the construction is finished including the proposed tank farm, the container storage area (which shall include 30 inch aisle spaces), the three tank trailers, the dump trailers or roll-off containers, office and laboratory trailers and the traffic patterns for the tank trucks entering and leaving the facility.

These drawings shall be signed and sealed by a registered professional engineer and;

2) The Department shall inspect the facility to determine whether or not it is in compliance with the designs set forth in the Engineering Plans and Reports. If within 15 days of the date of submission of the letter in Condition 12(a)(1) of this section, the permittee has not received from the Department the intent to inspect, prior inspection is waived and it is understood that the facility meets the design requirements. If the facility is not in compliance with the design, a schedule shall be submitted within thirty (30) days of the date of the Department's inspection outlining how the facility will be brought into compliance. The schedule shall be subject to the Department's approval.

b) <u>Planned Changes</u>

The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. The permittee shall obtain Departmental approval, prior to implementation, for any such alteration or addition subject to Departmental regulations or the conditions of this permit, including permit modification or permit revocation and reissuance, if necessary.

c) <u>Anticipated Noncompliance</u>

The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. Such advance notice shall not stay the applicability of said permit requirements or the applicability of Condition 1 of this permit, nor shall it relieve the permittee from the obligation to obtain all necessary Departmental approvals of such changes prior to implementation, including permit modification, permit revocation and reissuance, or issuance of an emergency permit, when necessary.

d) Transfer of Ownership or Operational Control

1) Permits issued pursuant to N.J.A.C. 7:26-12.1 et seq. are not transferable directly to a new owner or operator.

2) The permittee shall notify the Department at least 180 days in advance of any proposed change of ownership or operational control of a facility. The notice shall include:

i) A disclosure statement prepared by the prospective new permittee meeting the requirements of N.J.A.C. 7:26-1 et seq;

ii) A written agreement between the existing permittee and the proposed new permittee containing a specific future date for transfer of permit responsibilities coverage and liabilities between them;

iii) A demonstration that the financial responsibility requirements of N.J.A.C. 7:26-9.10 and N.J.A.C. 7:26-9.13 will be met by the proposed new permittee.

3) A new owner or operator may commence operations at the facility only after the existing permit has been revoked and reissued pursuant to N.J.A.C. 7:26-12.6(c).

4) The Department reserves the right to terminate the existing permit for cause pursuant to N.J.A.C. 7:26-12.7.

5) The permittee of records remains liable for ensuring compliance with all conditions of the permit unless and until the existing permit is reissued in the name of the new owner or operator.

e) Manifest Discrepancy - The following reports shall also be submitted:

1) If a discrepancy in a manifest is discovered, the permittee shall attempt to reconcile the discrepancy. Within one week, the permittee shall submit a letter report, including a copy of the manifest, to the Department. Manifest discrepancies are differences

between the quantity or type of hazardous waste designated on the manifest or shipping paper, and the quantity or type of hazardous waste a facility actually receives.

i) Discrepancies in quantity are:

(A) For bulk waste, variations greater than one percent in weight, and

(B) For batch waste, any variation in piece count, such as a discrepancy of one drum in a truckload.

ii) Discrepancies in type are differences which can be discovered by inspection or waste analysis, such as waste solvent substituted for waste acid, or toxic constituents not reported on the manifest or shipping paper.

2) An unmanifested waste report shall be submitted to the Department within 15 days of receipt of unmanifested waste.

f) <u>Annual Reports</u>

1) The permittee must prepare and submit two copies of a facility annual report to the Department as per N.J.A.C. 7:26-7.6(f)2 by March 1 of each year, covering the previous calendar year's hazardous waste facility activities.

2) The permittee shall comply with the following for tank shell thickness measurements report submittal:

i) Submit a test plan and schedule for shell thickness measurements for the distillation plant components listed in condition 14(a) of this permit, for Department review and approval within thirty (30) days of the effective date of this permit;

ii) Perform the tests for tank shell thickness measurements within nine (9) months after approval of the plans by the Department;

iii) Submit the test results for tank shell thickness to the Department within thirty (30) days after the testing dates;

iv) Repeat the approved tank shell thickness test plan annually and submit the test results to the Department within thirty (30) days after the testing dates;

v) Submit a test plan and schedule for shell thickness measurements for the twelve (12) new vertical tanks

listed in Condition 14(g) of this permit, for Department review and approval, at least six (6) months prior to the intended start of hazardous waste storage in said tanks;

vi) Perform the tests for tank shell thickness measurements on these tanks within the time frame to be specified in the Department approval of the plans; and

vii) Submit the test results and thereafter repeat the tank shell thickness testing annually, in conformance with the above items iii and iv of this condition.

viii) In the event the results of the tests for tank shell thickness indicate a shell thickness less than the minimum shell thickness specified in Conditions 14a and 14g, the permittee shall comply with the following:

(A) Provide immediately oral and written notification to the Department of the tank(s) failing the minimum shell thickness;

(B) Remove all waste from the tank to a permitted tank which meets the minimum shell thickness requirements;

(C) Refrain from adding any waste to the tank;

(D) Submit a corrective plan to the Department, within thirty (30) days from the date of oral notification, for Department review and written approval; and

(E) The company shall not use or close the tank without obtaining written approval from the Department.

g) <u>Discharge and Other Emergency Reporting</u>

The permittee shall report any noncompliance which may endanger human health or the environment. The following information shall be reported orally to the Department immediately after the permittee becomes aware of the circumstances by calling (609) 292-7172.

1) Information concerning release of any hazardous waste that may cause an endangerment to public drinking water supplies.

2) Any information of a release or discharge of hazardous waste, or a fire or explosion from a hazardous waste facility which could threaten the environment or human health outside the facility.

3) The description of the occurrence and its cause shall include:

i) Name, address, and telephone number of the owner or operator;

ii) Name, address, and telephone number of the facility;

iii) Date, time and type of incident;

iv) Name and quantity of material(s) involved;

v) The extent of injuries, if any;

vi) An assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and

vii) Estimated quantity and disposition of recovered material that resulted from the incident.

A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances to the address in Section (j) of this condition. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and time, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

h) Other Noncompliance

The permittee shall report all instances of noncompliance not reported under Section (c) or (g) of this Condition within 30 days of the time the permittee becomes aware of the noncompliance. The reports shall contain the information listed in Section (g) of this Condition.

i) Other Information

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

j) Department Address

All reports and submittals required by this permit are to be submitted to the Department of Environmental Protection at the following address:

Department of Environmental Protection
Division of Hazardous Waste Management
Chief, Bureau of Hazardous Waste Engineering
CN028
Trenton, New Jersey 08625

A copy of each such report and submittal shall also be sent to the Division of Hazardous Waste Management regional field office.

13) Referenced Engineering Plans and Reports

The permittee shall operate the facility in accordance with Title 7, Chapter 26 of the New Jersey Administrative Code and the following submissions:

a) Cycle-Chem, Inc. Part A and Part B permit application for a hazardous waste facility, certified June 17, 1987 by Paul Fleischmann, President.

b) Engineering design plans prepared by Byron B. Bradd, P.E., Drawings PCC-01, -02A, -03, -04, -05, -07, -10 and -15, all dated January 20, 1986, and PCC-14, dated August 15, 1986.

c) Engineering drawings titled "Gate Valve Installation", 1 of 2 and 2 of 2, prepared by Byron B. Bradd, P.E. and dated January 20, 1986.

d) Engineering drawings titled "Corrosive Waste Storage Area", 1 of 2 and 2 of 2, prepared by Byron B. Bradd, P.E. and dated August 16, 1986.

e) Engineering drawings PCC-1419-1000, 1001, 1002, 1003 and 1004 signed and sealed June 8, 1987 by John F. Shultis, P.E.

f) Engineering drawings PCC-35 titled "Pilot Mechanical Solidification Unit General Arrangement" prepared by Byron B. Bradd, P.E. and dated January 20, 1986.

14) Authorized Activity

a) Storage

1. The permittee is authorized to store hazardous waste in drums outdoors on the premises to a total maximum volume of 215,000 gallons (a maximum number of 4,200 x 55 gallon drums or the equivalent volume of other size U.S. Department of Transportation approved containers. The U.S.D.O.T. approved containers may be used to a maximum of 600 gallons per container. All drums and containers shall be arranged as shown on Drawing PCC-14, referenced in Condition 14(b) of this permit.

As the proposed tanks are installed, the maximum number of drums will decrease to (2,136 x 55 gallon drums or

the equivalent volume of other size USDOT approved containers) a maximum volume of 117,500 gallons total.

Containers shall be of materials compatible with the waste stored inside. Pavement of the storage area shall be at least 5" concrete and free of cracks and gaps and shall be sufficiently impervious to contain leaks, spills, and accumulated rainfall until contaminated liquids are detected and removed. The base shall have a permeability rating no greater than 10^{-7} centimeters per second, in addition to adequate structural integrity to withstand the maximum anticipated stress applied to the base due to activities or structures placed in the containment area.

The secondary containment shall surround the storage area and shall have at least 4" concrete curbing capable of collecting and holding spills, leaks and precipitation.

All hazardous waste shall be stored in containers that meet the requirements of N.J.A.C. 7:26-7.2 and managed in accordance with N.J.A.C. 7:26-9.4(d).

Acids and alkalis shall be stored in separate sections of the corrosive waste storage area. This storage area shall be lined with an acid-proof lining, diked and have a total capacity of 384 x 55 gallon containers and a maximum volume of 21,120 gallons. The maximum container storage volume for the acids and alkalis is included in the total container storage volume for the facility as referenced above. The storage of the acids and alkalis in this corrosive waste storage area may begin only after the construction in accordance with Condition 30 of this permit is completed and an approval is given from the Department.

2. <u>Proposed New Tanks</u>

The permittee will be authorized to store hazardous waste in 9 vertical tanks of 7,500 gallons capacity each and 3 vertical tanks of 10,000 gallons each (97,500 gallons total volume) and arranged as shown on Drawings PCC-1419-1000, 1001, 1002, 1003 and 1004 referenced in Condition 13(e) of this permit, subject to Department approval of final construction in accordance with Condition 30 of this permit. Tanks shall be of materials compatible with the waste stored inside. Pavement of the storage area shall be at least 5" concrete and free of cracks and gaps and shall be sufficiently impervious to contain leaks, spills, and accumulated rainfall until contaminated liquids are detected and removed. The base shall have a permeability rating no greater than 10^{-7} centimeters per second, in addition to adequate structural integrity to withstand the maximum anticipated stress applied to

the base due to activities or structures placed in the containment area. The secondary containment shall surround the storage area and shall have at least 2 ft. 6" concrete curbing capable of collecting and holding spills, leaks, and precipitation. The two 7,500-gallon tanks intended for acid solution service shall be constructed of stainless steel, or carbon steel lined with Carboline Carboglas R1601 SG. Other tanks, intended for flammable liquid, caustic solution or chlorinated solvent service, shall be constructed of carbon steel. The approved tanks are as follows:

Tank Number	Waste Types	Capacity (gallons)	Minimum Wall Thickness (inches)
1	Flammable Liquids	7,500	0.1875
2	Flammable Liquids	7,500	0.1875
3	Flammable Liquids	7,500	0.1875
4	Flammable Liquids	10,000	0.1875
5	Flammable Liquids	7,500	0.1875
6	Flammable Liquids	10,000	0.1875
7	Caustic Solutions	7,500	0.1875
8	Caustic Solutions	10,000	0.1875
9	Acid Solutions	7,500	0.1670
10	Chlorinated Solvents	7,500	0.1875
11	Acid Solutions	7,500	0.1670
12	Chlorinated Solvents	7,500	0.1875

Existing Mixing Vat

The permittee is authorized to store waste chlorinated hydrocarbons listed in Condition 15a of this permit, in

the 2,000 gallon indoor still mixing vat for distillation.

3. The permittee is authorized for the intermittent temporary storage of the liquid hazardous wastes listed in Condition 15b of this permit in three tank trailers of total capacity of 18,500 gallons, while full loads are assembled. Individual trailer capacities are 8,000, 5,500 and 5,000 gallons.

4. The permittee is authorized to accumulate solid hazardous wastes listed in Condition 15d of this permit in dump trailers or roll-offs containers to a maximum number of three (3) and of a maximum total capacity of 70 cubic yards (approximately 14,000 gallons).

5. Table of existing/proposed hazardous waste storage capacity at the facility.

Scott Flynn @ NJDEP 1/17/90

	(Gallons)	
	Existing	Proposed
Drums	215,000	117,500
Tanks	2,000	99,500
Tank trailer	18,500	18,500
Dump trailer/roll-off container	14,000	14,000
Total capacity	249,500	249,500

b) Distillation of Chlorinated Solvents

The permittee is authorized to operate a batch distillation plant for waste chlorinated hydrocarbons listed in Condition 15a of this permit, whose capacity is 2,000 gallons per batch. The components of the distillation plant are as follows:

Designation	Material of Construction	Minimum Wall Thickness, inches	Volume, Gallons
Mixing vat	carbon steel	0.167	2,000
Still Kettle	Monel-clad steel	0.300	3,000
Water Separator	Stainless Steel	0.071	42
Holding Tank	Stainless Steel	0.071	350
Tank A	Stainless Steel	0.115	1,500

Tank B	Stainless Steel	0.115	1,500
Filter 1 and 2	Carbon Steel	0.093	8 (2)
Drying Column	Carbon Steel	0.50	200
Carbon Column	Stainless Steel	0.09	175

c) The permittee is authorized to operate as a transfer station for drums of hazardous wastes listed in Condition 15 of this permit. Drums accepted for transfer only shall be manifested offsite without treatment to appropriate, authorized commercial hazardous waste storage, treatment or disposal facilities.

d) The permittee is authorized to solidify in drums with cement or equivalent materials, partly liquid slurries and sludges of the waste types listed in Condition 15d of this permit. The solidified wastes shall be either manifested off-site in their original drums to appropriate, authorized commercial hazardous waste storage, treatment or disposal facilities, or else bulked with other compatible solid hazardous wastes in accordance with Condition 14e of this permit.

Approval of this method of solidifying partly liquid wastes does not constitute a finding that the process achieves any chemical stabilization of the waste, or that the resulting solidified waste is eligible for disposal in any landfill. The permittee should be aware that Federal law (Section 3004(c)(1) of the Hazardous and Solid Waste Amendments of 1984 to the Resource Recovery and Conservation Act of 1976, 42 USC 6921 et seq.) prohibits the placement of bulk or non-containerized liquid hazardous waste or free liquids contained in hazardous waste (whether or not absorbents have been added) in any landfill.

e) The permittee is authorized to mix compatible solid hazardous wastes (using the compatibility test described in Condition 16b) of the waste types listed in Condition 15d of this permit and hazardous wastes solidified pursuant to Condition 14d of this permit in the dump trailers or roll-off containers listed in Condition 14(a)4 of this permit. The loaded dump trailers and roll-off containers shall be manifested off-site to appropriate authorized commercial hazardous waste storage, treatment or disposal facilities.

f) The permittee is authorized to blend compatible liquids (using the compatibility test described in Condition 16b) of the waste types specified in Condition 15b of this permit, in drums, tank trucks, or vertical tanks (subsequent to Department approval of the vertical tank construction in accordance with Condition 30 of this permit) designated for

the waste category involved (caustic solutions, acid solution, chlorinated solvents or flammable liquids). The blended liquids shall be manifested offsite to appropriate, authorized commercial hazardous waste storage, treatment or disposal facilities, except for blended chlorinated solvents of the waste types listed in Condition 15a of this permit, which may be processed in the on site distillation system.

g) The permittee is authorized to operate as a transfer station for Lab Pack wastes listed in Condition 15c. Lab Packs are small bottles, jars, jugs etc. of waste chemicals (i.e. reagents, process samples, run and QC samples, off-spec products etc.) segregated into compatible groups in accordance with EPA-600/2-80-076 and the compatibility test listed in Condition 16b. The Lab Packs shall arrive at the permittee's facility packaged unopened together with an inert sorbent such as vermiculite, in sealed openhead containers ranging in size from 5 gallons to 85 gallons having been packaged at the generator's site by chemists experienced in the identification, segregation and packaging of laboratory chemicals.

The permittee is authorized to repack from one overpack drum to another the bottles, jars, jugs, etc. that are determined compatible by the test described in Condition 16b. Filled overpack drums shall be manifested off-site to appropriate authorized treatment or disposal facilities. The repacking shall take place in the 45-foot box trailer described in the Part B permit application referenced in Condition 13a until the proposed canopy is constructed and approved by the Department in accordance with Condition 30, at which time the repacking shall be conducted under the canopy. No more than 10 overpack drums shall be opened in the repack area at any one time. All lab pack overpack drums opened for repacking operations shall be resealed and returned to the authorized storage area at the end of each day.

For lab pack liquid wastes of the types listed in both Conditions 15b and 15c, the permittee may open the individual bottles, jars, jugs, etc. and pour the contents into drums containing compatible wastes, provided compatibility has been confirmed by the testing described in Condition 16b. The emptied bottles, jars, jugs, etc. shall be crushed and accumulated in an authorized container for hazardous waste solids, which shall be manifested off-site to an appropriate authorized commercial hazardous waste storage, treatment or disposal facility.

h) The permittee is authorized to install a pilot unit for solidifying hazardous waste liquids or semi-solids from drums to make them acceptable to manifest to a secure landfill or hazardous waste incinerator. The proposed unit shall consist of a mixer, two charging hoppers and a discharge chute. Wastes to be solidified are listed in Condition 15d. Batches shall consist of 225 gallons per batch.

The date of start-up for this pilot unit shall be within one year of the date this permit becomes effective and the length of operation shall be six months from this date with the option of requesting an extension at the end of the fifth month. Fifteen days prior to the start of operation, the permittee shall notify the Bureau of Hazardous Waste Engineering, submit drawings of the pilot unit installation and an outline of the materials to be tested. If an extension is requested, the permittee shall submit a new outline of testing materials with proper justification for additional time. Fifteen days prior to completion of the pilot operation the permittee shall notify the Bureau of Hazardous Waste Engineering and thirty days after the operation is complete, the permittee shall submit a final report with the date of completion. All notifications shall be made to the address as noted in Condition 12j.

i) The permittee is authorized to install a pilot unit to separate the various components of dry cleaners' spent filter cartridges. The unit is intended to evaluate the feasibility of processing non-hazardous liquids and solids in small lab pack containers (for the non-hazardous wastes listed in Condition 15b(2) only) and also to investigate the recovery and recycle of metal and perhaps carbon, and the reduction of the overall volume of waste. The proposed unit shall consist of a feed hopper, a rotary shear shredder, a rotating screen trommel, and a conveyor belt.

The date of start-up for this pilot unit shall be within one year of the date this permit becomes effective and the length of operation shall be six months from this date with the option of requesting an extension at the end of the fifth month. Fifteen days prior to the start of operation, the permittee shall notify the Bureau of Hazardous Waste Engineering, submit drawings of the pilot unit installation and an outline of the materials to be tested. If an extension is requested, the permittee shall submit a new outline of testing materials with proper justification for additional time. Fifteen days prior to completion of the pilot operation the permittee shall notify the Bureau of Hazardous Waste Engineering and thirty days after the operation is complete, the permittee shall submit a final report with the date of completion. All notifications shall be made to the address as noted in Condition 12j.

The permittee may process small containers of halogenated solvents (less than 5 gallons) in this pilot unit.

j) The permittee is authorized to operate a drum crusher located at the north corner of the process building for hazardous waste drums which are empty in accordance with N.J.A.C. 7:26-8.4. Crushed drums shall be loaded directly into a shipping container or trailer as referenced in Condition 14(a)4 for shipment offsite. Drums that cannot be emptied or which contained wastes listed in N.J.A.C. 7:26-8.15 ("P numbers") shall be manifested offsite to an authorized

commercial hazardous waste storage, treatment or disposal facility.

k) The permittee is authorized to clean hazardous waste tank trailers and tanks (vertical tanks subsequent to Department approval of construction in accordance with Condition 30 of this permit) internally as may be necessary to avoid mixing incompatible wastes or to avoid contaminating wastes with hazardous materials with which they would otherwise not be contaminated. Cleaning shall be performed in accordance with the following publications:

American Petroleum Institute

(1) Cleaning Petroleum Storage Tanks, latest edition

(2) Cleaning Mobile Tanks in Flammable or Combustible Liquid Service, latest edition

l) The permittee is not authorized to store hazardous waste in the outdoor horizontal tanks, which are to be used for virgin or reclaimed materials conforming to the specifications of Condition 31 only.

m) Any changes or alterations to this authorized activity section must obtain prior approval from the Bureau of Hazardous Waste Engineering.

15) Permitted Waste Types

a) The permittee is authorized to accept the following chlorinated organic spent solvents for distillation at the facility:

NJDEP Hazardous Waste Number	Hazardous Waste
F001	The following spent halogenated solvents used in degreasing: Tetrachloroethylene Trichloroethylene Methylene chloride 1,1,1-Trichloroethane
F002	The following spent halogenated solvents: Tetrachloroethylene Trichloroethylene Methylene chloride 1,1,1-Trichloroethane

K028	Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane
K029	Waste from the production streams stripper in the production of 1,1,1-trichloroethane
K030	Column bottom or heavy ends from the combined production of trichloroethylene and perchloroethylene
U080	Methylene chloride
U210	Tetrachloroethylene
U226	1,1,1-Trichloroethane
U228	Trichloroethylene

b) 1. The permittee is authorized to store the following wastes in containers, vertical tanks and tank trailers:

NJDEP Hazardous Waste Number	Description
D001	ignitable, not otherwise classified
D002	corrosive, not otherwise classified
D003	reactive, not otherwise classified
D004	arsenic by EP test
D005	barium by EP test
D006	cadmium by EP test
D007	chromium by EP test
D008	lead by EP test
D009	mercury by EP test
D010	selenium by EP test
D011	silver by EP test
F001	The following spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-tri-chloroethane, carbon tetrachloride, and the chlorinated fluorocarbons; and sludges from the recovery of these solvents from degreasing operations.
F002	The following spent halogenated solvents: tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-tri-fluoroethane, o-dichlorobenzene, trichlorofluoromethane and the

still bottoms from the recovery of these solvents.

F003	The following spent non-halogenated solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; and the still bottoms from the recovery of these solvents.
F004	The following spent non-halogenated solvents: cresols and cresylic acid, nitrobenzene; and the still bottoms from the recovery of these solvents.
F005	The following spent non-halogenated solvents: toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, and the still bottoms from the recovery of these solvents.
F007	Spent plating bath solutions from electroplating operations (except for precious metals electroplating spent cyanide plating bath solutions).
F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process (except for precious metals electroplating spent stripping and cleaning bath solutions).
F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations (except for precious metal heat treating spent cyanide solutions from salt bath pot cleaning).
F015	Spent cyanide bath solutions from mineral metals recovery operations.
F028	Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Wastes Nos. F020, F021, F022, F023, F026 and F027.
X721	Waste automotive crankcase and lubricating oils from automotive

	service and gasoline stations, truck terminals, and garages.
X722	Waste oil and bottom sludge generated from tank cleanouts from residential/commercial fuel tanks.
X723	Waste oils and bottom sludge generated by gasoline stations when gasoline and oil tanks are tested, cleaned, or replaced.
X724	Waste petroleum oil generated when tank trucks or other vehicles or mobile vessels are cleaned, including, but not limited to, oily ballast water from product transport units or boats, barges, ships or other vessels.
X726	The following used and unused waste oils; metal working oils; turbine lubricating oils; diesel lubricating oils; and quenching oils.
K029	Waste from the production streams stripper in the production of 1,1,1-trichloroethane.
K030	Column bottoms or heavy ends from the combined production of trichloroethyleneand perchloroethylene.
K052	Tank bottoms (leaded) from the petroleum refining industry.
K095	Distillation bottoms from the production of 1,1,1-trichloroethane.
K096	Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane.
K100	Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.
K105	Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes.
K111	Product washwaters from the production of dinitrotoluene via nitration of toluene.

K112	Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene.
U001	Acetaldehyde
U002	Acetone
U003	Acetronitrile
U006	Acetyl chloride
U019	Benzene
U029	Methane, bromo-
U031	1-Butanol
U032	Chromic acid, calcium salt
U037	Benzene, chloro-
U043	Ethene, chloro-
U044	Chloroform
U045	Methane, chloro-
U051	Creosote
U052	Cresols and Cresylic acid
U056	Cyclohexane
U057	Cyclohexanone
U070	o-Dichlorobenzene
U071	m-Dichlorobenzene
U072	p-Dichlorobenzene
U074	1,4-Dichloro-2-butene
U075	Dichlorodifluoromethane
U076	Ethane, 1,1-dichloro-
U077	Ethane, 1,2-dichloro-
U078	Ethene, 1,1-dichloro-
U079	Ethene, trans-1, 1-dichloro-
U080	Methylene chloride
U083	1,2-Dichloropropane
U084	1,3-Dichloropropene
U107	Di-n-octylphthalate
U108	1,4-Diethylene dioxide
U112	Acetic acid, ethyl ester
U113	2-Propenoic acid, ethyl ester
U117	Ethyl ether
U121	Methane, trichlorofluoro-
U122	Formaldehyde
U123	Formic acid
U140	Isobutyl alcohol
U151	Mercury
U154	Methyl alcohol
U159	Methyl ethyl ketone
U161	Methyl isobutyl ketone
U162	Methyl methacrylate
U165	Naphthalene
U169	Nitrobenzene
U171	2-Nitropropane
U188	Phenol
U196	Pyridine
U208	1,1,1,2-Tetrachloroethane
U209	1,1,2,2-Tetrachloroethane
U210	Tetrachloroethylene
U211	Carbon tetrachloride

U213	Tetrahydrofuran
U220	Toluene
U223	Toluene diisocyanate
U226	1,1,1-Trichloroethane
U227	1,1,2-Trichloroethane
U228	Trichloroethylene
U238	ethyl carbamate
U239	Xylene

Waste not otherwise listed, hazardous because of the following constituents:

C133	Benzene
C176	Chloroform
C213	Dichlorobenzene, N.O.S.
C215	1,1-Dichloroethane
C216	1,2-Dichloroethane
C217	trans-1,2-Dichloroethane
C220	Dichloromethane
C319	Methyl ethyl ketone (MEK)
C412	Tetrachloroethane, N.O.S.
C413	1,1,1,2-Tetrachloroethane
C414	1,1,2,2-Tetrachloroethane
C415	Tetrachloroethene (Tetrachloroethylene)
C433	Toluene
C440	1,1,1-Trichloroethane
C441	1,1,2-Trichloroethane
C442	Trichloroethene (Tichloroethylene)
C470	Dichlorodifluoromethane
C473	Formic acid
C477	Isobutyl alcohol
C490	Trichloromonofluoromethane
C492	o-Dichlorobenzene
C493	m-Dichlorobenzene
C494	p-Dichlorobenzene
*X900	Chemical Process, Liquids NOS

*This waste code shall be used for non-hazardous wastes provided these wastes are managed as hazardous wastes which includes the use of manifests.

2. The permittee may store the following wastes in containers only:

NJDEP Hazardous Waste Number	Description
F006	Wastewater treatment sludges from electroplating operations except from the following processes: (1) sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon

	steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.
F008	Plating bath sludges from the bottom of plating baths from electroplating operations where cyanides are used in the process (except for precious metals electroplating plating bath sludges).
F010	Quenching bath sludge from oil baths from metal heat treating operations where cyanides are used in the process (except for precious metals heat treating quenching bath sludges).
F019	Wastewater treatment sludges from the chemical conversion coating of aluminum.
F028	Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Wastes Nos. F020, F021, F022, F023, F026 and F027.
K002	Wastewater treatment sludge from the production of chrome yellow and orange pigments.
K003	Wastewater treatment sludge from the production of molybdate orange pigments.
K004	Wastewater treatment sludge from the production of zinc yellow pigments.
K005	Wastewater treatment sludge from the production of chrome green pigments.
K006	Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated).
K007	Wastewater treatment sludge from the production of iron blue pigments.
K008	Oven residue from the production of chrome oxide green pigments.

K028	Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane.
K048	Dissolved air flotation (DAF) float from the petroleum refining industry.
K049	Slop oil emulsion solids from the petroleum refining industry.
K050	Heat exchanger bundle cleaning sludge from the petroleum refining industry.
K051	API separator sludge from the petroleum refining industry.
K061	Emission control dust/sludge from the electric furnace production of steel.
K069	Emission control dust/sludge from secondary lead smelting.
K086	Solvent washes and sludges, caustic wastes and sludges or water washes from sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead.
K106	Wastewater treatment sludge from the mercury cell process in chlorine production.
U115	Ethylene oxide
U134	Hydrogen fluoride
U144	Lead acetate
U145	Lead phosphate
U146	Lead subacetate
U202	Saccharin and salts
X725	Oil spill cleanup residue which: A. is contaminated beyond saturation; or B. the generator fails to demonstrate that the spill material was not one of the listed hazardous waste oils.
X728	Bottom sludge generated from the processing, blending, and treatment of waste oil in waste oil processing facilities.

The permittee is also authorized to store drums of any NJDEP-numbered solid or liquid hazardous waste from a spill cleanup.

The following codes for non-hazardous wastes provided these wastes are managed as hazardous wastes, including the use of manifests:

NJDEP Hazardous Waste Number	Description
X825	Contaminated Soil/Sludge
X850	Packed Laboratory Chemicals
X910	Chemical Process, Solids NOS

c) The permittee is authorized to accept all NJDEP hazardous waste types as small packages of Lab Pack waste except the following:

1) Wastes listed in N.J.A.C. 7:26-8.13 and 8.14 (F, X and K numbers).

2) Materials for which a satisfactory specification is not available.

Materials such as explosives, shock-sensitive explosives, radioactive and gaseous are considered special handling materials and shall be left at the Generator's facility for direct pick up by the ultimate disposal contractor. The permittee shall not accept any of these special handling materials at the Elizabeth facility.

d) The permittee is authorized to solidify the following wastes in drums or by using the mechanical solidification process (only during the period of operation as described in Condition 14h) at the facility:

NJDEP Hazardous Waste Number	Description
D001	ignitable, not otherwise classified
D002	corrosive, not otherwise classified
D004	arsenic by EP test
D005	barium by EP test
D006	cadmium by EP test
D007	chromium by EP test
D008	lead by EP test
D009	mercury by EP test
D010	selenium by EP test
D011	silver by EP test
F001	The following spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and the chlorinated fluorocarbons; and sludges from the recovery of these solvents from degreasing operations.

F002	The following spent halogenated solvents: tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-tri-fluoroethane, o-dichlorobenzene, trichlorofluoromethane and the still bottoms from the recovery of these solvents.
F003	The following spent non-halogenated solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; and the still bottoms from the recovery of these solvents.
F004	The following spent non-halogenated solvents: cresols and cresylic acid, nitrobenzene; and the still bottoms from the recovery of these solvents.
F005	The following spent non-halogenated solvents: toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, and the still bottoms from the recovery of these solvents.
F006	Wastewater treatment sludges from electroplating operations except from the following processes: (1) sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.
F007	Spent plating bath solutions from electroplating operations (except for precious metals electroplating spent cyanide plating bath solutions).
F008	Plating bath sludges from the bottom of plating baths from electroplating operations where cyanides are used in the process (except for precious metals electroplating plating bath sludges).
F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the

	process (except for precious metals electroplating spent stripping and cleaning bath solutions).
F010	Quenching bath sludge from oil baths from metal heat treating operations where cyanides are used in the process (except for precious metals heat treating quenching bath sludges).
F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations (except for precious metal heat treating spent cyanide solutions from salt bath pot cleaning).
F019	Wastewater treatment sludges from the chemical conversion coating of aluminum.
K002	Wastewater treatment sludge from the production of chrome yellow and orange pigments.
K003	Wastewater treatment sludge from the production of molybdate orange pigments.
K004	Wastewater treatment sludge from the production of zinc yellow pigments.
K005	Wastewater treatment sludge from the production of chrome green pigments.
K006	Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated).
K007	Wastewater treatment sludge from the production of iron blue pigments.
K016	Heavy ends or distillation residues from the production of carbon tetrachloride.
K048	Dissolved air flotation (DAF) float from the petroleum refining industry.
K049	Slop oil emulsion solids from the petroleum refining industry.
K050	Heat exchanger bundle cleaning sludge from the petroleum refining industry.
K051	API separator sludge from the petroleum refining industry.
K052	Tank bottoms (leaded) from the petroleum refining industry.

K062	Spent pickle liquor from steel finishing operations.
K086	Solvent washes and sludges, caustic wastes and sludges or water washes from sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead.
K095	Distillation bottoms from the production of 1,1,1-trichloroethane.
K096	Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane.
U001	Acetaldehyde
U002	Acetone
U003	Acetronitrile
U019	Benzene
U044	Chloroform
U051	Creosote
U052	Cresols and Cresylic acid
U070	o-Dichlorobenzene
U080	Methylene chloride
U112	Acetic acid, ethyl ester
U122	Formaldehyde
U123	Formic acid
U140	Isobutyl alcohol
U154	Methyl alcohol
U159	Methyl ethyl ketone
U161	Methyl isobutyl ketone
U165	Naphthalene
U188	Phenol
U220	Toluene
U226	1,1,1-Trichloroethane
U227	1,1,2-Trichloroethane
U228	Trichloroethylene
U238	Ethyl carbamate
U239	Xylene
X722	Waste oil and bottom sludge generated from tank cleanouts from residential/commercial fuel tanks.
X723	Waste oils and bottom sludge generated by gasoline stations when gasoline and oil tanks are tested, cleaned, or replaced.
X725	Oil spill cleanup residue which: A. is contaminated beyond saturation; or B. the generator fails to demonstrate that the spill material was not one of the listed hazardous waste oils.

X728	Bottom sludge generated from the processing, blending, and treatment of waste oil in waste oil processing facilities.

The following codes for non-hazardous wastes, provided these wastes are managed as hazardous wastes, including the use of manifests:

NJDEP Hazardous Waste Number	Description
X825	Contaminated Soil/Sludge
X900	Chemical Process, Liquids NOS
X910	Chemical Process, Solids NOS

e) The permittee may not accept wastes containing PCB's (Polychlorinated Biphenyls) at a concentration greater than 50 parts per million, or greater than a lower concentration limit that may be set by Federal agencies or the Department in the future.

f) This permit does not authorize the permittee to accept or manage any waste from off-site, or any waste mixtures or residues generated by the permittee through the storage and processing of waste accepted from off-site, in any manner not in conformance with the requirements of the conditions of this permit and the provisions of N.J.A.C. 7:26-1 et seq. for hazardous waste management. All incoming waste shipments accepted by the permittee shall be accompanied by properly completed hazardous waste manifest forms that comply with the requirements of N.J.A.C. 7:26-7.3. All outgoing shipments of wastes initially accepted by the permittee from off-site, and all waste mixtures and residues generated by the permittee through the storage and processing of waste accepted from off-site, shall be to authorized commercial hazardous waste storage, treatment or disposal facilities, and shall be accompanied by properly completed hazardous waste manifest forms that comply with the requirements of N.J.A.C. 7:26-7.3.

For each outgoing shipment of waste initially accepted by the permittee from off-site, and/or of a waste mixture or residues generated by the permittee through the storage and processing of waste accepted from off-site, the manifest shall include the identification of all NJDEP hazardous waste codes assigned by the original off-site generators to the wastes included in the shipment or from which the waste mixture or residue was generated by the permittee, except where the NJDEP hazardous waste code assigned by the original off-site generator was incorrect, and the permittee has resolved the correct code for the waste and has complied with the requirements of N.J.A.C. 7:26-7.6(a)3 and 4, and N.J.A.C. 7:26-12.4(a)17, then the correct hazardous waste code shall be substituted for the incorrect hazardous waste code originally assigned by the off-site generator.

16) Waste Analysis and Quality Assurance

(a) Prior to the acceptance of any waste stream (including lab pack wastes) the permittee shall comply with the following:

(1) The permittee shall obtain a completed "Material Profile Sheet" and PCB Pesticide Waiver Sheet and if necessary a representative pre-shipment sample from the generator for each type of waste. The Material Profile Sheet shall contain, at a minimum, the same information as the sample form provided in the Part B application cited in Condition 13 of this Permit.

(2) The Material Profile Sheet and PCB Pesticide Waiver Sheet shall be initially checked for completeness, freedom from obvious mistakes and for valid signatures.

(3) a. The Quality Control Manager or his/her designee for the permittee shall recommend a method of treatment/disposal for the material described on the Material Profile Sheet, for any waste stream (other than lab pack waste) according to the following authorized methods: on site distillation and solvent recovery, off site authorized fuel blending, neutralization or other waste water treatment, incineration or land disposal. Prior approval for the material or similar material shall be obtained from facilities offering final treatment/disposal options. The Quality Control Manager or his/her designee for the permittee shall utilize a Waste Approval/Quality Control Worksheet (a sample form is provided in the Part B application cited in Condition 13 of this permit) to document the proposed treatment/disposal method, the final TSD facility and an alternate facility. The waste generator shall be notified of the proposed treatment/disposal method (i.e., incineration, neutralization, recycling, land burial, etc.). If requested by the generator, the permittee will identify the anticipated final treatment/disposal facility.

b. The Quality Control Manager for the permittee shall recommend a method of disposal for the material described on the Waste Approval/Quality Control Worksheet for all lab pack waste. The waste generator shall be notified of the disposal method. If requested by the generator, the permittee will identify the anticipated final disposal facility.

(4) a. If the generator approves the proposed treatment/disposal method for any waste stream (other than lab pack waste), the permittee may contract with the generator for shipment of the waste to the permittee's facility. The contract

must specify the criteria of acceptability of the waste for the proposed treatment/disposal method, including at a minimum, the allowable values of the parameters for which the incoming waste shipment must be analyzed under Condition 16(b)1 below.

b. If the generator approves the proposed disposal method for lab pack waste, the permittee may contract with the generator for shipment of the waste to the permittee's facility. The contract must specify the criteria of acceptability of the waste including compatibility testing if the Lab Pack waste is opened and the contents poured into drums to be blended or mixed in accordance with 16(b)2 below. The permittee shall require the generator to set aside any unknown chemicals for analytical testing to identify material characteristics and/or components before packaging such chemicals into a Lab Pack drum for transporting to the permittee's Elizabeth facility and to repeat the steps of Condition 16(a) before the permittee contracts with the generator for the shipment of such chemicals to the permittee's facility. If, after a Lab Pack arrives at the Elizabeth facility, it is found to contain any unknown chemicals, the permittee shall follow the steps of Condition 16(c).

(b) (1) On arrival of each waste shipment (other than lab pack wastes) the permittee shall collect a representative sample for analysis.

Each shipment shall be analyzed according to the proposed method for its disposal, in accordance with the following tests:

<u>All Wastes</u> - ignitability, reactivity, radioactivity, EPA paint filter test, compatibility/solvents and compatibility/water.

<u>Distillation and Solvent Recovery</u> - ignitability, reactivity, radioactivity, miscibility, flash point, percent chlorine, specific gravity, EPA paint filter test, compatibility/solvents and compatibility/water.

<u>Fuel Blending and Incineration</u> - pH, ignitability, reactivity, radioactivity, miscibility, flash point, percent chlorine, specific gravity, BTU heating value, PCB's, EPA paint filter test, compatibility/solvents and compatibility/water.

<u>Neutralization and Waste Water Treatment</u> - pH, ignitability, reactivity, radioactivity, miscibility, flash point, specific gravity, cyanide spot test, sulfide spot test, oxidizer spot test, ammonia, EPA

paint filter test, compatibility/solvents and compatibility/water.

Land Disposal - pH, ignitability, reactivity, radioactivity, miscibility, PCB's, cyanide spot test, sulfide spot test, oxidizer spot test, EPA paint filter test, compatibility/solvents and compatibility/water.

Tests shall be as described in the Part B permit application referenced in Condition 13(a) of this permit.

(2) Lab Pack chemicals in their original containers and bearing original labels need not be analyzed unless the permittee has reason to believe they are not as represented but shall undergo compatibility testing, if the containers are of wastes listed in Condition 15b and are to be opened and the contents poured into drums containing compatible wastes.

Prior to the blending or mixing of the Lab Pack wastes listed in Condition 15b in containers, the permittee shall perform the following at the facility in accordance with Condition 14 for disposal:

Compatibility will be determined in accordance with EPA publication, 600/2-80-076 A Method For Determining The Compatibility of Hazardous Waste and the ASTM publication, Estimating The Incompatibility of Selected Hazardous Wastes Based on Binary Chemical Reactions which use the components of the wastes in question to determine, by relating to the charts given in the booklet, the types of reactions that could occur if these wastes were mixed together. These guides shall be used only by professional personnel trained or familiar with chemical reactivity and the nature of chemicals.

(c) Wastes meeting the allowable values in the contract may be accepted by the facility. Wastes not meeting the requirements shall be returned to the generator, or if the waste is of a type which the permittee is authorized to accept under Condition 15 of this permit, may be reanalyzed and a new Material Profile Sheet prepared identifying the material as a new waste and may be accepted by the permittee following a repeat of the steps of Condition 16(a) above. A manifest discrepancy report shall be submitted to the Department in accordance with permit Condition 12(e).

(d) All analyses of the wastes performed by or for the generator or the permittee shall be performed in accordance with the Quality Assurance/Quality Control methods established by the Department. A copy of the Material Profile Sheet and test results for both the representative pre-shipment sample and the representative sample of the incoming waste shipment for each waste shall be retained at the facility for a minimum of three years. A copy of the Approval/Control Worksheet and

records of all manifests for each waste received and sent for disposal shall also be retained at the facility for a minimum of three years.

(e) A portion of the representative sample of each incoming waste shipment, adequate for reanalyses, shall also be retained at the facility for a period extending three (3) months beyond the time that the waste shipment of which it is representative, and all products derived from it and by products produced through the processing of it, remain at the permitted facility or until the permittee receives certification from the final T.S.D. facility that the waste has been properly treated or disposed. Material Profile Sheets shall be updated annually by a Technical Representative of Cycle-Chem, Inc. and whenever a significant change in the process that generates the waste becomes known to the permittee.

(f) The permittee's waste analysis plan provided in the Part B application is hereby approved subject to the following condition. The Department has recently received new guidance from USEPA on the review of the waste analysis plans. This new guidance must be implemented by the Department. Therefore, the permittee's waste analysis plan will be subject to a second review. If, as a result of this second review, the plan is determined deficient, the Department will notify the permittee of the deficiencies and the permittee will be required to make a complete response within sixty (60) days of the date of notification.

(g) The permittee shall not accept any material for storage or treatment at the facility unless the facility is authorized to handle the material under Condition 15 of this Permit.

(h) The permittee, if offered hazardous waste of a type which the facility is not authorized to handle or if determined that the representative sample from a bulk or drum shipment yields an analysis of polychlorinated biphenyls (PCB's) greater than fifty (50) ppm, shall:

(1) Not accept the waste from the hauler;

(2) Instruct the hauler to contact the generator for further instructions;

(3) Telephone the generator, and inform the generator that the permittee is not authorized to accept the waste and that the permittee has instructed the hauler to contact the generator for further instructions;

(4) Confirm the telephone call to the generator, pursuant to N.J.A.C. 7:26-9.4(c)2iii, with a letter verifying the telephone conversation.

(5) Telephone the Department, at (609) 292-8341, and report the unauthorized waste shipment; and

(6) Confirm the telephone call to the Department, pursuant to N.J.A.C. 7:26-9.4(c)2v with a letter verifying the telephone conversation.

17) Preparedness and Prevention Plan

The permittee shall carry out the preparedness and prevention plan, as outlined in the referenced engineering plans and reports in Condition 13, in order to minimize the possibility of a fire, explosion, or any unplanned release of hazardous wastes or hazardous waste constituents to the air, soil, surface water, or ground water which could threaten the environment or human health. The facility's emergency equipment shall include containment and cleanup supplies necessary to handle spills, fire prevention and fire fighting equipment, employee safety and emergency response equipment, and communication systems. In addition to the facility's preparedness and prevention plan, the permittee shall comply with the following:

(a) An adequate supply of absorbent compounds must be readily available within the facility to be employed if a spill should occur.

(b) All diked areas must be maintained free of cracks or gaps that could degrade their impermeability.

(c) An adequate volume of water to supply hose streams necessary in fighting fires during emergencies, must be available at all times.

(d) Aisle space at least 30 inches wide must be maintained in all container storage areas to allow unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency.

The emergency equipment shall be tested and maintained as necessary to assure its proper operation in time of emergency.

18) Contingency Plan

(a) In the event of an emergency, a local alarm system must be activated to alert employees. The Elizabeth Fire Department and Elizabeth Police Department should be notified immediately. The telephone numbers are:

Elizabeth Fire Department:	Dial "0" for Operator
Elizabeth Police Department:	(201) 558-2111

Before assistance arrives, fire fighting equipment listed in Condition 17 should be used to control the emergency.

(b) If the facility has a discharge, fire, or explosion which could threaten human health or the environment, the following shall be notified immediately:

(1) Environmental Protection Agency
Oil and Hazardous Materials Section
Raritan Depot, Edison, NJ 08817
Telephone (201) 548-8730

(2) New Jersey Department of Environmental Protection
Spill Response Unit
Trenton, NJ 08625
Telephone: (609) 292-7172

(c) The emergency coordinator's notification to either of the above two telephone numbers must include the following information:

1) Name and telephone number of the person reporting;
2) Name and address of the facility;
3) Time and type of incident (discharge, fire or explosion);
4) Name and quantity of material(s) involved, to the extent known;
5) The extent of injuries, if any;
6) The possible hazards to human health, or the environment, outside the facility.

(d) Semi-annual drills involving all employees and appropriate local authorities shall be conducted to test emergency response capacities at the facility in accordance with the contingency plan and emergency procedures developed pursuant to N.J.A.C. 7:26-9.7.

19) Inspections

The permittee shall comply with the inspections, as outlined in the referenced engineering plans and reports (Condition 13), for equipment malfunction, structural deterioration, operator errors, spills or leakage and discharges that could cause or lead to the release of hazardous waste constituents and adversely affect the environment or threaten human health. Cycle-Chem, Inc. shall conduct the inspection schedule for the equipment listed as below.

(a) Container Storage Area

Activity/Equipment	Inspected for	Frequency
Container placement	30 inch aisle, neat, stable	Daily
Container sealing	all bungs & covers closed	Daily
Container labeling	labels complete and accurate	Daily
Container condition	corrosion, leaks	Daily
Container location by type	located in flammable, acid,	Daily

	alkaline section	
Housekeeping	clean, tidy	Daily
Warning signs	legible	Daily
Emergency equipment	unobstructed	Daily
Eye washes and shower stations	steady flow of water	Daily
Alarm systems on distillation process	operability	Daily
Fire exits	unobstructed	Daily
Electrical equipment	unobstructed	Daily

(b) Distillation Area

Activity/Equipment	Inspected for	Frequency
Wall thickness	detect thinning	Annual
Tank condition	leaks, bulges	Daily
Housekeeping	clean, tidy	Daily
Emergency doors	operable and unobstructed	Daily
Dike	cracks	Daily
Base	standing water, cracks	Daily
Pipes	no leaks, supported	Daily
Valves	leaks	Daily
Transfer pumps	seal leaks, functional	Weekly
Instruments	operable	Daily

(c) Tank Storage Area

Activity/Equipment	Inspected for	Frequency
Wall thickness	detect thinning	per Condition 12(f)
Tank condition	leaks, bulges	Daily
Housekeeping	clean,tidy	Daily

Conservation vents	plugging	Weekly
Dike	cracks	Daily
Base	standing water, cracks	Daily
Pipes	no leaks, supported	Daily
Valves	leaks	Daily
Transfer pumps	seal leaks, functional	Daily
Ladder and platforms	structural defects	Weekly
Tank number label	visible	Annual

(d) Security

Activity/Equipment	Inspected for	Frequency
Fence	no gaps, not corroded	Weekly
Gates	functional	Weekly

A written log of all inspections, including copies of the completed inspection checklists as provided in the referenced engineering plans and reports of Condition 13, is to be kept on-site. At a minimum, this log must include the date and time of each inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions performed.

20) Security

a) The permittee shall prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the active portion of the facility.

b) The permittee shall maintain the existing fence which surrounds the entire outside storage area.

c) The permittee shall post a sign with the legend, "Danger-Unauthorized Personnel Keep Out", at each entrance to the active portion of the facility, and at other locations, in sufficient numbers to be seen from any approach to this action portion.

21) Personnel Training

a) Facility personnel shall successfully complete a program of classroom instruction and on-the-job training that teaches them to perform their duties in a way that ensures the

facility's compliance with the requirements of N.J.A.C. 7:26-9.4(g). As described in Part B, an on-going training program shall be provided to meet RCRA and State requirements for new employee training and annual training updates. New employees shall be trained within sixty (60) days of the date of employment.

b) As detailed in the Part B application, the training program shall be maintained with records and documentation describing the type and amount of both introductory and continuing training that will be given to each person engaged in hazardous waste management at the facility.

22) <u>Financial Requirements</u>

a) The permittee shall maintain the liability insurance documented to the Department, or obtain and document to the Department other liability insurance, for sudden and accidental occurrences. The insurance shall be maintained in accordance with the requirements of N.J.A.C. 7:26-9.13.

b) The permittee shall maintain the financial assurance for closure costs documented to the Department or obtain and document to the Department other financial assurance, as specified in N.J.A.C. 7:26-9.10, in other to provide financial assurance for facility closure. These financial mechanisms shall be maintained in accordance with the requirements of N.J.A.C. 7:26-9.10.

c) The wording of all financial documents (except for the insurance policy itself) that are submitted under 22(a) or 22(b) above must be exactly as specified in N.J.A.C. 7:26-9 (Appendix A).

d) The permittee must adjust the facility's closure cost estimate for inflation within thirty (30) days after each anniversary of the date on which the first closure cost estimate was prepared. Whenever the current closure cost estimate increases to an amount greater than the amount of the financial mechanism, the permittee, within sixty (60) days after the increase, must either cause the amount of the financial mechanism to be increased so that it at east equals the current closure cost estimate and submit evidence of such increase to the Department, or obtain and document to the Department other financial assurance, as specified in N.J.A.C. 7:26-9.10, to cover the increase.

e) If the revised closure cost estimate required by Condition 23(e) of this permit yields a closure cost estimate greater than the amount of the current financial mechanism then the permittee shall, following Department approval of the revised closure cost estimate, either adjust the amount of the financial mechanism to be increased so that it at least equals the revised closure cost estimate and submit evidence of such increase to the Department, or obtain and document to the Department other financial assurance, as specified in

N.J.A.C. 7:26-9.10, to cover the increase. Such additional financial assurance, if applicable, shall be documented to the Department prior to the initiation of any of the new hazardous waste storage or treatment operations authorized by this permit.

23) Closure Plan

(a) The permittee must close the facility in the manner that is stated in the application certified by Paul Fleischmann, dated June 17, 1987.

(b) The permittee shall keep a copy of the closure plan and all revisions to the plan at the facility until closure is completed.

(c) The permittee shall amend the closure plan any time changes in operating plans or facility design affect the closure plan or whenever there is a change in the expected year of closure of the facility. The plan must be amended within sixty (60) days of the changes.

(d) The permittee shall notify the Department at least 180 days prior to the date the permittee expects to begin closure, except in cases where the facility's permit is terminated or if the facility is otherwise ordered by judicial decree or compliance order to cease receiving the wastes or to close. The date when the owner or operator "expects to begin closure" shall be within thirty (30) days after the date on which the owner or operator expects to receive the final volume of wastes.

(e) The permittee shall submit a revised closure cost estimate for the facility within 60 days of the date of the date this permit becomes effective and shall include the following:

(1) The closure cost estimate shall list the maximum capacity of all hazardous waste at the facility not two thirds of the maximum capacity as previously submitted.

(2) The closure cost estimate for the maximum capacity of lab pack containers listed in Condition 13 of this permit shall indicate a cost of at least One Hundred Ninety Five Dollars ($195.00) per drum (plus transportation) for disposal by incineration.

(3) The closure cost estimate may include the cost for disposal of hazardous waste in bulk form provided the closure plan includes compatibility testing on this waste and the cost estimate includes a third party cost for the testing and bulking of the waste. A third party cost for the removal/disposal of the drums from which the waste was taken to be bulked shall also be provided.

(4) The closure cost estimate shall not incorporate any salvage value that may be realized by the sale of

hazardous waste, facility structures, equipment, land or other facility assets at the time of closure.

(5) The permittee shall not incorporate a zero cost for hazardous waste that might have economic value in the closure cost estimate.

(6) The closure cost estimate shall indicate the removal and disposal of all hazardous waste, waste wash waters, etc. and include third party disposal costs.

(7) The closure cost estimate shall include the residual waste wash waters generated during decontamination at a rate of 10 percent of the total capacity of all the tanks and also the residual generated during the decontamination of the drum storage area at the generation rate of 100 gallons per hour.

(8) The closure cost estimate shall include the costs for sampling and analysis of the hazardous waste, the waste wash waters from decontamination, etc. and shall be completed by a New Jersey certified testing laboratory.

The closure cost estimate shall be based on the costs to the permittee to hire a third party to close the facility. The third party is a party who is neither a parent nor a subsidiary of the owner or operator.

24) Operating Record

The permittee shall keep a written operating record at the facility in which the information in N.J.A.C. 7:26-9.4(i) shall be recorded. The information should be recorded as it becomes available and maintained until closure of the facility.

25) Plans Available for Inspection

One complete set of all engineering designs and submissions of Condition 13, a narrative description of the operation of the facility, a facility layout drawing, this Hazardous Waste Facility Permit and such other plans that may be required pursuant to this permit shall be kept on-site and shall be available for inspection by representatives of the Department. The following documents shall also be maintained at the facility site:

a) The Waste Analysis Plan outlined in Condition 16 of this permit in accordance with N.J.A.C. 7:26-9.4(b).

b) Contingency Plan required by N.J.A.C. 7:26-9.7.

c) Closure Plan required by N.J.A.C. 7:26-9.8.

d) Inspection schedule required by N.J.A.C. 7:26-9.4(f).

e) Personnel training documents and records required by N.J.A.C. 7:26-9.4(g).

f) Written operating record required by N.J.A.C. 7:26-9.4(i).

g) Financial documents required by Condition 22 of this permit.

h) Tank shell thickness reports required by N.J.A.C. 7:26-10.5(b)2.

All amendments, revisions, and modifications to any plan required by this permit shall be submitted to the Bureau of Hazardous Waste Engineering for approval and permit modification, if necessary.

26) Posting of Notice

The notice concerning civil and criminal penalties for illegal disposal of hazardous waste must be conspicuously posted and available for all employees to read.

27) Air Pollution Control and Water Resources

The permittee must obtain all necessary permits and comply with all applicable rules and regulations of the Bureau of Air Pollution Control, Title 7, Chapter 27, and the Division of Water Resources, Title 7, Subtitle D, of the New Jersey Administrative Code before this permit is deemed effective.

28) Permit Limitations

a) The issue of a permit does not authorize any injury to persons or property or invasion of other private rights or any infringement of applicable Federal, State, or local laws or regulations.

b) This permit does not constitute the sole source of guidelines to be followed. Any new regulations concerning Water Quality, Air Pollution, Hazardous Waste, or other rules of the Department of Environmental Protection, applicable to the facility shall be complied with at the effective date. New regulations are effective upon publication in the New Jersey Register or as otherwise indicated in the Notice of Adoption in the New Jersey Register.

29) Early Expiration of Permit

If, for any reason, the facility ceases to be operated on a continuous basis and/or ceases to be operated by the owners or operators listed in the disclosure statement submitted by Paul Fleischmann dated September 22, 1986, the permit expires of its own accord and remains ineffective until reissuance by the Department.

30) Construction/Installation Requirements

Upon issue of this permit, the permittee shall comply with the procedures outlined below. Failure to comply with these procedures shall be cause for immediate revocation of this permit.

(a) The permittee shall construct a concrete corrosive waste storage area with an acid-resistant lining in accordance with the drawings cited in Condition 13(d) of this permit. The construction shall be completed by 270 days from the date of issue of this Permit.

The permittee may not commence storage of hazardous waste in the corrosive waste storage area until the procedures of Condition 30(d) below have been completed, and the Department has approved the construction.

(b) The permittee shall install a monitoring system and control to prevent overflow of liquid on both Tank A and B of the distillation plant as shown on Drawing PCC-10 cited in Condition 13 of this permit. This installation shall be complete within 90 days from the date of issue of this permit.

The permittee shall certify compliance with this requirement to the Department in accordance with the procedures of Condition 30(d) below.

(c) The permittee may use a phased approach for the construction/installation of the 12 vertical tanks. The permittee shall install up to 9 vertical tanks of 7,500 gallons capacity and 3 vertical tanks of 10,000 gallons capacity each and a canopy roof over them as well as over the container storage area, all as shown on the drawings referenced in Condition 13(e) of this permit. This installation shall be complete within 2 years of this issue of this permit and shall include the completion of a canopy roof over all of the tanks installed and a canopy roof over the container storage area as referenced above.

The permittee may not commence storage of hazardous waste in any of the vertical hazardous waste storage tanks until the procedures of Condition 30(d) below have been completed, and the Department has approved the construction.

(d) Within thirty (30) days after completion of each construction/installation specified in Condition 30(a), (b) and (c) above, the permittee shall submit to the Department, by Certified Mail or hand delivery, a letter signed by the permittee and a New Jersey licensed professional engineer stating that the construction/installation has been completed in accordance with the cited drawings. For vertical tanks installed pursuant to Condition 30(c) above, the permittee shall also submit designs of the new drum arrangement which indicates the decrease in volume of containers by the equivalent tank volume.

The Department shall inspect the facility to determine whether or not it is in compliance with the layout and specifications of the design plans set forth in the engineering plans and reports. If within 15 days of the date of submission of a letter pursuant to the paragraph above, the permittee has not received from the Department notice of

intent to inspect, prior inspection is waived and it is understood that the facility meets the design requirements. If the facility is not in compliance with the approved design, a schedule shall be submitted within thirty (30) days of the date of the Department's inspection outlining how the facility will be brought into compliance. The schedule shall be subject to the Department's approval.

31) <u>Product Specifications: Reclaimed Chlorinated Solvents</u>

(a) Reclaimed chlorinated solvents from the distillation plant shall meet as minimum standards the specifications given below:

Perchloroethylene min 92.0%
Co-solvents max 8.0%

1,1,1 - Trichloroethane min 90.0%
Co-solvents max 10.0%

Trichloroethylene min 90.5%
Co-solvents max 9.5%

Methylene Chloride min 94.5%
Co-solvents max 5.5%

Maximum concentrations of typical contaminants in each of these reclaimed products are as follows:

Water - Max. 0.1%
Minerals Spirits - Max. 2.0%
Emulsifiers - Max. 1.0%
Alcohols - Max 0.3%
Amines - Max. 0.3%
Fluorocarbons - Max. 1.0%

The following proprietary and speciality solvent blends can be reclaimed by the facility, Cyrel (duPont trademark), 90/10 solvent and MCS (mixed chlorinated solvent).

The typical composition for each are as follows:

<u>Cyrel</u>

Perchloroethylene - 70-80%
n-Butyl Alcohol - 20-30%
Water - Max. 0.1%
Dissolved Photopolymers - Max. 0.1%

<u>90/10 Solvent</u>

Percholorethylene - 88-92%
n-Butyl Alcohol - 8-12%
Water - Max. 0.1%
Dissolved Photopolymers - Max. 0.1%

MCS (Mixed Chlorinated Solvents)

Trichloroethylene - 30-60%
Perchloroethylene - 30-60%
1,1,1 Trichloroethane - 25-50%
Methylene Chloride - 15-25%
Fluorocarbons - 5-10%
Mineral Spirits - Max. 0.2%
Emulsifiers - Max. 0.1%
Alcohols - Max. 0.3%
Amines - Max. 0.3%
Water - Max. 0.1%

Such reclaimed chlorinated solvents from the distillation plant shall remain hazardous wastes, subject to the conditions of this permit, and all provisions of the New Jersey Hazardous Waste Management Regulations, N.J.A.C. 7:26-1 et seq., until confirmed by analysis to meet the specifications of Condition 31(a) above.

gement of Rainwater

l the canopy roof in Condition 30(c) is constructed and roved by the Department, and all hazardous waste container age activity has been relocated beneath it, the permittee l collect rainwater with a vacuum truck, as necessary, to vent hazardous waste storage containers from contact with mulated liquids in accordance with N.J.A.C. 7:26-10.4(b)iii, the permittee shall also regrade the surface of the hazardous e container storage area, if necessary, to ensure compliance N.J.A.C. 7:26-10.4(b)iii. Disposal of collected rainwater be in accordance with Department regulations.

permittee shall apply for and obtain any necessary permits the Department's Division of Water Resources under the New y Pollutant Discharge Elimination System regulations, A.C. 7:14A-1 et seq., for the future discharge of ater runoff from the canopy roof.

CYCLECH3
HWEMCB

REFERENCE NO. 2

Let's protect our earth

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
CN 028
Trenton, N.J. 08625-0028
(609) 633-1408
Fax # (609) 633-1454

DEC 28 1990

William Molnar
Regulatory Compliance Officer
Cycle Chem
217 S. First Street
Elizabeth, NJ 07206

RECEIVED JAN 03 1991

Dear Mr. Molnar:

RE: Minor Modification to Hazardous Waste Facility Permit No. 2004E2HP02, Cycle Chem Inc., Elizabeth, EPA ID No. NJD 002 200 046

Please be advised that the New Jersey Department of Environmental Protection, Division of Hazardous Waste Management, has issued a minor permit modification to the Hazardous Waste Facility Permit issued December 14, 1988, for the referenced facility's hazardous waste storage and treatment facility.

On March 5, 1990, the United States Environmental Protection Agency (USEPA) issued a revised toxicity characteristic test, a new requirement for characterizing waste streams. The revised method added 25 new organic chemicals to the list of toxic constituents which are classified as waste codes D018-D043.

The permit modification adds the new waste codes to the existing Hazardous Waste Facility Permit. The modification does not authorize the facility to store or treat any new waste streams which they were not authorized to store or treat prior to the rule changes. Copies of the modified permit pages and corresponding original permit pages are enclosed for your information.

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If you have any questions concerning this matter, please contact Scot J. Frow at (609) 292-9880.

Very truly yours,

Thomas Sherman, Chief
Bureau of Hazardous Waste Engineering

EP48/dbm/slw
Enclosures

DOCUMENT: CYCLECH2
FOLDER: DBMMCB

Let's protect our earth

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
CN 028
Trenton, N.J. 08625-0028
(609) 633-1408
Fax # (609) 633-1454

Hazardous Waste Facility Permit

Under the provisions of N.J.S.A. 13:1E-1 et seq. known as the Solid Waste Management Act, this permit is hereby issued to:

Cycle-Chem, Inc.
217 South First Street
Elizabeth, New Jersey 07206

For the Purpose of Operating a:	Hazardous Waste Storage and Treatment Facility and Transfer Station
on Lot No.:	865 and part of 74
Block No.:	2
in the Municipality of:	Elizabeth
County:	Union
Under Facility Permit No.:	2004E2HP04

This permit is subject to compliance with all conditions specified herein and all regulations promulgated by the Department of Environmental Protection.

This permit shall not prejudice any claim the State may have to Riparian land nor does it permit the registrant to fill or alter, or allow to be filled or altered, in any way, lands that are deemed to be Riparian, Wetlands, stream encroachment or flood plains, or within the Coastal Area Facility Review Act (CAFRA) zone or allow the discharge of pollutants to waters of this State without first acquiring the necessary grants, permits, or approvals from the Department of Environmental Protection or the U.S. Environmental Protection Agency.

December 14, 1988
Date

Frank Coolick
Assistant Director

February 23, 1989
Modified

March 29, 1990
Modified

December 28, 1990
Modified

December 14, 1993
Expiration Date

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K028	Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane
K029	Waste from the production streams stripper in the production of 1,1,1-trichloroethane
K030	Column bottom or heavy ends from the combined production of trichloroethylene and perchloroethylene
U080	Methylene chloride
U210	Tetrachloroethylene
U226	1,1,1-Trichloroethane
U228	Trichloroethylene

b) 1. The permittee is authorized to store the following wastes in containers, vertical tanks and tank trailers:

Hazardous Waste Number	Description
D001	ignitable, not otherwise classified
D002	corrosive, not otherwise classified
D003	reactive, not otherwise classified
D004	Toxicity Characteristic of Arsenic by TCLP
D005	Toxicity Characteristic of Barium by TCLP
D006	Toxicity Characteristic of Cadmium by TCLP
D007	Toxicity Characteristic of Chromium by TCLP
D008	Toxicity Characteristic of Lead by TCLP
D009	Toxicity Characteristic of Mercury by TCLP
D010	Toxicity Characteristic of Selenium by TCLP
D011	Toxicity Characteristic of Silver by TCLP

Waste Codes Added 12/28/90

D018	Toxicity Characteristic of Benzene by TCLP
D019	Toxicity Characteristic of Carbon Tetrachloride by TCLP
D020	Toxicity Characteristic of Chlordane by TCLP
D021	Toxicity Characteristic of Chlorobenzene by TCLP
D022	Toxicity Characteristic of Chloroform by TCLP

D023	Toxicity Characteristic of O-Cresol by TCLP
D024	Toxicity Characteristic of M-Cresol by TCLP
D025	Toxicity Characteristic of P-Cresol by TCLP
D026	Toxicity Characteristic of Cresol by TCLP
D027	Toxicity Characteristic of 1,4-Dichlorobenzene by TCLP
D028	Toxicity Characteristic of 1,2-Dichloroethane by TCLP
D029	Toxicity Characteristic of 1,1-Dichloroethylene by TCLP
D030	Toxicity Characteristic of 2,4-Dinitrotoluene by TCLP
D031	Toxicity Characteristic of Heptachlor (and its Hydroxide) by TCLP
D032	Toxicity Characteristic of Hexachlorobenzene by TCLP
D033	Toxicity Characteristic of Hexachloro-1,3, Butadiene by TCLP
D034	Toxicity Characteristic of Hexachloroethane by TCLP
D035	Toxicity Characteristic of Methyl Ethyl Ketone by TCLP
D036	Toxicity Characteristic of Nitrobenzene by TCLP
D037	Toxicity Characteristic of Pentachlorophenol by TCLP
D038	Toxicity Characteristic of Pyridine by TCLP
D039	Toxicity Characteristic of Tetrachloroethylene by TCLP
D040	Toxicity Characteristic of Trichloroethylene by TCLP
D041	Toxicity Characteristic of 2,4,5-Trichlorophenol by TCLP
D042	Toxicity Characteristic of 2,4,6-Trichlorophenol by TCLP
D043	Toxicity Characteristic of Vinyl Chloride by TCLP
F001	The following spent halogenated solvents used in degreasing: tetrachloroethylene, tri-chloroethylene, methylene chloride, 1,1,1-tri-chloroethane, carbon tetrachloride, and the chlorinated fluorocarbons; and sludges from the recovery of these solvents from degreasing operations.
F002	The following spent halogenated solvents: tetrachloroethylene,

methylene chloride,
trichloroethylene,
1,1,1-trichloroethane,
chlorobenzene,
1,1,2-trichloro-1,2,2-tri-
fluoroethane, o-dichlorobenzene,
trichlorofluoromethane and
1,1,2-trichloroethane

The following codes for non-hazardous wastes provided these wastes are managed as hazardous wastes, including the use of manifests:

NJDEP Hazardous Waste Number	Description
X825	Contaminated Soil/Sludge
X850	Packed Laboratory Chemicals
X910	Chemical Process, Solids NOS

c) The permittee is authorized to accept all NJDEP hazardous waste types as small packages of Lab Pack waste except the following:

1) Wastes listed in N.J.A.C. 7:26-8.13 and 8.14 (F, X and K numbers).

2) Materials for which a satisfactory specification is not available.

Materials such as explosives, shock-sensitive explosives, radioactive and gaseous are considered special handling materials and shall be left at the Generator's facility for direct pick up by the ultimate disposal contractor. The permittee shall not accept any of these special handling materials at the Elizabeth facility.

d) The permittee is authorized to solidify the following wastes in drums or by using the mechanical solidification process (only during the period of operation as described in Condition 14h) at the facility:

Hazardous Waste Number	Description
D001	ignitable, not otherwise classified
D002	corrosive, not otherwise classified
D004	Toxicity Characteristic of Arsenic by TCLP
D005	Toxicity Characteristic of Barium by TCLP
D006	Toxicity Characteristic of Cadmium by TCLP
D007	Toxicity Characteristic of Chromium by TCLP
D008	Toxicity Characteristic of Lead by TCLP
D009	Toxicity Characteristic of Mercury by TCLP
D010	Toxicity Characteristic of Selenium by TCLP
D011	Toxicity Characteristic of Silver by TCLP

D018	Toxicity Characteristic of Benzene by TCLP
D019	Toxicity Characteristic of Carbon Tetrachloride by TCLP
D020	Toxicity Characteristic of Chlordane by TCLP
D021	Toxicity Characteristic of Chlorobenzene by TCLP
D022	Toxicity Characteristic of Chloroform by TCLP
D023	Toxicity Characteristic of O-Cresol by TCLP
D024	Toxicity Characteristic of M-Cresol by TCLP
D025	Toxicity Characteristic of P-Cresol by TCLP
D026	Toxicity Characteristic of Cresol by TCLP
D027	Toxicity Characteristic of 1,4-Dichlorobenzene by TCLP
D028	Toxicity Characteristic of 1,2-Dichloroethane by TCLP
D029	Toxicity Characteristic of 1,1-Dichloroethylene by TCLP
D030	Toxicity Characteristic of 2,4-Dinitrotoluene by TCLP
D031	Toxicity Characteristic of Heptachlor (and its Hydroxide) by TCLP
D032	Toxicity Characteristic of Hexachlorobenzene by TCLP
D033	Toxicity Characteristic of Hexachloro-1,3, Butadiene by TCLP
D034	Toxicity Characteristic of Hexachloroethane by TCLP
D035	Toxicity Characteristic of Methyl Ethyl Ketone by TCLP
D036	Toxicity Characteristic of Nitrobenzene by TCLP
D037	Toxicity Characteristic of Pentachlorophenol by TCLP
D038	Toxicity Characteristic of Pyridine by TCLP
D039	Toxicity Characteristic of Tetrachloroethylene by TCLP
D040	Toxicity Characteristic of Trichloroethylene by TCLP
D041	Toxicity Characteristic of 2,4,5-Trichlorophenol by TCLP
D042	Toxicity Characteristic of 2,4,6-Trichlorophenol by TCLP
D043	Toxicity Characteristic of Vinyl Chloride by TCLP
F001	The following spent halogenated solvents used in degreasing: tetrachloroethylene,

trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and the chlorinated fluorocarbons; and sludges from the recovery of these solvents from degreasing operations.

FSA

Let's protect our earth

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
Lance R. Miller, Acting Director
CN 028
Trenton, N.J. 08625-0028
(609) 633-1408
Fax # (609) 633-1454

Hazardous Waste Facility Permit

Under the provisions of N.J.S.A. 13:1E-1 et seq. known as the Solid Waste Management Act, this permit is hereby issued to:

Cycle-Chem, Inc.
217 South First Street
Elizabeth, New Jersey 07206

For the Purpose of Operating a:	Hazardous Waste Storage and Treatment Facility and Transfer Station
on Lot No.:	865 and part of 74
Block No.:	2
in the Municipality of:	Elizabeth
County:	Union
Under Facility Permit No.:	2004E2HP02

This permit is subject to compliance with all conditions specified herein and all regulations promulgated by the Department of Environmental Protection.

This permit shall not prejudice any claim the State may have to Riparian land nor does it permit the registrant to fill or alter, or allow to be filled or altered, in any way, lands that are deemed to be Riparian, Wetlands, stream encroachment or flood plains, or within the Coastal Area Facility Review Act (CAFRA) zone or allow the discharge of pollutants to waters of this State without first acquiring the necessary grants, permits, or approvals from the Department of Environmental Protection or the U.S. Environmental Protection Agency.

December 14, 1988
Date

Frank Coolick
Assistant Director

February 23, 1989
Modified

March 29, 1990
Modified

December 14, 1993
Expiration Date

K028	Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane
K029	Waste from the production streams stripper in the production of 1,1,1-trichloroethane
K030	Column bottom or heavy ends from the combined production of trichloroethylene and perchloroethylene
U080	Methylene chloride
U210	Tetrachloroethylene
U226	1,1,1-Trichloroethane
U228	Trichloroethylene

b) 1. The permittee is authorized to store the following wastes in containers, vertical tanks and tank trailers:

NJDEP Hazardous Waste Number	Description
D001	ignitable, not otherwise classified
D002	corrosive, not otherwise classified
D003	reactive, not otherwise classified
D004	arsenic by EP test
D005	barium by EP test
D006	cadmium by EP test
D007	chromium by EP test
D008	lead by EP test
D009	mercury by EP test
D010	selenium by EP test
D011	silver by EP test
F001	The following spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-tri-chloroethane, carbon tetrachloride, and the chlorinated fluorocarbons; and sludges from the recovery of these solvents from degreasing operations.
F002	The following spent halogenated solvents: tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-tri-fluoroethane, o-dichlorobenzene, trichlorofluoromethane and the

The following codes for non-hazardous wastes provided these wastes are managed as hazardous wastes, including the use of manifests:

NJDEP Hazardous Waste Number	Description
X825	Contaminated Soil/Sludge
X850	Packed Laboratory Chemicals
X910	Chemical Process, Solids NOS

c) The permittee is authorized to accept all NJDEP hazardous waste types as small packages of Lab Pack waste except the following:

1) Wastes listed in N.J.A.C. 7:26-8.13 and 8.14 (F, X and K numbers).

2) Materials for which a satisfactory specification is not available.

Materials such as explosives, shock-sensitive explosives, radioactive and gaseous are considered special handling materials and shall be left at the Generator's facility for direct pick up by the ultimate disposal contractor. The permittee shall not accept any of these special handling materials at the Elizabeth facility.

d) The permittee is authorized to solidify the following wastes in drums or by using the mechanical solidification process (only during the period of operation as described in Condition 14h) at the facility:

NJDEP Hazardous Waste Number	Description
D001	ignitable, not otherwise classified
D002	corrosive, not otherwise classified
D004	arsenic by EP test
D005	barium by EP test
D006	cadmium by EP test
D007	chromium by EP test
D008	lead by EP test
D009	mercury by EP test
D010	selenium by EP test
D011	silver by EP test
F001	The following spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and the chlorinated fluorocarbons; and sludges from the recovery of these solvents from degreasing operations.

REFERENCE NO. 3

Attachment - 7

RCRA PERMIT APPLICATION
FOR

Perk Chemical Co., Inc.
217 South First Street
Elizabeth, Union County, NJ 07206

EPA ID No. NJD002200046

January 1986

Original Application Prepared By:
Storch Engineers
Florham Park, NJ 07932

Revised Application Prepared By:
Kenneth L. Woodruff
Environmental Professional

In Association With:
Byron B. Bradd, P.E.
Consulting Chemical Engineer
Kenneth L. Woodruff & Associates
Morrisville, PA 19067

Byron B. Bradd

Byron B. Bradd NJPE 29278

A-7

Process Design Description

S01 - Storage in Drums

(Line 1) A maximum of 249,900 gallons of wastes are stored in drums on-site.

S01 - Storage in Tank Trailers

(Line 3) Intermittent temporary storage of aqueous wastes occurs in three tank trailers, a total capacity 18,500 gallons, while full loads are assembled for transport and treatment at other facilities. Individual trailer capacities are 8,000, 5,500 and 5,000 gallons.

T01 - Treatment in Tanks

(Line 2) The existing distillation process for reclamation of chlorinated solvents (non-ignitables) has a capacity of 200 gallons per hour.

(Line 4) A mechanical mixing system will be installed upon NJ DEP Approval for solidification of wastes.

S01 - Storage in Containers

(Line 5) Solidified materials may be stored briefly on-site in a dump trailer or roll-off container while awaiting transport to a licensed disposal facility. This will be implemented as part of the mechanical solidification operation.

T04 - Other Processes

(Line 6) The facility currently solidifies residues and still bottoms in drums to remove free liquids prior to landfill disposal. Upon operation of the mechanical solidification process, solidification in drums will be discontinued.

B. FACILITY DESCRIPTION

B-1 General Description

Perk Chemical Co., Inc. is located approximately 3/4 mile northeast of the Exit 13 Interchange of the New Jersey Turnpike in the City of Elizabeth (see location map, Figure 1). The street address and mailing address of the installation is:

Perk Chemical Co., Inc.
217 South First Street
Elizabeth, New Jersey 07206

The company is engaged in the transportation, storage, processing, blending and distribution of virgin chemicals and waste chemicals. Its Standard Industrial Classification (SIC) code number is 5161. Virgin Solvents (primarily non-flammable chlorinated solvents) are received by tank truck in bulk, stored on site in bulk tanks, drummed and stored on site, and eventually delivered by truck to customers. Waste chemicals (primarily spent solvents) are received in drums or by tank trailer in bulk. All wastes are stored in drums or temporarily in tank trailers. Depending upon waste type, they are either processed for chemical recovery on site in a distillation plant, sold to others for direct use, blended on site with other chemicals to produce salable mixtures, or are solidified on site prior to shipment to a licensed disposal facility. The market for reclaimed solvents includes the metals cleaning, furniture stripping,

adhesives and aerosols industries.

Types of substances handled on site by the company include virgin and spent chlorinated hydrocarbons (no PCB's), non-halogenated solvents, paint waste solvents, halogenated still bottoms, non-flammable and flammable organic liquids, waste oils, acids and alkaline solutions.

The principal contact and party responsible for the operation of the facility, including hazardous waste activities at Perk Chemical Co., Inc. is:

Paul L. Fleischmann

President

201-355-5800 Office

516-239-4539 Home

B-2 Topographic Map

A 7.5-minute series topographic map showing a distance of 1000 feet around the facility at a scale of 1 inch equals 2000 feet is shown as Figure 2. (Appendix A includes the full Elizabeth Quadrangle)

Floodplain - The 100-year floodplain area is indicated in Figure 3. The 100-year flood elevation is 8.3. Although a small portion of the site is indicated to be in the 100-year flood hazard boundary of the Elizabeth River, the entire facility is in excess of elevation 8.3 feet. Hence the facility is not in the 100-year floodplain of the Elizabeth River. The facility is affected by the U.S. COE Elizabeth River Flood Control Project implemented in the area. This will be discussed later.

Surface Waters - Surface waters are indicated on Figures 1 and 2. The Elizabeth River and the Arthur Kill are the nearest surface waters; the former one intrastate, whereas the later is interstate (Staten Island, NY on the opposite shore).

Land Use - The zoning for the facility site is M-I

(manufacturing/industrial), as well as for the immediate surrounding areas, as indicated on Figures 4 through 8. Actual land use generally conforms to this zoning. Additional zoning and land use information is provided in Appendix B.

Wind Rose - A wind rose prepared from data supplied from the Newark Airport meteorological station is shown in Figure 9. As may be expected for this latitude, prevailing winds are from the west/northwest from December through February. During spring and summer, winds arise from the south and southwest. Fall winds generally prevail from the northwest.

Hazardous Waste Facility Boundary - The hazardous waste management facility consists of drum and vehicular storage areas, and a distillation plant as shown in the Facility Drawings (Appendix C and D). Metes and bounds of the facility are indicated on Facility Drawing No. PCC-02A (Appendix C) facility property deed information is included in Appendix E.

Access Control - The facility is surrounded by concrete floodwalls (topped with chain link fence) on the south and west sides, a concrete retaining wall (topped with chain link fence) on the east side, and a combination of dikes and chain link fence on the north side. There are six access points to the facility: five gates for over-the-road vehicles and one rail siding which is rarely used.

The main gate on South First Street is used for employee and visitor access, as well. All employees and visitors must check in to the main office before gaining access to the remainder of the site, During non-business hours the facility is protected by an electronic surveillance system, which is discussed in further detail in Section F-1, Security.

Injection and Withdrawal Wells - The facility has no injection wells. Two wells are located on the facility grounds along South First Street (see Appendix C for location) away from the working area of the facility

for a source of distillation cooling water (1965 and 1974), these are no longer used. Refer to Appendix F, Wells and Groundwater, for additional details. The facility now uses city water as a source for make-up cooling water. The cooling cycle is closed-loop which is further described in Section D-3.

Buildings - Two buildings are on the site: a single-story office and laboratory building and single-story plant process building, where treatment, blending and distillation of virgin and waste solvents is conducted. A third single-story storage building is to be constructed at the location of the old building foundation as indicated on the site plan PCC-02A (Appendix C). This will be used for parts and equipment storage, as well as spill control materials.

Treatment, Storage and/or Disposal Operations - Non-flammable materials are processed in the on-site distillation plant which is housed in a 50' x 50' x 18' plant process building at the northwest section of the site adjacent to South First Street. Within this building, wastes are prepared in an agitated mixing vessel prior to being pumped into a steam jacketed agitated still. The distillate vapor produced in the still passes through condensing, dewatering, drying, purification and filtering units. Operation of the distillation plant is described in greater detail in Section D-3.

An area near the central part of the site is to be used for a pilot mechanical solidification unit. This is the area presently used for batch solidification in drums. The mechanical mixing system will ultimately replace the batch drum operation and will be installed in a 20 foot standard shipping container.

Flammable and ignitable materials, substances, and wastes are stored in drums in the central part of the site. Flammable and/or ignitable

hazardous wastes are stored further than 50 feet from the property boundaries. These wastes are shipped off-site to facilities licensed to handle them.

The facility handles some corrosive wastes (i.e. acids and caustics). However, these are segregated from other substances and stored in drums in a separate area to be constructed which will be surrounded by a spill curb and lined with acid brick. Small quantities of reactive wastes are accepted as part of Lab Pack Chemicals. These are repackaged for shipment off-site to appropriate disposal facilities.

Storage of other wastes received at the facility occurs in drums on paved storage areas as indicated in Facility Drawing No. PCC-02A (Appendix C).

The temporary operating authority issued by NJ DEP permits the company to store up to 5000 55-gallon drums of hazardous wastes.

Bulk storage of virgin chemicals occurs in a 10'-6" diameter vertical steel tank 18'-6" in height, capacity 12,000 gallons (normally used for perchloroethylene or trichloroethylene), in a 9'-0" diameter 34'-0" long stainless steel horizontal tank, capacity 15,000 gallons (normally used for 1,1,1-trichloroethane) and in drums (mostly 55 gallons each). Two other 12,000 gallon tanks had previously been on site. Upon reaching the end of their serviceable life, they were removed, however replacement tanks are scheduled to be installed adjacent to the existing 12,000 gallon perchloroethylene/trichloroethylene tank as shown in the Facility Drawings. Air pollution permits have been issued for these tanks. These tanks will also be used for virgin or reclaimed product materials.

No disposal activities are conducted on site. Still bottoms (residue from the solvent recovery operation) are pumped from the still to a tank trailer or drums. These materials are manifested and sent to licensed oil

recovery facilities. In the event the still bottoms are not recoverable, they are solidified in drums prior to transportation and disposal at a licensed disposal facility. Upon completion and startup of the proposed mechanical solidification system, this material will be solidified in bulk rather than drums.

Non-contact cooling water is recirculated from the still condensers to an outside tank trailer where cooling takes place and is then used again in the condensers. Make-up water to replace any evaporated cooling water and blowdown comes from the City of Elizabeth water supply system.

Recreation Areas - The nearest recreation areas are the playgrounds adjacent to schools. The closest of these is William Penn School, approximately 1800' from the center of the Perk site. This school was scheduled to be closed permanently in June 1983, and is scheduled for demolition.

Runoff Control Systems - The entire facility is paved with concrete and the perimeter is bounded with a concrete curb to prevent uncontrolled runoff of stormwater and prevent discharge of any spilled materials. Beyond this curb are concrete drainage channels and floodwalls (see Appendix C).

Access and Internal Roads - There are two vehicular access points on South First Street, 3 vehicular access points on Third Avenue and 1 rail siding at the northwest corner of the facility adjacent to the Conrail tracks. There are no internal roads, only access lanes for the drum storage areas.

Storm Sewers - No storm sewers are located on the plant grounds where chemicals are stored or handled. Drainage from areas around the facility flows through a series of open and closed channels on facility grounds and into an 18" diameter storm sewer inlet on South First Street where it is

~~ultimately directed through a 36" diameter outfall to the Elizabeth River approximately 325' West of the facility. This system is segregated from the working area by a curb system.~~ The USCOE constructed these drainage facilities and storm systems as part of the Elizabeth River Flood Control Project. There is no run-on to the active portion of the facility due to the curb surrounding the facility. ~~Rainwater falling on the active portion of the facility remains on the facility grounds until it evaporates or is contained for analysis and discharge to an appropriate facility. This is true for storms up to and including 25 year storms.~~ Storms of greater severity are covered in the Facility Flood Control Plan (section B-3).

Sanitary Sewers - The facility has two lavatories with two toilets and two sinks. Sanitary wastes from here are directed to the local sanitary sewer along South First Street and then to a 60 inch diameter interceptor, also along South First Street, where they are ultimately conveyed to the City of Elizabeth Joint Meeting Sewage Treatment plant about 1/4 mile away. A 54 inch diameter combined sewer is located along third Avenue, downstream of the facility. Combined sewer overflow discharges to the Elizabeth River.

Process Sewers - The facility has no active process sewers to the local sewer system nor any process discharge to surface waters at all. The company is contemplating, however, applying for a permit (NJPDES) to discharge non-contact cooling water and stormwater resulting from storms of greater than 25 year intensity to the Elizabeth River. At present, non-contact cooling water flows through an on-site recirculation loop between the distillation plant and a tank trailer (where cooling takes place). Up until several years ago, non-contact cooling water was discharged to the local sewage treatment facilities. However, the

Elizabeth Joint Meeting Sewage Treatment plant began to prohibit discharge of industrial cooling water into sanitary sewers; the practice of such discharge was therefore discontinued by Perk Chemical Co., Inc. The local storm sewer which discharges through the above mentioned 36" diameter outfall to the Elizabeth River may be the logical medium for any future non-contact cooling water discharge. The company requires a NJDES permit to discharge in this manner.

Loading and Unloading Areas - All loading and unloading areas are diked (i.e. a curb surrounds the entire facility). Vehicles entering and leaving the facility carry bulk liquids and drummed substances. Loading and unloading areas for bulk liquids from tank trailers are adjacent to the dikes surrounding bulk storage tanks in the northeast and northwest corners of the facility. Loading and unloading of drummed substances occurs on the concrete drum staging area. Draw-off and filling of drums occurs in the plant process building (distillation plant at northeast section of site).

Fire Control Facilities - A fire hydrant is located adjacent to the center of the site along the sidewalk at Third Avenue. A second hydrant is situated approximately 100 feet from the site boundary on South First Street. Type BC and ABC hand held fire extinguishers are located in the Plant Process and Office Buildings and on facility forklifts. The facility also maintains a mobile, wheeled fire extinguishing cart with a large extinguishing capacity. This cart can be moved rapidly by one man to any facility area experiencing a fire problem. Access for fire department personnel and vehicles is readily available by two gates along South First Street and three gates along Third Avenue. Fire drills and fire safety inspections are conducted in conjunction with the City of Elizabeth Fire Department See Exhibit 10).

Barriers for Drainage or Flood Control - The entire facility is paved with concrete and a 4" to 6" concrete curb surrounds the active part of the site. The USCOE, New York District, constructed stormwater and flood control structures beyond this curb under its Elizabeth Flood Control Project during the late 1970's and 1980 at the Perk Facility grounds and surrounding areas. Major aspects of this project as they affected the facility included construction of a concrete floodwall (top elevation 13.6'), flood gates, and a concrete drainage ditch around the south and west boundaries of the facility. Drainage from surrounding areas is allowed to flow through open and closed channels around the active portion of the site and ultimately to the Elizabeth River. This stormwater does not come in contact with the active portion of the Perk site. Stormwater resulting from up to a 25 year storm falling on the active portion of the Perk site does not flow into this drainage channel, since the channel for its entire length has a minimum four inch curbing on the facility side.

Location of Operational Units within the Hazardous Waste Management Facility Site where Hazardous Waste is Treated, Stored and Disposed - Treatment of non-ignitable materials occurs in the distillation plant at the northeast section of the site. Solidification of waste currently occuring in drums, will take place in a mechanical mixing system near the center of the site, upon approval by the NJDEP. Storage of drummed substances occurs on concrete pavement throughout the general areas of the facility. The bulk storage tanks are only used for storing virgin and reclaimed products. No wastes are stored in these bulk tanks. No disposal activities take place on site. All hazardous wastes requiring disposal are shiped off site to licensed disposal facilities.

Location of Energy Transmission Equipment - Overhead electrical energy transmission lines are located along South First Street and Third Avenue.

The distillation plant has 208 volt, 3 phase electrical service, while the office building is served by 110 volt, single phase service.

Zoning Restrictions, Actual Land Uses and All Public Buildings within One Mile of the Facility - Refer to the discussion on land use earlier in this section and Appendix B.

Vehicle Ingress and Egress Routes Connecting the Facility to Major Highways - The nearest major highways are the New Jersey Turnpike (Interstate Route 95). Exit 13 Interchange is approximately one mile away by road; Interstate Route 278 (known as the Staten Island Expressway in Staten Island, NY) where the Geothals Bridge crosses the Arthur Kill is approximately one mile away by road; and U.S. Routes 1 and 9 are approximately two miles away by road at the Bayway Circle (Bayway Avenue Intersection). Routes most commonly travelled between the Perk Chemical Company and these major highways include:

- South First Street to Bayway Avenue, to Interstate Routes 95, 278, or U.S. Highways 1 and 9.
- South First Street to Third Avenue, to Atlantic Avenue and Cole Place, and then to Interstate Routes 95, 278, or U.S. Highways 1 and 9.
- South First Street to Elizabeth Avenue, East Jersey Street or Trumbull Street, and then to U.S. Highways 1 and 9 or local roads.

The above roads and highways are indicated on Figure 10.

Elevations - A concrete floodwall bounds the south and west sides of the site with a top of wall elevation of 13.6 feet. The 100-year flood elevation is 8.3 feet. The concrete pavement on the active area of the facility site has an elevation ranging from 9.17 to 10.89 feet. Elevations were taken throughout the site in July 1984, these are

indicated in Appendix C.

B-3 Location Information

B-3a Seismic Standard - Perk Chemical Co. is not located within 2000 feet of an active fault.

B-3b Floodplain Standard - Perk Chemical Co. is located several hundred feet north and west of the Elizabeth River. The 100-year floodplain elevation at the facility is 8.3 feet. Since the lowest on-site elevation is 9.17, the facility is not located within the 100-year flood hazard boundary.

B-3b(1) Demonstration of Compliance - Prior to November 1, 1985 when the floodplain remapping of the area was completed, the Perk Chemical Co. site had been in the 100-year flood hazard boundary of the Elizabeth River. As a result, certain flood protection measures have been undertaken at the facility.

B-3b(1)(a) Flood Proofing and Flood Protection Measures - The U.S. Army Corps of Engineers designed and managed construction of the Elizabeth Flood Control Project in the Elizabeth River Basin. As part of this project, concrete floodwalls and steel floodgates were constructed along the north and Third Avenue sides of the Perk Facility. In addition, a concrete retaining wall was constructed along a portion of the South First Street side of the property near Third Avenue. (See Plot Plan-Appendix C) The remainder of the facility is protected against uncontrolled flow of flood waters by the 3'-6" high concrete block wall and 6'-0" high dikes constructed by Perk Chemical Co., Inc. as part of its DPCC Plan. In addition, a 6 foot high chain link fence and gates along South First Street in the area not protected by a dike or retaining wall, serve to provide protection against washout in that area.

The U.S. Army Corps of Engineers conservatively designed all

structures for the Elizabeth Flood Control Project. As contained in the Project General Design Memorandum prepared by the Department of the Army, New York District, Corps of Engineers in June 1969, the project was designed to provide protection against a once in 140 years flood (a flood with a 0.7 percent chance of occurrence). Protection is provided to elevation 11.6 feet above mean sea level. This elevation is selected as the result of combining a 9.0 feet surge (the maximum ever recorded) with the astronomical mean high tide of 2.6 feet.

The USCOE General Design Memorandum states that the "hydraulic objectives of improvements is to prevent recurrent flooding in the project area by either lowering the flood profile by deepening or widening the river channel where economical, or by confining the flood waters by levees and walls where channel improvement is not economical, or by using a combination of both methods.

The floodwalls and flood gates at the Perk Chemical Facility are constructed to elevation 13.6 feet. All concrete structure designs prepared by the USCOE are in accordance with Engineer Manuals for Civil Works as follows:

1) Retaining Walls (EM 1110-2-2502 29 May 61)
2) Wall Design - Flood Walls (EM 1110-2-2501)
   Change dated 18 June 1962
3) Working Stresses for Structural Design
   (EM 1110-1-2101 1 Nov. 63)

Hydrodynamic forces on flood protection structures adjacent to the Perk Chemical Co., Inc. Facility will be negligible, since the USCOE Design Memorandum reports that "wave action is considered to be dampened substantially in the tidal reach upstream of South Front Street because of the meandering alignment of the stream near the mouth. Velocities would

be negligible in the tidal reach of the stream under design conditions".

Details on the flood control structures at the Perk Chemical Facility, as provided by the U.S. Army Corps of Engineers, New York District are provided in Appendix M.

B-3b(1)(b) Flood Plan - Since the facility is not in the 100-year floodplain, the facility requires no flood plan. However, to provide for control of flood waters which may tend to back up through the storm sewer, and as part of the facility DPCC plan, a gate valve, as approved by the USCOE will be installed at the 18-inch diameter storm sewer at the corner of South First and Third Avenue. Completion of this installation is scheduled for May 31, 1986. In the event of a storm of greater than 25 year intensity, this valve will be closed to prevent potentially contaminated storm water from entering the Elizabeth River. Following the storm, water samples will be taken to determine if the storm water can be discharged to the Elizabeth River. If not, appropriate treatment will occur prior to discharge.

B-4 Traffic Patterns - Access to Perk Chemical Co., Inc. is from South First Street or along Third Avenue. Major roads used by trucks traveling to and from the company include the New Jersey Turnpike (Route 95), Route 278 and Routes 1 and 9. South First Street and Third Avenue are both two-way streets. Parking of passenger vehicles is allowed but not extensively practiced along these two streets.

A number of tank trailers, trucks, tractors and van trailers may be parked within the facility at any given time.

Traffic Control - Traffic in the immediate plant area is controlled by stop signs.

Access Road Surfacing - Roads in the immediate area are constructed of a 2-inch bituminous concrete pavement (blacktop) wearing surface on top of

a 5-inch bituminous stabilized base course on top of 2 inches of quarry processed stone. The combined wearing course, base course, and subbase have an American Association of State Highway and Transportation Officials (AASHTO) structural number of 3.3. According to the City Engineer of the City of Elizabeth, Mr. Victor Venegra, the road has been constructed in compliance with the Standard Specifications For Road And Bridge Construction (1961) by the New Jersey State Highway Department and the 1980 Supplement To The Standard Specifications For Road And Bridge Construction Dated 1981 by the New Jersey Department of Transportation.

C. WASTE CHARACTERISTICS

This section describes the chemical and physical nature of the hazardous wastes handled, stored and/or treated by Perk Chemical Co., Inc. at its Elizabeth facility, as well as the Waste Analysis Plan (C-2) for sampling, testing, and evaluating these wastes. Section C-3 is the Waste Acceptance and Quality Control Plan for the facility.

C-1 Chemical and Physical Analyses

Hazardous Wastes Stored at the Facility - Hazardous wastes are stored in 55 and 30 gallon drums. NJDEP has previously given the company temporary operating authorization (TOA) to store up to 5,000 drums of hazardous waste on the site. Types of waste most frequently received by the company include, but are not limited to:

Non-Flammable Organic Liquids

- Tetrachloroethylene (Perchloroethylene)
- Trichloroethylene
- 1,1,1-Trichloroethane (Methyl Chloroform)
- Methylene Chloride

Flammable Organic Liquids

- Toluene
- Xylene
- Mineral Spirits
- Naphthalene

Kerosene

Methanol

Butyl Alcohol

Isopropyl Alcohol

Methyl Ethyl Ketone (MEK)

Acetone

Cyclohexanone

Oils

Mineral Oils

Machine Oils

Cutting Oils

Cooling Oils

Still Bottom Oils

Miscellaneous oils not enumerated above (small quantities)

Emulsions

Oily emulsions (oil and water, oil and solvent, etc.)

Acids and Alkali Solutions

Caustic

Detergents with alkaline base

Sulfuric acid

Nitric acid

Acetic acid

Hydrochloric acid

A complete listing of the specific wastes handled, transported, and/or treated by the company as indicated in the RCRA Part A Application follows:

EPA Hazardous Waste No. and Hazard Code	Waste Type
D001 (Ignitable)	Non-listed ignitable waste
D002 (Corrosive)	Non-listed corrosive waste
D003 (Reactive)	Non-listed reactive waste (Lab Pack Chemicals Only)
D004 (Toxic)	Arsenic
D005 (Toxic)	Barium
D006 (Toxic)	Cadmium
D007 (Toxic)	Chromium
D008 (Toxic)	Lead
D009 (Toxic)	Mercury
D010 (Toxic)	Selenium
D011 (Toxic)	Silver
F001 (Toxic)	Spent degreasing solvents tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1 trichloroethane, carbon tetrachloride and chlorinated fluorocarbons and sludges from recovery of these solvents
F002 (Toxic)	Halogenated solvents and recovery still bottoms
F003 (Ignitable)	Non-halogenated solvents and solvent recovery still bottoms (xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone and methanol)
F004 (Toxic)	Spent non-halogenated solvents, cresols and cresylic acid and nitrobenzene and still bottoms from recovery
F005 (Ignitable, Toxic)	Non-halogenated solvents and solvent reocvery still bottoms (toluene, methyl ethyl ketone, carbon disulfide, isobutanol and pyridine)
F006 (Toxic)	Wastewater treatment sludges from electroplating operations
F007 (Reactive, Toxic)	Spent cyanide plating bath solutions

F008 (Reactive, Toxic)	Plating bath sludges where cyanides are used
F009 (Reactive, Toxic)	Spent stripping and cleaning bath solutions from electroplating
F010 (Reactive, Toxic)	Quenching bath sludge
F011 (Reactive, Toxic)	Spent cyanide solutions from salt bath pot cleaning from metal heat treating
K028 (Toxic)	Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1 trichloroethane
K029 (Toxic)	Waste from the product steam stripper in the production of 1,1,1 trichloroethane
K030 (Toxic)	Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene
K062 (Corrosive, Toxic)	Spent pickle liquor from steel finishing operations
U112 (Ignitable)	Ethyl acetate
U113 (Ignitable)	Ethyl acrylate
U115 (Ignitable, Toxic)	Ethylene oxide
U117 (Ignitable, Toxic)	Ethyl ether
U121 (Toxic)	Trichlorofluoromethane
U122 (Toxic)	Formaldehyde
U123 (Corrosive, Toxic)	Formic acid
U134 (Corrosive, Toxic)	Hydrofluoric acid
U140 (Ignitable, Toxic)	Isobutyl alcohol
U154 (Ignitable)	Methanol or methyl alcohol
U159 (Ignitable, Toxic)	Methyl ethyl ketone
U161 (Ignitable)	Methyl Isobutyl ketone
U162 (Ignitable, Toxic)	Methyl methacrylate
U165 (Toxic)	Napthalene
U188 (Toxic)	Hydrobenzene phenol or carbolic acid
U196 (Toxic)	Pyridine

U210 (Toxic)	Tetrachloroethylene, perchloroethylene
U213 (Ignitable)	Tetrahydrofuran, 1,4-epoxybutane
U220 (Toxic)	Toluene
U223 (Reactive, Toxic)	Toluene disocyanate
U226 (Toxic)	1,1,1 trichloroethane, 1,1,1 trichloromethane
U228 (Toxic)	Trichloroethylene, trichloroethane, acetone trichloride
U229 (Toxic)	Trichlorofluoromethane
U238 (Toxic)	Urethane (Ethyl carbonate)
U239 (Ignitable)	Xylene
U080 (Toxic)	Dichloromethane
K080 (Corrosive)	Caustic cleaning wastes from paint manufacturing
K086 (Toxic)	Sludges and wastes from tub washers-ink formulation
U001 (Ignitable)	Acetaldehyde
U002 (Ignitable)	Acetone
U003 (Ignitable, Toxic)	Acetonitrile or cyanomethane
U006 (Corrosive, Reactive Toxic)	Acetyl chloride
U019 (Ignitable, Toxic)	Benzene
U029 (Ignitable)	Bromoethane
U031 (Ignitable)	n-Butyl alcohol
U037 (Toxic)	Chlorobenzene
U043 (Toxic)	Vinyl chloride
U044 (Ignitable, Toxic)	Chloroform
U045 (Ignitable, Toxic)	Chloromethane
U051 (Toxic)	Cresote
U052 (Toxic)	Cresols
U056 (Ignitable)	Cyclohexane

U057 (Ignitable)	Cyclohexanone
U077 (Toxic)	1,2 dichloroethane
U107 (Toxic)	Di-n-octyl phthalate
U108 (Toxic)	1,4 Dioxane
U070 (Toxic)	O-Dichlorbenzene
U151 (Toxic)	Mercury
U083 (Toxic)	1,2 Dichloropropane
U227 (Toxic)	1,1,2 Trichloroethane
F019 (Toxic)	Wastewater treatment sludges from chemical conversion coating of aluminum
K048 (Toxic)	Dissolved air flotation (DAF) from the petroleum refining industry
K049 (Toxic)	Slop oil emulsion solids from the petroleum refining industry
K050 (Toxic)	Heat exchanger bundle cleaning sludge from the petroleum refining industry
K051 (Toxic)	API separator sludge from petroleum refining
K052 (Toxic)	Tank bottoms from the petroleum refining industry
K002 (Toxic)	Wastewater treatment sludge from the production of chrome yellow and orange pigments
K003 (Toxic)	Wastewater treatment sludge from the production of molybdate orange pigments
K004 (Toxic)	Wastewater treatment sludge from the production of zinc yellow pigments
K005 (Toxic)	Wastewater treatment sludge from the production of chrome green pigments
K006 (Toxic)	Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated)
K007 (Toxic)	Wastewater treatment sludge from the production of iron blue pigments

721 (Toxic)	Waste automotive crankcase and lubricating oils from automotive service and gasoline stations, truck terminals, and garages
722 (Toxic)	Waste oil and bottom sludge generated from tank cleanouts from residential/commercial fuel oil tanks
723 (Toxic)	Waste oils and bottom sludge generated by gasoline stations when gasoline and oil tanks are tested, cleaned or replaced
724 (Toxic)	Waste petroleum oil generated when tank trucks are cleaned
725 (Toxic)	Oil spill cleanup residue which is contaminated beyond saturation or the generator fails to demonstrate that the spilled material was not one of the listed hazardous waste oils
726 (Toxic)	The following used and unused waste oils; metal working oils; turbine lubricating oils; diesel lubricating oils; and quenching oils
728 (Toxic)	Bottom sludge generated from the processing, blending and treatment of waste oil processing facilities

Waste Handling - Drivers are instructed to examine wastes at the time of pickup to assure compliance with the manifest requirements including labelling and numbering. Drivers are also under instructions to check container quality to make certain containers can be properly transported and are in good condition with no sign of leakage. Drivers have blanket authority from company to reject any containers, which in the driver's own opinion cannot be transported safely. If for any reason, the driver feels there is a discrepancy, the waste is not accepted. All hazardous wastes must be labeled at time of pickup. Labels on drums show key information such as waste type, generator, generator location, and accumulation start date. Tank trailers used to pick up bulk liquids are appropriately placarded according to USDOT requirements. Copies of the manifests,

D. PROCESS INFORMATION

D-1 Containers

D-1a Containers - The maximum inventory of hazardous waste drums in storage before being processed at the site will not exceed 5000 drums. The container storage area is located outdoors. No drums are placed on unprotected ground for storage. All drums are stored on concrete pavement. Drummed waste includes oils, emulsions, acids and alkali solutions, flammable and non-flammable organic liquids and chlorinated solvents, all of which contain free liquids. Corrosive wastes (acids and alkalies) are stored in a separate area surrounded by a spill curb.

Waste drums delivered at the facility arrive with manifests and are labelled in accordance with RCRA regulations. On some occasions, Perk may pick up wastes in one of its tank trailers. In such a case, the waste may remain in the tank trailer for several days pending either transshipment to another disposal facility, drumming on company premises, or transfer for recycling by another company. Normally, the waste arriving in tank trailers is either transshipped, processed, treated or drummed on the next working day following arrival. Tank trailers are parked on-site in the designated truck parking area (see Site plan, Appendix C).

Two forklift trucks equipped with drum grabbers are maintained on-site for drum handling. Non-flammable chlorinated solvents are stored for on-site processing. Ignitable waste liquids are stored in the central part of the site, separate from other substances and materials. A plan

transported to the Perk Chemical Co., Inc facility in vehicles registered, owned and operated by Perk Chemical Co., Inc. or by other licensed waste haulers. In the case of vehicles operated by Perk Chemical, this provides added control and monitoring step. Drivers examine each waste container at time of pickup to check for compliance with manifest and labeling requirements and physical condition of drums. Drivers do not examine contents of each individual drum. If for any reason the driver feels there is a discrepancy, the waste is not accepted. Upon arrival at the facility, waste drums are inspected, quantity checked, labelled, marked and then stored in segregated areas designated for that waste type to await further handling. Transfer of drums to the drum storage area is performed by a forklift truck equipped with drum grabbers. Ignitable, non-ignitable and corrosive materials are stored in separate areas. Lab pack drums are stored in a designated storage area. Containers remain closed while on-site until handling or processing requires them to be opened. For example, when the contents of a drum of waste perchloroethylene or 1,1,1-trichloroethane are to be processed through the distillation apparatus, either the forklift truck or a hand truck is used to bring the closed drum from the drum storage area to the plant process building. The drum is opened in the building and its contents pass through a filter screen and then through the process equipment. Empty drums may be solvent rinsed, reused, stockpiled, sold to drum reconditioners, or scrapped depending upon their condition. For example, after the contents of a chlorinated waste solvent drum are placed in the still, the empty drum, if inspection indicates it to be in good structural condition, is rinsed with trichloroethylene. The rinsate from this operation is recycled on-site and the cleaned drum is reused. Some empty drums are stockpiled on-site pending a decision regarding final

~~view of the container storage areas is provided in Drawing No. PCC-14 (Appendix D).~~ All drums are stored in columns, two drums wide. Drum columns are spaced approximately 2 feet apart and are no more than 30 drums deep for easy access by inspectors. Drums are never stacked more than 3 high.

D-1a(1) Description of Containers - Steel drums are used at the facility to store wastes, virgin materials, and finished goods.

According to the U.S. Department of Transportation nomenclature, containers used by Perk Chemical Co. to store hazardous waste include 5B 55-gallon, 17E 55-gallon, and 17E 30-gallon steel drums. These drum types have been in standard use in industry for the indoor and outdoor storage of trichloroethylene, perchloroethylene, 1,1,1-trichloroethane, methylene chloride, and other non-flammable organic liquids, as well as flammable organic liquids including mineral spirits, isopropyl alcohol, MEK, and other materials handled by Perk Chemical Co. The 5B type is a straight side, open head container with 16-gauge body and 16-gauge heads. The 17E type is a straight side container with 20-gauge body and 18-gauge tops and bottoms. The 17H type is typically used for lab packs (overpack drums). Additional information regarding these containers is included in Appendix G. Some containers are steel drums lined with epoxy or phenolic coatings. Some containers are new, and some are reconditioned in accordance with federal regulations. Climate of this region does not materially affect drums at the Perk site for the length of time they are stored there. The average length of time for drum storage is 60 to 120 days (as a range). The limiting factor for removing a drum from service is not the effect of climate upon drums, but number of reuses and manner of handling.

D-1a(2) Container Management Practices - Wastes are collected and

disposition. Stockpiled drums however, may ultimately be reused if they are in good condition, sold to drum reconditioners, or crushed and hauled off-site as scrap. Drums sent to be reconditioned or crushed and hauled off-site as scrap do not contain residue subject to regulation.

The Plant Supervisor inspects the drum storage area daily. Daily inspection reports are made and maintained in the office. Deficiencies are reported to management and appropriate correction measures are immediately taken.

Compatibility - The major waste categories handled are:

Non-Flammable Organic Liquids

Flammable Organic Liquids

Oils

Emulsions

Acids and Alkali Solutions

Among the above, steel drums, lined or unlined, are suitable for storage of non-flammable and flammable liquids, oils and emulsions. Within the acids and alkali solution (corrosive) class, caustic and detergents with an alkaline base are suitable for storage in steel drums. Nitric acid is stored in either plastic drums, drums with polyethylene liners, or stainless steel containers. Sulfuric acid, highly concentrated, is stored in mild steel drums. In lower concentrations (i.e. 50% and below), it is stored in plastic drums or drums with polyethylene liners. Hydrochloric acid is stored in plastic drums or polyethylene lined drums. Acetic acid is stored in mild steel or stainless steel drums.

When generators of waste contact Perk Chemical for a pickup, Perk requests from the generator a description of the containers being used to store the waste. A check is made by Perk to insure that the selected

container type is compatible with the waste (based upon literature search and knowledge and experience of Perk employees). No wastes are picked up from generators who do not store waste in appropriate containers. In some instances Perk provides the appropriate storage containers to the waste generators. Perk maintains an inventory of all types of required drums to furnish, if needed, or to immediately replace deteriorated or leaking containers found as a result of daily site inspections. The types of drums and liners maintained have been selected by Perk based upon standard charts and tables in engineering handbooks and manufacturer's literature such as those produced by Uniroyal, Gates and Knappco.

For certain acids, polyethylene lined drums are used, as noted above. Polyethylene lined drums are acid-proof. Polyethylene lined drums are not used for solvents. Drums used for solvents are solvent-proof 5B or 17E 55-gallon and 17E 30-gallon steel drums.

Lab packs (overpack drums) are typically 17H drums.

D-1a(3) Secondary Containment System - The entire Perk site is 2.032 acres, of which approximately 1.804 acres are actively used for company operations (remainder of area is occupied by concrete retaining walls and drainage channels all part of the Elizabeth River Flood Control Project). The perimeter of the 1.804 acre active portion of the site is curbed to provide secondary containment for all drum storage and transfer areas. The curb is a minimum of 4 inches high. At vehicular entrances, this line of containment remains unbroken, since ramps (bumps) are provided. Considering the space occupied by structures, drums and other objects, the 4-inch curb has the theoretical capability of containing aproximately 131,000 gallons. However, since the concrete base is pitched, it will not contain this volume. The capacity is much greater than 10 percent of the volume of the drums on-site (27,500 gallons) which is necessary to meet

regulations.

A separate drum storage area with its own spill curb will be constructed of compatible materials to contain drums of corrosive wastes (acids and alkalis) to prevent contact with other waste types stored on-site ~~should~~ a leak occur. (See Site Plan Appendix C) The entire site is paved with concrete having a minimum thickness of 6 inches. All secondary containment systems, including concrete pavement, curbs and dikes are inspected for general condition daily. Should cracks or other defects such as settling concrete be noted, repairs are made promptly. Inspection records are maintained and stored in the office.

The heaviest materials handled by Perk Chemical Co. are chlorinated solvents which weigh up to approximately 13.55 pounds per gallon. The heaviest 55-gallon drum would therefore weigh about 815 pounds (including weight of the steel drum). Perk stores these drums at a maximum of three high. The minimum 6 inch thick concrete pavement is adequate for this loading. Maximum loading is 250 pounds per square inch based on the heaviest material.

Normal rainfall on the active portion of the Perk site is contained within the minimum 4 inch perimeter curb mentioned above, and is swept from around drums and is allowed to evaporate. The concrete base within the active storage area is pitched so that containers are kept from contact with free standing stormwater. In addition, localized free standing water in container storage areas is swept out and/or drummed for disposal as hazardous waste after each storm.

Removal of Liquids from Collection System - In the event of a drum or tank trailer spill, the on-site 6,100 gallon capacity vacuum tank trailer is utilized to remove the material which is contained in the curbed area and transfer it to drums or other tank trailers. Should the contents of

the largest tank (15,000 gallons) spill, the material would be contained within its own diked area. The containment dike could be pumped out within 2-3 hours using the vacuum truck. In all large spills, the on-site vacuum trailer would be utilized for spill cleanup, hence the removal time will be [redacted]. In the case of all minor spills, absorbent materials maintained on-site are used to cleanup the spilled substance. All areas of the facility are inspected on a daily basis. Spilled or leaked waste is removed immediately upon detection.

Corrosive Waste Drum Storage Area - The basic design parameters for the area is the ability to safely store up to 384 drums (21,120 gallons) of corrosive waste. In order to facilitate this number of drums and allow for a minimum containment capacity of 10 percent of the total volume of containers, the inside dimensions of the area are 53 feet by 19 feet. In order to contain the corrosive materials, the storage area will be lined with 2 1/4" x 8" x 3 3/4" red shale acid brick laid in Potassium Silicate Mortar with double trowelled bed joint over a Tedlar Membrane. A 3/8" expansion joint will be installed one brick in from the sidewall. This expansion joint will be filled with a special chemical resistant elastomeric compound. Since this joint will be the most vulnerable point of the containment area, it will be inspected on a daily basis. A supply of the elastomeric expansion joint compound will be maintained on-site to make immediate repairs should they be necessary. Detailed information on the materials of construction and design sketches are included in Appendix J.

The design of the containment area provides for a sloped base to promote drainage of stormwater to corner sump pumpout points. Hence stormwater may be readily removed so that drums are not standing in water for any extended period. In addition, due to the fact the curbs of the

containment area are 6 inches above grade, stormwater run-on is prevented. The capacity of the containment system is 13.7 percent of the maximum volume of containers to be stored in the area.

Accumulated liquids, stormwater or spills will be analyzed using the on-site laboratory. Analysis will involve the checking of pH of the liquid. In the event of a spill, the waste material will be pumped from the sump into drums or alternatively pumped out using the vacuum truck. In the event of stormwater, the water will be pumped and allowed to evaporate on the pavement area or alternatively pumped into the nearby stormwater drainage channel for discharge, providing this is permitted by NJPDES Permit.

Completion of the Corrosive waste Storage Area is scheduled for completion by May 31, 1986.

Corrosive Waste Storage Area - Containment Volume Calculations

Maximum No. of Drums Stored = 384
Maximum No. of Gallons = 384 x 55 = 21,120 Gallons

No. of Drums on Bottom Row = 144
Area Occupied by Bottom Row of Drums
3.4 sq.ft. per drum x 144 = 490 sq.ft.

Volume of Containment Area

Drum Storage Surface
2 x 26.5' x 19.3' x 0.5' (Min. Depth) = 511 cu. ft.

Forklift Access Ramp within Containment
2 x 8' x 26.5' x 0.25' (Avg. Depth) = 106 cu. ft.

Liquid Removal Sump
2 x 2' x 2' x 2' = 16 cu. ft.

GROSS CONTAINMENT VOLUME = 633 cu. ft.

LESS - Volume Occupied by Bottom Row of Drums
490 sq. ft. x 0.5' (Min. Depth) = 245 cu. ft.

NET CONTAINMENT VOLUME = 388 cu. ft.
NET CONTAINMENT GALLONAGE
388 cu. ft. x 7.48 gal/cu. ft. = 2901 gal.

MINIMUM CONTAINMENT VOLUME REQ. = 2112 gal.
CONTAINMENT AREA WILL HOLD 13.7% of
MAXIMUM VOLUME OF STORED CONTAINERS

Solidification Process - The company consolidates solid and semi-solid materials in drums and sends these to licensed TSDF's. in the future, consolidation of solid materials and solidification of materials with free liquids will take place in a mechanical solidification system. Solidified materials will then be loaded into liquid tight roll-off containers or trailers for bulk shipment to licensed disposal facilities. Details on the proposed mechanical solidification process are included in Section D-4.

D-2 Tanks

Description of Tanks - There are no underground storage tanks for wastes. Two above-ground storage tanks for virgin or reclaimed solvents are located at the site as follows:

1-(18'-6" by 10'-6") diameter vertical steel tank, 12,000 gallon capacity (normally contains perchloroethylene or trichloroethylene). These are virgin or reclaimed materials, not hazardous wastes.

1-(34'-0" by 9'-0") diameter horizontal, stainless steel tank, 15,000 gallon capacity (normally contains 1,1,1 trichloroethane). This is virgin or reclaimed material, not hazardous waste.

The first tank indicated above is located near the process plant building, while the latter is located near the Conrail siding at the northwest corner of the property. All the tanks are connected by pipe to the process plant building.

The facility had two additional 12,000 gallon storage tanks, which were removed from service when they reached the end of their useful life. Replacements for these two tanks may be installed. Air pollution permits

have been obtained for two new tanks and a secondary containment (dike) system exists to accommodate them. These will also be utilized for virgin or reclaimed materials only.

The following is a general description of these tanks:

2 (12'-6" by 10'-6") diameter vertical steel tanks, 12,000 gallon capacity (tanks to normally contain virgin or reclaimed perchloroethylene or trichloroethylene).

Tank Corrosion and Erosion - Organic liquids such as trichloroethylene and perchloroethylene have corrosion rates of less than 0.02 inches per year on steel and stainless steel.

No wastes are stored in bulk storage tanks, only virgin or reclaimed materials.

Tank Management Practices - A flowsheet for the entire facility is shown in the accompanying Facility Drawings (Appendix C). Non-flammable chlorinated solvents, such as trichloroethylene, Methylene chloride, 1,1,1-trichloroethane and perchloroethylene are processed for recovery in the on-site distillation plant. Chlorinated solvents are measured, inspected and segregated by type for storage prior to processing. Finished goods are either drummed and weighed on a 1,000 pound capacity scale or are pumped into above-ground bulk storage tanks to await shipment to market. Oily still bottoms are pumped from the still and drummed for shipment and sale. They usually have economic value because of their heat content (Btu recovery). In the event of disposal, still bottoms are presently solidified in drums to eliminate free liquids and transported to a disposal facility licensed to handle that type of waste material. When the mechanical solidification process is brought on-line, drum solidification will be discontinued. Tanks and vessels within the process plant building are equipped with fail-safe devices, as well as alarms

which detect and indicate overfills. The entire process is electrically interlocked and includes an alarm system consisting of horns to alert the operator of any malfunction. In order to prevent spills within the plant, tanks and vessels contain high level controls which are interlocked with the pumps. Hence the high level alarm not only alerts the operator, but also shuts down the pump feeding the tank to prevent overflows. Further, spill prevention in the event of electrical failure has been provided on the tanks. Should any process vessel overflow in the plant, the overflow liquid would flow by gravity into the agitated mixing vat or into the concrete-lined pit located beneath the distillation unit. In either case, adequate secondary containment and fail-safe devices are provided in the process plant building. The Operating and Control System is further discussed in Section D-3.

D-3 Distillation Plant

Non-flammable chlorinated solvents, such as trichloroethylene, methyl chloride, 1,1,1-trichloroethane and perchloroethylene (tetrachloroethylene) are processed for recovery in the on-site distillation plant. These non-flammable chlorinated materials typically contain 85 to 90 percent solvents and 15 to 10 percent oils, lubricants and dirt. The distillation plant normally processes up to 2500 gallons per day of input material on a batch operation basis. For a 200 day per year operating basis (allowing for downtime) the plant output capacity of recovered solvents is approximately 400,000 gallons annually. However, not all of this capacity is utilized in the recovery of spent solvents. Some distillation is done on a custom basis, while other processing is performed on purchased solvents which require upgrading. In the reclamation of spent solvents, up to 45,000 gallons per year of still

bottoms (oil, grease and dirt) may be produced. This material is either blended and sold for heat recovery (fuel use) or solidified and disposed of in accordance with appropriate federal and state regulations.

All wastes delivered to the facility arrive with manifests. They are inspected and checked for quantity accuracy against the manifest. Drums are marked to include the source and labeled as to type and manifest number. This is in accordance with the Waste Analysis and Quality Control Plan. Drummed wastes are stored in the drum storage area designated for that specific type of material. For example, non-flammable chlorinated solvents are stored for on-site processing, while flammable organic liquids for heat recovery are stored prior to blending and loading in tank trailers for shipment off-site. Corrosive wastes are stored prior to treatment, neutralization or shipment to other facilities. Flammable and non-flammable liquids are stored in separate areas. Two forklift trucks equipped with drum grabs are maintained on-site for drum handling.

Wastes arriving in a bulk tank trailer are either drummed on site, held in tank trailers temporarily pending shipment to another facility, or pumped directly into the mixing vat located in the plant building for distillation.

Non-flammable chlorinated solvents which are processed in the on-site plant are either fed from bulk tank trailers or drums into the 2,000 gallon capacity agitated mixing and treatment vat. This batch operation allows for the blending of waste feedstock as well as the addition of soda ash for pH control. From this vat, the solvent is pumped into the steam jacketed 3,000 gallon agitated distillation kettle. A No. 2 fuel oil fired high pressure steam boiler provides the process steam. Oily still bottoms resulting from the process are pumped from the distillation unit periodically and are drummed for shipment and sale for oil and lubricant

recovery of heat [redacted] disposal. The distillate vapor passes through three condensing stages and then by gravity into a 40 gallon stainless steel water separator. Cooling water for the three condensers is supplied at a maximum rate of 90 to 100 gall[redacted]per minute by a circulating system. The operation utilizes approximately 25,000 to 35,000 gallons per day of non-contact cooling water which is circulated between the distillation plant and a tank trailer parked outside of and adjacent to the north wall of the process plant building.

The small amount of water removed in the 40 gallon water separation unit flows back into the 2,000 gallon agitated mixing and treatment vat for recycling through the system. From the water separator, the solvent condensate flows into a 350 gallon stainless steel holding and settling tank. Free water which floats to the surface of the settling tank is removed and returned to the mixing vat, while the settled solvent is pumped to a 1,700 gallon stainless steel holding tank. When this holding tank reaches capacity, the product is fed at a slow rate (i.e. 4 to 10 gallons per minute) through a drying column and two 10 micron filters, prior to being returned to another 1,500 gallon stainless steel storage tank. A carbon purification column may also be utilized (optional). From this final storage tank, the liquid is either drummed and weighed on a 1,000 pound capacity Fairbanks electronic scale, pumped into a bulk storage tank, or pumped into a tank trailer for delivery to the ultimate consumer. In some instances, the solvent is blended into a specialty product which involves blending with other solvents or ingredients into the finished goods.

A Process Flow Diagram for the Distillation Plant operation is included as Drawing No. PCC-03, as well as a Piping and Instrumentation

E. GROUND WATER MONITORING

The requirements for ground water monitoring are not applicable to the Perk Chemical Company facility since no disposal activities take place on-site.

C. GROUND WATER ASPECTS

As indicated previously, an on-site well supplies cooling water for the operation of the process condensers. This 6-inch well (NJ Permit No. 26-3500), location indicated in Drawing PCC-02, was initially drilled in 1965 to a depth of 285 feet. It initially supplied 120 gallons per minute of cooling water to the distillation plant. The well casing extends to a depth of 41 feet. The static water level at the time of drilling the well was observed to be 90 feet. The well is drilled into the Brunswick shale.

By 1968, the pumpable volume of water fell below the required 90 to 100 GPM, therefore the depth of the well was extended to 325 feet at that time. The maximum pumping rates measured in 1968 were as follows:

325' - 94 GPM
305' - 94 GPM
285' - 83 GPM
265' - 83 GPM
245' - 75 GPM
200' - 35 GPM

A second well was drilled on the Perk Chemical Co. site in 1974 (NJ Permit No. 26-4600). This is also a 6-inch well drilled to a depth of 440 feet and cased to a depth of 43 feet. At the time of drilling, the static water level was observed to be 40 feet and the pumping rate was determined to be 220 gpm. The well has not been in service for several years.

Ground water apparently occurs under watertable conditions in the fill and tidal marsh sediments immediately underlying the site. Ground water also occurs under semi-contained conditions in the alternating sands beneath the silty clay aquitards and the secondary fractures within the Brunswick shale.

Ground water in the uncontained zone of the upper water-table occurs between 2 and 5 feet below land surface as indicated in the 1966 boring logs (submitted as Appendix C of the December, 1978 Engineering Plans).

REFERENCE NO. 4

Ground-water flow at the site is believed to be south-southeast towards the Elizabeth River and the Arthur Kill. However, ground-water table gradients are predictably very low and therefore its movement is largely unpredictable without detailed analysis over a wide area. Tidal effects from Newark Bay can significantly affect local flow patterns.

Ground-water from the semi-confined aquifer of the Brunswick shale is probably not in good hydraulic communication with the fill and tidal marsh deposits because:

1) The site is generally a ground-water discharge zone.

2) Sequences of silty clay and clayey silts separate the unconfined from the semi-confined flow systems.

The nearest other operating water well to that at the Perk Chemical Co. site is operated by Reichold Chemical Company at 726 Rockefeller St,. Elizabeth. That site is approximately 3000 feet southwest of the Perk site and across the Elizabeth River. That well (NJ Permit No. 26-4096) drilled in 1967 is 10 inches in diameter, 400 feet deep and yields 415 gallons per minute. The well is cased to a depth of 39'-6". Water is utilized for industrial purposes.

No public water supply wells are located within more than 2 miles of the Perk Chemical Co. site.

PERK CHEMICAL COMPANY INC.
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ELIZABETH, NEW JERSEY

EPA ID NO. NJD002200046

GENERAL INFORMATION AND SITE HISTORY

The Perk Chemical company, Inc., (Perk) is located on a 2.03 acre tract of land on South First Street in Elizabeth, Union County. The site is approximately 0.75 miles northeast of Exit 13 of the N.J. Turnpike in the Elizabethport area of the city. The facility is engaged in the transportation, storage, processing, blending and distribution of virgin and waste chemicals. Perk (now Cycle Chem) is currently in the RCRA permit application process and conducts business under Temporary Operating Authority (TOA) as granted by NJDEP. (Attachment 1)

The Perk operation at the site began in February of 1962 under its incorporator and president Ray Rothschild. (Attachment 1) The administration of Perk Chemical Company under Ray Rothschild came to an end on September 21, 1987 when Perk changed its name to Cycle-Chem Inc., with its principal authority being transferred to Paul Fleischmann.

According to the latest Dun and Bradstreet Report Cycle-Chem Inc., is the parent company to Perk Chemical Company and both are within the corporate family of the Witte Chase Corporation. Also within this corporate family is Clean Venture Inc., (a New Jersey Hazardous Waste Contractor), who became associated with the others around October, 1985.

The relationships of these companies and their principals may be illustrated as follows:

	PERK	CYCLE	CLEAN VENTURE
President	Paul Fleischmann	Paul Fleischmann	Michael S. Persico
Vice President	----------	Mike Persico	John Kucsma
Secretary	Steven Chase	Steven Chase	Steven Chase Barbara Callahan

(See Attachment 1)

SITE OPERATIONS OF CONCERN

The Perk Operation under Mr. Rothschild operated with little regulatory guidance until the late 1970's when the NJDEP, through regular inspections, determined the standards at which Perk would need to operate in order to receive Department authorization. One of these standards was the installation of concrete pavement in drum and tank storage areas. Construction of this pavement began in late September 1980 and was completed around 1982.

A record exists of at lease 17 chemical discharges that occurred at the site between March 1979 and September 1980. (Attachment 2) This indicates the possibility of multiple discharges over the 20 years prior to the installation of pavement and the potential for serious soil and groundwater contamination. This potential however was not completely remediated by the addition of concrete. And some concerns have been voiced regarding the value of this installation. One concern was that poor sloping which caused storm water and leaking chemicals to pond around stored drums may accelerate their deterioration. Another concern involved the deterioration of the concrete itself which could allow infiltration of spilled chemicals into the soil. (Attachment 2)

The Cycle-Chem operation consists of a distillation plant, a mixing solidification process, and a chemical and waste storage facility. Drums of waste received at the site are staged, inspected, and segregated according to classification. Spent chlorinated solvents such as trichloroethylene, tetrachoroethylene, 1,1,1-trichloroethane, and methylene chloride are stored and accumulated on site until they are reclaimed at the process plant. Still bottoms and residues are handled at a small polyethylene covered area where they undergo mixing and solidification. Non-reclaimable chlorinated solvents, flammable wastes, corrosives, and chemical lab packs are stored in segregated drum storage areas. Waste oil, contaminated water, spill clean up waste and cartridges from the dry cleaning industry are stored in either of three oil/water mixture tank trailers, one vacume truck, or six box trailers.

Bulk storage of virgin chemicals is provided through three 12,000 gallon storage tanks, one 15,000 gallon storage tank and numerous 55 gallon drums. Stormwater on the site is managed manually since their are no storm sewers within the perimeter of the site. Workers sweep ponded stormwater from around the drums to open areas on the pavement where it is left to evaporate. The perimeter of the site is curbed with a 4 to 6 inch concrete berm designed to contain accumulation from a 25 year storm. There are drainage channels around the site which direct storm water to an 18 inch storm sewer inlet on South First street where it is eventually discharged into the Elizabeth River through a 36 inch outfall. (Attachments 3 and 4)

GROUND WATER ROUTE

As quoted from Perk's January 1986 RCRA permit application, (Attachment 3) an on-site well supplies cooling water for the operation of the process condensers. This 6-inch well (NJ Permit No. 26-3500), location indicated in Drawing PCC-02, was initially drilled in 1965 to a depth of 285 feet. It initially supplied 120 gallons per minute (gpm) of cooling water to the distillation plant. The well casing extends to a depth of 41 feet. The static water level at the time of drilling the well was observed to be 90 feet. The well is drilled into the Brunswick shale.

By 1968, the pumpable volume of water fell below the required 90 to 100 gpm therefore the depth of the well was extended to 325 feet at that time. The maximum pumping rates measured in 1968 were as follows:

325 feet - 94 gpm
305 feet - 94 gpm
285 feet - 83 gpm
265 feet - 83 gpm
245 feet - 75 gpm
200 feet - 35 gpm

A second well was drilled on the Perk Chemical Co. site in 1974 (NJ Permit No. 26-4600). This is also a 6-inch well drilled to a depth of 440 feet and cased to a depth of 43 feet. At the time of drilling, the static water level was observed to be 40 feet and the pumping rate was determined to be 220 gpm. The well has not been in service for several years.

Groundwater apparently occurs under watertable conditions in the fill and tidal marsh sediments immediately underlying the site. Ground water also occurs under semi-contained conditions in the alternating sands beneath the silty clay aquitards and the secondary fractures within the Brunswick shale.

Groundwater in the uncontained zone of the upper water-table occurs between 2 and 5 feet below land surface as indicated in the 1966 boring logs (submitted as Appendix C of the December, 1978 Engineering Plans).

Groundwater flow at the site is believed to be south-southeast towards the Elizabeth River and the Arthur Kill. However, groundwater table gradients are predictably very low and therefore its movement is largely unpredictable without detailed analysis over a wide area. Tidal effects from Newark Bay can significantly affect local flow patterns.

Groundwater from the semi-confined aquifer of the Brunswick shale is probably not in good hydraulic communication with the fill and tidal marsh deposits because:

1. The site is generally a groundwater discharge zone.

2. Sequences of silty clay and clayey silts separate the unconfined from the semi-confined flow system.

The nearest other operating water well to that at the Perk Chemical Co. site is operated by Reichold Chemical Company at 726 Rockefeller St., Elizabeth. That site is approximately 3000 feet southwest of the Perk site and across the Elizabeth River. That well (NJ Permit No. 26-4096) drilled in 1967 is 10 inches in diameter, 400 feet deep and yields 415 gallons per minute. The well is cased to a depth of 39.5 feet. Water is utilized for industrial purposes.

No public water supply wells are located within more than 4 miles of the Perk chemical Co. site.

There are no monitoring wells at the site, though over the years there has been considerable potential for groundwater contamination, especially during the 1960's and 1970's.

SURFACE WATER ROUTE

The nearest bodies of water are the Elizabeth and Arthur Kill Rivers. These rivers are located less than .25 miles from the site, and are used for recreational purposes. Along the Third Avenue side of the site is located a 3.5 foot concrete flood wall, a concrete drainage ditch and two steel flood gates. This system was installed as part of the USCOE Elizabeth River Flood Control Project, and is disigned to prevent water from getting onto the site, up to a 140 year flood.

At the South First Street and Third Avenue area of the site an 18 inch storm sewer collects storm-water that flows through drainage channels around the site and discharges it into the Elizabeth River through a 36 inch outfall. This may be a potential source of surface water contamination should contaminated liquid leave the site as it has on at lease two other occasions (prior to March 16, 1979 and on July 25, 1979).

AIR ROUTE

The site's NJDEP plant ID number registered with the DEQ is #40549. Under this registry the following stacks are permitted:

PERMIT NO.	DESCRIPTION	STACK NO.	EXPIRATION DATE
*042726	15,000 gal Tank	001	-------
042727	Tri Tank	002	4/30/89
073180	15,000 gal Stainless	003	12/8/92
*042729	12,000 gal Tank	004	--------
**045559	12,000 gal Tank A	005	4/25/90
045560	Condensate Line	006	4/12/90
**045561	12,000 gal Tank B	007	4/02/90
048813	Steam Boiler	008	3/9/91

* It is uncertain whether this stack is currently operating.
** As of March 15, 1988 this tank has not yet been installed and did not have a projected installation date.
(see Attachment 5)

These stacks serve a variety of site operations and are equipped with the emissions control devices described below.

Solvent Distillation System

This 2000 gallon capacity distillation unit is essentially a closed system allowing very low emissions, (less than one lb./hr.). A water seal is utilized to control emissions during collection of condesate.

Tri-Tank

The Tri-Tank is a 12,000 gallon tank ordinarily used to store trichlorethylene and occasionally used to store tetrachoroethylene. It is equipped with a Calgon Ventsorb activated carbon filter which reduces emissions of trichloroethylene and tetrachloroethylene from 12.8 and 5 lbs./hr. to less than 0.6 and 0.05 lbs./hr. respectively.

2000 Gallon Agitated Mixing and Treating Vat
This unit serves as the receiving vessel for solvents to be reclaimed. Generally, emissions from this unit are negligible due to control measures like a water seal and hinged lid. If emissions occur, they are expected during the 2 hours/day that the vat is being filled. In the event that no water seal is present, the maximum emission rate of trichloroethylene and tetrachloroethylene is 3.4 and 1.0 lbs./hr. respectively.

350 Gallon Stainless Steel Holding Tank
This holding tank receives reclaimed solvents by gravity feed. Emissions are minimized through the control measures of a water seal and steel lid. Emission levels have been calculated as 0.15 and 0.51 lbs./hr. respectively for tetrachloroethylene and trichloroethylene.

55 Gallon Drum Filing and Weighing
Drums are placed on an electric scale and filled with solvent prior to shipment. Drums are filled from the top through their bung hole. Emissions are controlled by leaving the drum's vent hole sealed, and by a partial seal created by the design of the filling nozzle.

18 Inch Water/Solvent Separator
This unit separates water from the condensate reclaimed through distillation. A water seal is utilized to control emissions. Maximum emissions rates have been calculated as follows:

Tetrachloroethylene	0.2	lbs./hr.
Trichloroethylene	0.6	lbs./hr.
1,1,1-Trichloroethane	1.0	lbs./hr.
Methylene chloride	2.0	lbs./hr.

Other Storage Tanks
Storage tanks are supplied with a Calgon Ventsorb systems, similar to that described for Tri-tank above.

<u>Enforcement History (Air)</u>
June 12, 1985: Two orders were issued to Perk citing violations of NJAC 7:27-

8.3(a) The 15,000 gallon Volatile Organic Substance Tank was constructed, installed or altered without having obtained a permit.

17.3(a) Vapors of tetrachloroethylene and trichloroethylene were being emitted into the outdoor atmosphere from a source operation, storage tank or transfer operation without the equipment and/or operation being registered with the Department.

July 25, 1980: An order was issued to Perk citing a violation of NJAC 7:27-

16.2(h) A delivery vessel was used to store tetrachloroethylene on site for more than one month.

A potential exists for vapor releases from the site. This is due to the possible failure of control devices, the increased risks present while filling tanks and vats, and the volatile nature of the materials handled.

SOIL ROUTE

In September of 1980, Perk began construction of a concrete pavement to protect the soil underlying the drum storage area. This project was completed around 1982. However, many documented spill incidents at the site between 1979 and 1980 indicate a significant potential for discharges into the soil during the 20 years prior to paving. In addition, considerable question has been raised concerning the effectiveness of the pavement itself. Poorly graded areas have caused spilled and leaking wastes to pond around drums, potentially accelerating their degradation. And other areas of deteriorated concrete create a potential for spilled chemicals to infiltrate the underlying soil. (Attachment 4)

As stated above there have been at least 17 documented spill incidents at the site, most of which occurred in the drum storage area prior to the installation of pavement. In most of these cases both the specific substances involved and volumes spilled are unknown. However it is likely that these spills involved one or more of the substances generally stored in this area. These substances include perchloroethylene, trichloroethylene, methylene chloride, carbon tetrachloride, cyclohexanone, and butyl cellusolve. Spill incidents occurring at the site are as follow:

3/16/79	sign of previous spill leaving the site, observed discoloration of fence bottom and sidewalk;
5/7/79	spillage on bare soil;
7/25/79	weld in storage tank broke causing 12,000 gallons of perchloroethylene to leak onto ground and into street;
9/25/79	one drum spilled on ground, others leaking;
10/16/79	minor spill of wax drum;
11/20/79	spills from drums and surface water accumulation;
11/27/79	spill of heavy material by standing water;
12/5/79	spill from decaying drums;
12/6/79	drums leaking on ground;
12/26/79	spills of drum residue on ground and run off collected at low points;
1/30/80	leak from drum storage area;
2/22/80	leak of water soluble oil;
3/13/80	spillworker treated for exposure to chlorinated hydrocarbons;
4/21/80	groundwater leaching into excavation pit, multi colored leachate;
5/5/80	drum leak;
5/21/80	drum spill from being tipped over;
6/5/80	drum leaks w/spills onto ground;
8/21/80	two drums spilled water with oily sheen;
9/5/80	leak drums;
9/18/80	one drum leaking oil;
9/11/80	four leaking drums;
9/17/80	oil spill;
9/29/80	leaking solvent drum;
10/15/80	drums leaking;
11/25/80	contaminated water washed down from concrete pad;
12/2/80	spill on ground near concrete pad;
12/8/80	leaking drum solvent drum;
12/21/87	fifteen gallon leak of 1,1,1-trichloroethylene from collapsed trailer;

Of these incidents, several deserve special attention. Particularly those observations made on March 16, 1979 and July 25, 1979, when spilled chemicals apparently left the site. Another incident of special interest occurred on April 21, 1980, when groundwater was observed discharging into an excavation pit with a multi-colored leachate. (Attachment 2)

One final area of concern is the mixing solidification process. This operation includes a drum to drum transfer of compatable materials or drying agents with inadaquate controls of material release. The potential for releases to have already occurred is significant since the process has been in operation for over 20 years. (Attachment 4)

DIRECT CONTACT

Since leaks and spills of chemicals and waste are cleaned up manually there is always the potential for exposure through direct contact. Such an incident was recorded on March 13, 1980. (Attachment 2) The current methods of handling contaminated storm water and mixing/solidifying wastes, also increase this risk. (Attachment 4)

Unauthorized site entry is prevented by a perimeter fence bearing signs which read, "Danger - Unauthorized Personnel Keep Out". But on some occassions, materials have even been discharged off the site property (ie. March 16,1979 and July 25, 1979) increasing the potential for direct contact with local residents. (Attachment 2)

FIRE AND EXPLOSION

Since the site does handle flammable materials there is a potential for fire. On August 26, 1980 the Elizabeth Fire Prevention bureau inspected the site and made recommendations regarding fire prevention and safety. (Attachment 6)

ENFORCEMENT ACTION

5/3/79 Administrative Order - NJDEP
Operating without renewed TOA.

8/13/79 Administrative Consent Order - NJDEP
TOA renewed since Perk supplied NJDEP with certain technical data.

7/25/80 Administrative Order - NJDEP
Delivery vessel used for VOS storage for more than one month.

6/8/81 Administrative Order - NJDEP
Failure to file DPCC plan, failure to conduct fire drills, lack of tank identification.

9/20/82 Notice of Violation - NJDEP
Hazardous waste label affixed with manifest number missing.

7/26/83 Notice of Violation - NJDEP
Drums stored without hazardous waste labels.

10/18/83 Notice of Violation - NJDEP
Failure to submit annual report on timely basis.

3/19/85 Notice of Civil Administrative Penalty - NJDEP
DHWM, BCTS - $500

6/12/85 Order - NJDEP, DEQ -
No permit for 15,000 gallon VOS tank.

6/12/85 Order - NJDEP, DEQ -
No permit for 15,000 gal. and 17,000 gal. VOS storage tank.

4/3/86 Notice of Violation NJDEP, DWM -
Storage of hazardous waste in poor condition; containers, drums not segreted by waste type; drums with missing identification labels; no documentation of training; training records not kept three years; no semi-annual drills.

5/22/86 Notice of Violation with Penalty Settlement Offer -
NJDEP, DHWM, BCTS - $3000.

1/2/87 Field Nov, NJDEP, DHWM, Metro Enforcement

1/20/87 Notice of Penalty Civil Administrative
NJDEP, DHWM, BCTS - $7,175.

2/25/87 Field Nov, NJDEP, DHWN, Metro Enforcement.

3/3/87 Notice of Civil Administrative Penalty, NJDEP
DHWN, BCTS - $3,150.

5/22/87 Notice of Civil Administrative Penalty, NJDEP, DHWM
BCTS - $4,5000.

7/8/87 Notice of Civil Administrative Penalty, NJDEP, DHWM
BCTS, - 1,500.

9/28/87 Notice of Civil Administrative Penalty, NJDEP, DHWM
BCTS, - $3,000.

Additional details of these Enforcement Actions may be obtained in the Perk Chemical files of:

NJDEP, DHWM
Bureau of Metro Enforcement
2 Babcock Place
West Orange, NJ 07052
201-669-3960

NJDEP, DEQ
Metro Field Office
2 Babcock Place
West Orange, NJ 07052
201-699-3937

NJDEP, DHWM
BCTS
401 E. State Street 5th Floor
Trenton, NJ 08625
609-633-0708

And from the 1986 RCRA Part B Application, (Attachment 7 in this package).

PRIORITY DISIGNATION
The site is assigned a high priority due to the nature of the materials handled at the site and the population density of the surrounding area. Another important factor is the observation of substances discharged onto the soil at the site and the potential of repeated discharges over a 20 year period.

It is also significant that although data exists regarding the materials handled at the site, no data has ever been collected to quantify the ongoing potential hazards inherent to this operation.

RECOMMENDATIONS
Although this site has been sampled by the Department on two other occasions (September 14, 1981 and September 30, 1981), no samples have ever been taken of soil or groundwater at the site. Those mentioned above were samples of products and wastes. (Attachment 8)

After considering the preceeding information, the following recommendations are offered.

1. The site should be inspected to document Cycle-Chem's current practices regarding mixing/solidification, drum storage and storm water management.

2. Due to the high potential for previous soil contamination soil samples should be obtained and analyzed which represent soil from within and around the drum storage areas, (and perhaps even under existing concrete), and the mixing/solidification process.

3. A plan should be developed for the placement and sampling of groundwater monitoring wells based on the results of the proposed soil sampling. Over the years there has existed a high potential for groundwater contamination at the site. And since the site is essentially in a groundwater discharge zone flowing toward the Elizabeth and Arthur Kill Rivers any contamination generated at the site would be potentially deleterious to these bodies of water.

Submitted by:

Joseph A. DeSantis, HSMS II
NJDEP/Bureau of Planning
and Assessment

Hours worked: 85 hours

REFERENCE NO. 5

Preliminary Assessment

PERK CHEMICAL COMPANY
217 SOUTH FIRST STREET
ELIZABETH, NJ 07206
UNION COUNTY
EPA ID# NJD002200046

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- A SOLID
- B POWDER, FINES
- X C SLUDGE
- E SLURRY
- X F LIQUID
- G GAS
- X D OTHER: Residue

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

- TONS
- CUBIC YARDS
- NO. OF DRUMS 4200

03 WASTE CHARACTERISTICS (Check all that apply)

- X A TOXIC
- X B CORROSIVE
- C RADIOACTIVE
- D PERSISTENT
- X E SOLUBLE
- F INFECTIOUS
- X G FLAMMABLE
- X H IGNITABLE
- X I HIGHLY VOLATILE
- J EXPLOSIVE
- K REACTIVE
- L INCOMPATIBLE
- M NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE	unknown		
SOL	SOLVENTS	unknown		
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS	unknown		
IOC	INORGANIC CHEMICALS			
ACD	ACIDS	unknown		
BAS	BASES	unknown		
MES	HEAVY METALS			

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

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
SOL	TETRACHLOROETHYLENE	127-18-4	reclaimation/distillation	various	
SOL	TRICHLOROETHYLENE	79-01-6	"	" "	
SOL	1,1,1-TRICHLOROETHANE	25323-89-1	"	" "	
SOL	METHYLENE CHLORIDE	75-05-2	"	" "	
OCC	TOLULENE	108-88-3	in drums, offsite disposed	various	
OCC	XYLENE	1330-20-7	in drums, offsite disposed	various	
OCC	MINERAL SPIRITS		in drums, offsite disposed	various	
OCC	NAPHTHALENE	91-20-3	in drums, offsite disposed	various	
OCC	KEROSENE		in drums, offsite disposed	various	
OCC	METHRANOL	67-56-1	in drums, offsite disposed	various	
OCC	BUTYL ALCOHOL		in drums, offsite disposed	various	
OCC	METHY ETHYL KETONE	78-93-3	in drums, offsite disposed	various	
OCC	ACETONE	67-64-1	in drums, offsite disposed	various	
OCC	CYCLOHEXANONE	108-94-1	in drums, offsite disposed	various	
OLW	MINERAL OILS		in drums, offsite disposed	various	
OLW	MACHINE OIL		in drums, offsite disposed	various	

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)

RCRA Permit Application Part B

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- A SOLID
- B POWDER, FINES
- X C SLUDGE
- D OTHER Residue
- E SLURRY
- X F LIQUID
- G GAS

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

- TONS
- CUBIC YARDS
- NO. OF DRUMS 4200

03 WASTE CHARACTERISTICS (Check all that apply)

- X A TOXIC
- X B CORROSIVE
- C RADIOACTIVE
- D PERSISTENT
- X E SOLUBLE
- F INFECTIOUS
- X G FLAMMABLE
- X H IGNITABLE
- X I HIGHLY VOLATILE
- J EXPLOSIVE
- K REACTIVE
- L INCOMPATIBLE
- M NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
ICC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

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

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
OLW	CUTTING OIL		in drums, offsite		
OLW	COOLING OIL		in drums, offsite		
OLW	STILL BOTTOM OILS		in drums, offsite		
OLW	MISCELLANEOUS OILS		in drums, offsite		
OLW	OILY EMULSIONS		in drums, offsite		
BAS	CAUSTIC		in drums, offsite		
BAS	DETERGENTS w/ALKALINE BASE		in drums, offsite		
ACD	SULFURIC ACID	7664-93-9	in drums, offsite		
ACD	NITRIC ACID	7697-37-2	in drums, offsite		
ACD	ACETIC ACID	64-19-7	in drums, offsite		
ACD	HYDROCHLORIC ACID	7647-01-0	in drums, offsite		

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)

RCRA Permit Application Part B

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS

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

Facility has operated since 1960 but was not paved until late in 1980. There were 17 recorded spilled from 3/79 to 9/80, and the potential for numerous spills prior to 1979 which could have entered the soil and contaminated groundwater. 4/21/80 multicolor leachate observed.

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

A potential exists for liquid wastes to leave the site through 18" storm sewer and discharge into Elizabeth River through 36" out fall.

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

There is potential for a discharge into the atmonsphere should a failure of control measures occur.

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

There are flammable materials stored on site, and a walk through inspection by DEP Personnel on 5/6/86 revealed 2 leaking drums in the flammable storage area.

01 [X] E. DIRECT CONTACT — 02 [X] OBSERVED (DATE: 3/13/80) — [X] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Spill on 3/13/80 worker contact spilled and leaking material and treated for exposure.

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

Facility has operated since 1960 but was not paved until late in 1980. There were 17 recorded spills from 3/79 to 9/80 and the potential for numerous spills prior to 1979 which would have entered the soils.

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

Minimal potential due to the fact that the nearest public water supply is greater than 4 miles away.

01 [X] H. WORKER EXPOSURE/INJURY — 02 [X] OBSERVED (DATE: 3/13/80) — [X] POTENTIAL — [ ] ALLEGED
03 WORKERS POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Potential for workers to contact spilled and leaking materials was realized on 3/13/80 when one worker need.

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

Minimal potential since the surrounding area is zoned M.I. (manufacturing/industrial).

EPA

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

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

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

Minimal potential due to the urban/industrial use of the surrounding land.

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

Minimal potential due to the urban/industrial use of the surrounding land.

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

Minimal due to the urban/industrial use of the surrounding land.

01 [X] M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoff/Standing liquids/Leaking drums)
03 POPULATION POTENTIALLY AFFECTED: _____ — 02 [X] OBSERVED (DATE: 5/6/86) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

A walk through inspection on 5/6/86 revealed 2 leaking drums in the flammable drum storage area. In addition at least 17 other spills were observed in 1979-80.

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

On 3/16/79 signs of a previous spill that existed the property were observed. And on 7/25/79 a solvent spill existed the property and entered the street.

01 [ ] O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs
04 NARRATIVE DESCRIPTION — 02 [ ] OBSERVED (DATE _____) [ ] POTENTIAL [ ] ALLEGED

A potential exists for spills large enough to overflow the 4" concrete berms and contaminate the storm ~~XXXXXX~~ drains.

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

Minimal potential since the site operations are authorized by permit.

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

There is potential for groundwater and soil contamination form leaks and spills that penetrate poorly maintained and deteriorating pavement.

III. TOTAL POPULATION POTENTIALLY AFFECTED: 106,000 — Attachment: 2

IV. COMMENTS

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

- Various Inspection Reports from DEP, DHWM/BFO, Metro Field Office and DHWM/HSMA/BEMSA
- RCRA Part B permit application

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
A NPDES				
B UIC				
C AIR				
X D RCRA	2004E2HP01			~~yet to be issued~~
E RCRA INTERIM STATUS				
F SPCC PLAN				
X G STATE (Specify)	2004C			NJDEP, Haz., Wst., Fac.
H LOCAL (Specify)				
X I OTHER (Specify)	S-2841			NJDEP, Collector/Hauler
J NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
A SURFACE IMPOUNDMENT		
B PILES		
X C DRUMS, ABOVE GROUND	249,900	gal
X D TANK, ABOVE GROUND	18,500	gal
E TANK, BELOW GROUND		
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
- X F SOLVENT RECOVERY
- X G OTHER RECYCLING/RECOVERY
- H OTHER _____ (Specify)

05 OTHER

- A BUILDINGS ON SITE

-office/lab.
-Process Building

06 AREA OF SITE: 2 acres

07 COMMENTS

The facility is permitted to store 5000 drums (55 gallons each). Temporary storage of waste on site is provided by 3 tank trailers totalling 18,500 gallons.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

- A ADEQUATE, SECURE
- B MODERATE
- X C. INADEQUATE, POOR
- D INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

Approximately 5000 drums are stored on site in 11 segregated areas. Most of the site is paved but paving is generally poorly sloped and in some areas cracked and deterorited. There is also a 4" concrete berm on the site perimeter. But there is no individual secondary containment.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: X YES ☐ NO

02 COMMENTS

There is no individual secondary containment around the drum area, leaving drums easily accessible.

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

RCRA Part B Application, From NJDEP, DWM, BHWE
5/6/86 inspection

EPA

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

I. IDENTIFICATION

01 STATE | 02 SITE NUMBER

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

	SURFACE	WELL
COMMUNITY	A ☒	B ☐
NON-COMMUNITY	C ☒	D ☐

02 STATUS

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

03 DISTANCE TO SITE

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

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☐ A ONLY SOURCE FOR DRINKING ☐ B DRINKING (Other sources available) COMMERCIAL INDUSTRIAL IRRIGATION (Inc other water sources available) ☒ C COMMERCIAL INDUSTRIAL IRRIGATION (Limited other sources available) ☐ D NOT USED UNUSEABLE

02 POPULATION SERVED BY GROUND WATER 0

03 DISTANCE TO NEAREST DRINKING WATER WELL 4 (mi.)

04 DEPTH TO GROUNDWATER 2-5 ft (ft.)

05 DIRECTION OF GROUNDWATER FLOW South-Southeast

06 DEPTH TO AQUIFER OF CONCERN _____ (ft.)

07 POTENTIAL YIELD OF AQUIFER _____ (gpd)

08 SOLE SOURCE AQUIFER ☐ YES ☐ NO

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

There are two on site supply wells presently abandoned but not sealed. These wells were at one time used to supply cooling water.

10 RECHARGE AREA ☐ YES ☒ NO

COMMENTS

11 DISCHARGE AREA ☒ YES ☐ NO

COMMENTS To Elizabeth River

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
Elizabeth River	☐	.25 (mi.)
Arthur Kill River	☐	.25 (mi.)
	☐	(mi.)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. _____ NO OF PERSONS	B. 10,000 NO OF PERSONS	C. _____ NO OF PERSONS

02 DISTANCE TO NEAREST POPULATION .25 (mi)

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

04 DISTANCE TO NEAREST OFF-SITE BUILDING 100ft (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)

URBAN

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A 10^{-1} – 10^{-6} cm/sec ☐ B 10^{-4} – 10^{-6} cm/sec ☑ C 10^{-4} – 10^{-3} cm/sec ☐ D GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

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

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH	
_____ (in)	_____ (ft)	_____	

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)	0-2 %		_____ %

09 FLOOD POTENTIAL	10
SITE IS IN 100 YEAR FLOODPLAIN	☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acres minimum)		12 DISTANCE TO CRITICAL HABITAT (of endangered species)
ESTUARINE	OTHER	_____ (mi)
A 25 (mi)	B _____ (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	AG LAND
A within (mi)	B 25 (mi)	C _____ (mi)	D _____ (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

A small portion of the site is within the 100 year flood plan, however, the entire working site is above this flood plain elevation of 8.3 feet.

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

RCRA 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

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER			
SURFACE WATER			
WASTE	5	Stablex/Reutler Inc.	9/14/87
AIR			
RUNOFF			
SPILL			
SOIL			
VEGETATION			
OTHER WASTE	5	Princeton Aqua Science	9/14/87

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☐ GROUND ☐ AERIAL

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

03 MAPS ☒ YES ☐ NO

04 LOCATION OF MAPS: BPA, 65 Prospect Street, Trenton

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

*2Waste samples collected 9/30/86 and analized by S-R Anlitrical

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

Laboratory Anlitical Reports from NJDEP/DHWM BCTS files and Metro Enforcement files.

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER
Vernal Corporation	01-123-5348

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
201-207 South First Street	5093

05 CITY	06 STATE	07 ZIP CODE
Elizabeth	NJ	07206

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
Vernal Corp. Feldman P&Sons	01-123-5348

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE
PO BOX 122	5093

12 CITY	13 STATE	14 ZIP CODE
Elizabeth	NJ	07206

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) (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

IV. REALTY OWNER(S) (If applicable and more than one)

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

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)

Elizabeth City Tax Assessors Office

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME: Perk Chemical Company	02 D+B NUMBER: 06-583-9508
03 STREET ADDRESS (P.O. Box, RFD #, etc.): 217 South First Street	04 SIC CODE: 4952*
05 CITY: Elizabeth	06 STATE: NJ / 07 ZIP CODE: 07206
08 YEARS OF OPERATION: 3	09 NAME OF OWNER: Paul Fleischmann

OPERATOR'S PARENT COMPANY (If applicable)

10 NAME: Cycle Chemical Inc.	11 D+B NUMBER: 12-225-4477
12 STREET ADDRESS (P.O. Box, RFD #, etc.): 217 South First Street	13 SIC CODE: 4952*
14 CITY: Elizabeth	15 STATE: NJ / 16 ZIP CODE: 07206
President	

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

01 NAME: Perk Chemical Co.	02 D+B NUMBER: 06-583-9508
03 STREET ADDRESS (P.O. Box, RFD #, etc.): 217 South First Street	04 SIC CODE: 4952*
05 CITY: Elizabeth	06 STATE: NJ / 07 ZIP CODE: 07206
08 YEARS OF OPERATION: 23	09 NAME OF OWNER DURING THIS PERIOD: Ray Rothschild

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)

10 NAME	11 D+B NUMBER
12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
14 CITY	15 STATE / 16 ZIP CODE
President	

01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

10 NAME	11 D+B NUMBER
12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
14 CITY	15 STATE / 16 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
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

10 NAME	11 D+B NUMBER
12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
14 CITY	15 STATE / 16 ZIP CODE

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

* Secondary SIC (s): 5161, 2869, 4953
** Secondary SIC (s): 5161,

Dun and Bradstreet file, DEP Info. Resource Center
Dept. of State, Div. of Corp. Recording Incorporation papers

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
Perk Chemical Company	00-220-0046

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
217 South First Street	4952

05 CITY	06 STATE	07 ZIP CODE
Elizabeth	NJ	07206

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
N/A			

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
N/A			

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
Perk Chemical Company	00-220-0046		

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
217 South First Street	4952		

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
Elizabeth	NJ	07206			

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
Clean Venture Inc.	08-563-4335	Witte Chase Corp.	04-525-5437

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
1160 State St.,PO BOX 936	4469*		

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
Perth Amboy	NJ	08862			

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

*4953, 7699
Hazardous Waste Enforcement files Metro Field Office

EPA

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

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER

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 7/25/79 — 03 AGENCY _____
04 DESCRIPTION
12000 gallon tank leak, the leaking tank and a sister tank after were removed from service.

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

Numerous smaller spills and leaks in the drum storage areas were cleaned up with absorbant pads or speedy dry.

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

Inspection reports in the files of NJDEP,DHWM,Bureau of Metro Enforcement

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER

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 7/25/79 — 03 AGENCY
04 DESCRIPTION Solvent spill recovered in vacume truck and reclaimed by distillation on site.

01 ☐ E. CONTAMINATED SOIL REMOVED — 02 DATE — 03 AGENCY
04 DESCRIPTION
NONE REPORTED

01 ☐ F. WASTE REPACKAGED — 02 DATE — 03 AGENCY
04 DESCRIPTION
NONE REPORTED

01 ☒ G. WASTE DISPOSED ELSEWHERE — 02 DATE [redacted] — 03 AGENCY
04 DESCRIPTION During the night a trailer containing 1,1,1-Trichloroethane calapsed spilling this product on the ground The spill was cleaned with speedy dry and treated as Haz. Waste.

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 7/25/79 — 03 AGENCY
04 DESCRIPTION
Solvent spill recovered in vacum truck and reclaimed by distillation on site.

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 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION
01 STATE: NJ | 02 SITE NUMBER

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☒ YES ☐ NO

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

1. 4/3/86 Notice of Violation - NJDEP, DWM -
Storage of hazardous waste in poor condition containers, drums not segregated by waste type, drums with missing identification labels, no documentation of training, training records not kept 3 years, no semi-annual drills.

2. 6/12/85 Order - NJDEP, DEQ -
No permit for 15,000 gallon VOS storage tank.

3. 6/12/85 Order - NJDEP, DEQ -
No permit for 15,000g and 17,000g VOS storage tank

4. 10/18/83 Notice of Violation - NJDEP
Failure to submit annual report on timely basis.

5. 7/26/83 Notice of Violation - NJDEP
Drums stored without hazardous waste labels.

6. 9/10/82 Notice of Violation. NJDEP
Hazardous waste label affixed with manifest number missing.

7. 6/8/81 Administrative Order - NJDEP
Failure to file DPCC plan, failure to conduct fire drills, lack of tank identification, failure to notify that company's bard had been continued.

8. 7/25/80 Administrative Order - NJDEP
Delivery vessel used for VOS storage for more than 1 month.

9. 8/13/79 Administrative Consent Order - NJDEP
TOA renewed since Perk supplied NJDEP with certain technical data.

10. 5/3/79 Administrative Order - NJDEP
Operating without renewed TOA.

11. 3/19/85 Notice of Civil Adminstrative Penalty- NJDEP, DHWM, BCTS, -$500

12. 5/22/86 Notice of Violation with Penalty Settlement Offer-NJDEP,DHWM, BCTS,-$3,000

13. 1/2/87 Field Nov, NJDEP, DHWM, Metro Enforcement

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

RCRA Part B Application, from NJDEP, DWM/BHWE

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☐ NO

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

14. 1/20/87 Notice of Civil Adminstrative Penalty -NJDEP,DHWM,BCTS $7,175

15. 2/25/87 Field Nov, NJDEP, DHWM, Metro Enforcement.

16. 3/3/87 Notice of Civil Administrative Penalty, NJDEP,DHWM,BCTS -$3,150

17. 5/22/87 Notice of Civil Administrative Penalty, NJDEP,DHWM,BCTS -$4,500

18. 7/8/87 Notice of Civil Administrative Penalty, NJDEP,DHWM,BCTS,-$1,500

19. 9/28/87 Notice of Civil Administrative Penalty, NJDEP,DHWM,BCTS,-$3,000

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

NJDEP,DHWM: Metro Enforcement Files and BCTS Files
DEQ: Air Pollution, Metro Files

REFERENCE NO. 6

NUS CORPORATION

II

0699

Park Chem. Co. Inc.
Elizabeth, NJ

On Site Reconnaissance
~~Site Map~~ JB 1/23/91
Table of Contents

NJGLIS
02-9007-15
1/24/91

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Josephine Brown 1/25/91

Timothy Beauregard 1/25/91

Perth Chemlochic On Site Reconnaissance NJG-UI$ 4
Elizabeth, NJ 02-9007-15
1/24/91

NUS Personnel on Site:

Josephine Brown	Josephine Brown 1/25/91	Site Manager
John Rieckhoff	[signature] 1/25/91	Site Safety Officer
Tim Beauregard	Timothy Beauregard 1/25/91	Surveillance

Equipment:	EPA ID No.
Camera w/prints	731694
camera w/slides	469772
OVA	469783
HNu	469747
Minirad	731688
compass	F

915 Leave office

945 Arrive on site

945 M Persico President - [signature]
G. Hoadley General Manager - Gary Hoadley
M. Persico & G Hoadley met with us as soon as we arrived.
J. Rieckhoff explains what we do and why we're here.

Josephine Brown 1/25/91 Timothy Beauregard 1/25/91

Perk Chem Co Inc
Elizabeth, NJ

Oh. Site Reconnaissance

NJGU I$
02-9007-15
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5

1005 M. Persico mentioned their involvement w/ DEP. He questioned why DEP was taking action & if he was responsible for violations before the Co. was bought in 1984. We stated that our investigation was ~~separate~~ Seperate from the DEP

Original owners of were were Ray Rothschild & Norman Cohen.

1035 M. Persico explained operations at the facility:
- every morning HNu reading is done ≈ 1-2 ppm
- Perk was operating Co., owned by Perk Realty
- Cycle Chem formed in 1984.
- Perk - Solvent distribution 80%, waste recovery (20%)
- Sept 85 Cycle purchased ~~Chase~~ Perk. Owners were Myron Chase & Arnold Witte.
- Clean Venture owned by Don Jon Marine & Chase. Arnold Witte owns Don Jon Marine
- Cycle owned by Witte-Chase Env. Resources. 50% Myron Chase (deceased), 50% Arnold Witte 1987
- Acted as one corp same management.
- Purchased Perk w/ intention to get out of solvent business
- Operating under TOA (Temporary Operating Authorization)
- Dec 88 90A part B of RCRA
- Promised to send copies of A & B.
- No NJPDES permit - no discharge.
- Filled in wells in 1989. Distillation Shut down in Feb 1989. State certified. Capped.
- Wehran Engineering reportedly did some work at site in 1982. Will give us a copy.

Josephine Brown 1/25/91

Timothy Beaumgard 1/25/91

1105 continued

Cement solvents, residues go to cement kiln in N.J
fuel blendables

Josephine Brown 1/25/91 Timothy

Perk Chemlochic On-Site Reconnaissance NJGUIS 6
Elizabeth, NJ 02-9007-15
1/24/91

1105 - Hoadly Strotty TSD, Hazardous Waste Facility.
Persico: Eliminated solvents & became TSD in Feb. 89. No longer transports.
No disposal on site.
Storage - 180 days. Consolidation & bulking of drums. Transfer station for hazardous waste.
Clean Venture - transporter.
All wastes except pesticides & PCBs. above ~~below~~ 50ppb JB
Circle approved facility & certain P substances.
Liquid & solid waste (1) oil contaminated soil,
(3) water treatable wastes, (2) solvents recovery for cement. (4) fuel blendables
Volumes 3600 55 gal. drums, 6 temporary storage tank trailers, solids - drums to dump trailers. Additional info. about vol. is in part B.
Tanks - ~~no tanks on site~~ JB 1/24/91 2 tanks on site which are closed, empty and clean, will be removed.

Concrete has been in place since 1985, has been patched since 1985.
"Moat" around property and a 6 inch dike.

40-42 persons Mon - Fri hrs are 700-2000, 1 1/2 shifts,
24 hrs Security ADT Electronic Eye, Motion detectors
Fire prevention - Smoke detectors in trailers and office. Fire extinguishers and emergency plan has been set up.
Spill procedures

Concrete flood wall 40 ft deep, 8 inches thick is present along SE & SW walls continuing along North wall where it ends.

Josephine Brown 1/25/91 Timothy Beauregard 1/25/91

Perl Chem Cochne
Elizabeth, NJ

On Site Reconnaissance

NJGUI$
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1/24/91

7

1130 Pam Kopp

Forms filled from generators and used as profile sheet before anything is accepted.
Drums must be DOT shippable.
Sampling on all drums 100% on all shipments, 10 samples from each generator per waste stream.
Fingerprint analyses to check against profile sheets.
Radioactivity scans before drums are opened.
From staging area into compatable waste types in rows.

Internal computer tracking system for drums.
Everything accepted must have an outlet.

Once bulked same analysis is performed as when drum is recieved.

Lab packs either repacked or bulked together, same QA/QC process as above.

Empty drums are cleaned and shipped off site, Made RCRA empty.

1140 Carolyn Shaw

DEP enforcement inspects every 2 weeks. Inspects every manifest on site and outside facility, stacking 1/24/91 drums, labels, compatability. Jodie Stern (West Orange Metro Div.) is the inspector.

Josephine Brown 1/25/91

Timothy Beaugard 1/25/91

Perk Chemlocke On-Site Reconnaissance NJGU IS 8
Elizabeth, NJ. 02-9007-15
1/24/91

1200 Set up Decon area

weather 35°, Windy S-SW at 10-15 MPH
Cloudy

	Background	EPA No.
HNu	0 ppm	469747
O.F.	0 ppm	469783
*Minirad	0	731688

*Audio not working
Marker test confirmed on HNu & OVA

1222 H&S meeting by J Rieckhoff.
Route to Hospital map.

1225 All personnel on site have read & understood work plan
Physical hazards; fork lifts; drums;

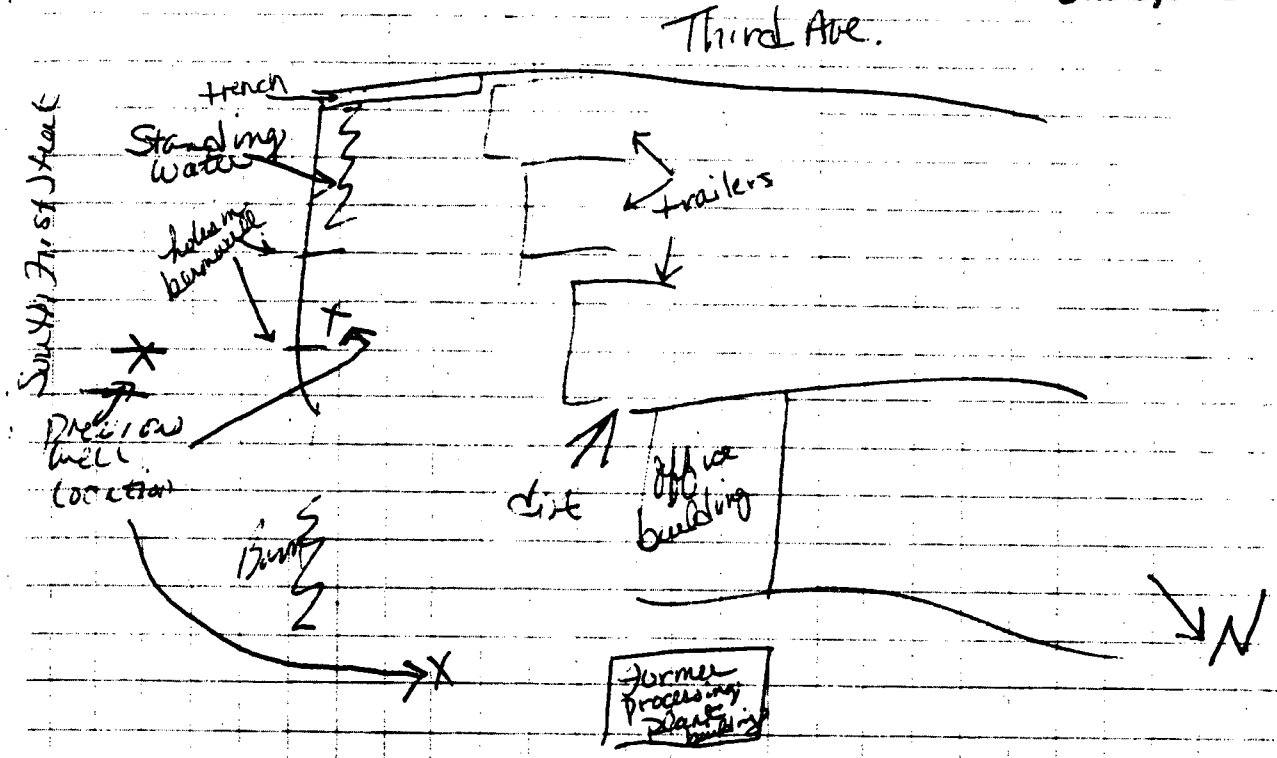
1230 IRPSI
Front entrance. Facing Northwest on South First St. Note truck scale in bottom left corner, cracks around edges of scale. Office building on left, process building on right

Josephine Brown 1/25/91 Timothy Leonard 1/25/91

Park Chem. Cochrane On Site Reconnaissance NJGWI 9
Elizabeth, NJ 02-9007-15
1/24/91

1234 R1 PS2 Facing South ~~East~~ 8B 2/1/91 looking at openings in Berm, and former well location, along South First St.

1236 R1 PS3 Facing Southwest, at standing water. No reading on Hnu OVA, Misc rad. above background



1240 No readings at dirt under trailer.

1240 R1 PS4 Facing east. former well location covered over w/cement patch. The well was used for drilling water

Josephine Brown 1/25/91 Timothy Hammond 1/25/91

~~Park Chem Co Inc~~ On Site Reconnaissance
~~Elizabeth, NJ~~

1/24/91
02-900715 10
NJGUI8

R1P,S5
1241 Facing North~~east~~ west at "Moat" along Third Ave ~~at southern corner~~ JB 2/1/91

1244 1R P,S6 S.W at valve & crack in the southern corner of facility. Also shown is electronic security device.

1245 Locked gate at side entrance near flood gate

R1P,S7
1246 Facing Southwest at locked side gate entrance, flood gate and yellow raised concrete curb

Facing Northwest
1250 Lab pack area drums, on plastic sheets no reading on HNu, OVA, mini-rad above background

1253 R1P,S8 Northwest to Northeast.
R1P,S9 Photo of drum storage area
R1P,S10
R1P,S11
JB 2/1/91 ~~R1P,S12~~
R1S12

Joseph Brown 1/25/91

Timothy Dlouzgard 1/25/91

Perk Chem Cochra.
Elizabeth, NJ

On Site Reconnaissance

02900715
NJGUI$
1/24/91

11

Blue tankers are vacuum tankers, pump on front when full pumped to transporter's vehicle.

oxidizers
flammables

The drums have been segregated by type. No reading on HNu, OVA, [illegible] above background

Tankers used for same material each time

1259 R1 ~~S,P13~~ JB 2/1/91 Facing Southeast at tank
P12 trailers and drums.
S13

1301 R1 ~~S,P14~~ JB 2/1/91
P13 Southwest at yellow freight
S14 located across Third Ave.

1301 R2 ~~S~~ P1 JB 2/1/91 Facing North at parking
R1 S15 lot & houses & cracked pavement.

Josephine Brown 1/25/91

Timothy Hangard 1/25/91

Park Chem Co Inc
Elizabeth, NJ

On Site Reconnaissance

02 9002 15
NJ GUI
1/24/91

12

1309 R1SP Northeast at Cracked pavement. Black camera not working. Will take doubles w/ yellow camera. No readings on Hnu, OVA, Mini-Rad above background. Photos not taken.

1312 R2P2 Northeast. Photo of area near trichloroethylene tank. Waste pile in northern corner of the facility.

1315 R2P3 Northeast. Taken in front of tank trailers at northern corner of facility, note trichloroethylen tank behind wood pallets

1315 R2P4 Facing Southwest 550 gal tanks. Some w/ waste, some w/ petroleum waste, some empty. Five tanks

1318 R2P5 Southeast at 15,000 gal tank located at the northern corner of the facility near a floodgate. The tank is now empty but in the past was used to store 1,1,1-trichloroethane.

Josephine [illegible] 1/25/91

Timothy Beauregard 1/25/91

Perkinelmer Inc. on site reconnaissance 02 400715
Elizabeth NJ NJGUI$
1/24/91

13

1322 Facing Southwest
R2P6 Photo of Single Staging area
No readings on Hnu, OVA, mini-Rad above background

1322 Facing Southwest
R2P7 Photo of double and single stacked drums

1326 Chemical X725 Stored in drums, dumped to trailers to BFI in Ohio
No readings on Hnu, OVA, mini-rad above background.

1328 Southeast at empty tank
R2P8 (pers) located at ~~Southern~~ eastern end of the property on South First Street. Tank used to store perchloroethylene

1330 Southeast at tank (pers)
R2P9 (Closer view of R2P8)

1332 Southeast at gate on South First
R2P10 Street showing processing building on the right

Josephine Brown 1/25/91 Timothy Bennyand 1/25/91

Perk Chemlock Inc On Site Reconnaissance 02 900715 14
Elizabeth, NJ
NJGUI$
1/24/91

1336 Facing South
R2P11 Former Still area in process building
No readings on HNu, OVA, mini-Rad
above background. Note the hole in the wall
by still area.

1339 Facing Northeast along South First Street
R2P12 Area where well was located. The well
was used for cooling water in the distillation process

1340 Facing East
R2P13 Building on S. First St

1341 Facing Southeast on S. First Street
R2P14 Photo of junkyard across the street from
Cycle Chem.

1345 Facing Northeast.
R3P1 Photo of adjacent buildings on the
east side of the site that shares a common wall at
the property line

1348 Facing Northwest
R3P2 Photo of building & hole. This picture
shows the processing building's southern
corner. The still area lies directly behind
this wall on the inner side of the building.

Josephine Brown 1/25/91

Timothy Beauregard 1/25/91

Park Chem Co Inc On Site Reconnaissance
Elizabeth, NJ

EQ 900215
NJ Gust 8
1/24/91

15

1348 Facing Northeast
R3P3 Photo of manhole covers on S First Street. We proceeded to walk along S. 1st St to Third Ave. On Third Ave we met John C Orecchio who was working in the area

1351 "Combined Sanitary & Sewer ~~[illegible]~~ only
R3 discharge to River during peak flow."
John C. Orecchio
Clinton Bogert Assoc.

1355 Facing Southeast
R3P4 Third Ave, photo of sewer drain

1359 Facing ~~South~~ JB 2/1/91 east
R3P5 Third Ave at sewer drain & rear of facility

1410 Return to decon area to pack equipment

1420 Met w/ Persico & Hoadley to review & answer questions.

Josephine Brown 1/25/91 Timothy Beauregard 1/25/91

Park Chem Cochic
Elizabeth, NJ

On Site Reconnaissance

02-9007-15
NJGUIS
1/24/91

16

1430 Leave site

1500 Return to Office.

Summary of On-Site Reconnaissance

When we arrived on site we met w/ Mike Persico, President and Gary Hoadley, General Manager of Cyclo Chem. John Rieckhoff explained the purpose of our investigation. Mr. Persico told us the history of ownership of Park and Gary Hoadley explained operations. We were also joined by Pam Kopp, Quality Control/Operations Manager and Carolyn Shaw who each informed us on QC procedures.

We started the inspection at the main entrance on South First St. between the office building and former processing building. We observed a truck scale which had been backfilled w/ cement & had cracks around the edges. We then walked in a southwest direction parallel to South First St past the office building & adjoining trailers. Acement patch over a closed well was observed next to the office building. Standing water was seen along this area.

At the southern corner we observed a vertical crack in the floodwall and an electronic security device. A trench & release valve are also located in this area along the Third Ave. side of the facility. There is another entrance on Third Ave. which is locked.

We next observed the drum storage area. Lab packs

Josephine Brown 1/25/91

Timothy Dennyard 1/25/91

On-Site Reconnaissance Summary (Continued)

are located in the western end. Drums are stored throughout the center of the facility. The drums were stacked neatly, labeled and segregated by type. Several tank trailers and 5 550 gallon tanks are also located in the drum storage section. A waste pile is located at the northern end of the facility in a down graded area. This waste pile is between 2 empty tanks; one was used for trichloroethylene and the other a 15,000 gal. horizontal tank which formerly stored perchloroethylene.

We then proceeded to the former processing building in which we observed a hole in the wall behind the still area. The second closed well is directly outside this building on the South First St side.

We then observed the surrounding of the facility including adjacent buildings, manhole covers and sewer drains. On Third Ave we met John C Orecchio of Clinton Bogert Associates who told us the sewer and sanitary system is combined. We then went inside to answer any questions. The facility is completely paved, however, cracks were observed in some areas.

Josephine Brown 1/25/91 Timothy Beauregard 1/25/91

Park Chem Co Inc. On Site Reconnaissance 02 400215
Elizabeth, NJ NJGUTS 17
1/28/91

Photograph Log

Photo No.	Description	Time
1P1	Photo looking northwest at the front entrance of Cycle Chem on South First Street	1230
1P2	Photo looking south at opening in berm	1234
1P3	Photo looking southwest at standing water	1236
1P4	Photo looking east at former well location	1240
1P5	Photo looking northwest at flood control structure	1241
1P6	Photo looking southwest at valve in trench, cracked concrete and electronic security device.	1244
1P7	Photo looking southwest at locked side gate and raised concrete curb	1246
1P8, 1P9 1P10, 1P11	Photos looking northwest to northeast at drum storage area	1253

Josephine Brown 1/25/91 Timothy Beauregard 1/25/91

Park Chem Co Inc Onsite Reconnaissance 02900715
Elizabeth, NJ NJGUI$
Photograph Log (Cont.) 1/24/91

18

Photo No.	Description	Time
1P12	Photo looking southeast at tank trailers and drums	1259
1P13	Photo looking southwest at Yellow Freight located on Third Ave	1301
2P1	Photo looking north at cracked pavement, houses and parking lot.	1301
2P2	Photo looking northeast at waste pile and northern gate	1312
2P3	Photo looking northeast at trichloro-ethylene empty tank behind wooden pallets	1315
2P4	Photo looking southwest at five 550 gallon tanks.	1315
2P5	Photo looking southeast at tank	1318
2P6	Photo looking southwest at single stacked drums in staging area.	1322

Josephine Brown 1/25/91 Timothy Beauregard 1/25/91

Perkiken Lochner Elizabeth, NJ — On-Site Reconnaissance — 02900715 NJ Gas 1/24/91

Photo No.	Description	Time
2P7	Photo looking southwest at single stacked and double stacked drums	1322
2P8	Photo looking southeast at empty tank formerly used for storage of perchloroethylene	1325
2P9	Photo looking southeast at empty tank formerly used for storage of perchloroethylene	1330
2P10	Photo looking southeast at locked gate on South First Street.	1332
2P11	Photo looking south at former processing building	1336
2P12	Photo looking northeast at former well location	1338
2P13	Photo looking east at building on South First Street.	1340
2P14	Photo looking southeast on South First Street	1341

Josephine Brown 1/25/91 Timothy Beaugard 1/25/91

Klick Chem Cochne On-Site Reconnaissance
Elizabeth, NJ

C29007 15
N Jones
1/24/91

Photo No.	Description	Time
3P1	Photo looking northeast at adjacent building on South First Street	1345
3P2	Photo looking northwest at hole in the wall of the processing plant.	1348
3P3	Photo looking northeast at manhole covers on South First Street.	1348
3P4	Photo looking southeast at sewer drain on Third Avenue.	1355
3P5	Photo looking east at sewer drain and rear of facility on Third Avenue.	1359

Josephine Brown 1/25/91

Timothy Dearegard 1/25/91

REFERENCE NO. 7

Binns
Longstreet
File

Perk chemical company, inc.

September 24, 1979

Department of Environmental Protection
Solid Waste Administration
32 East Hanover Street
Trenton, New Jersey 08608

Re: Report on Chemical Spill

This letter is to provide you with a report required under the law, whenever a spill of hazardous chemicals occurs.

On July 25, 1979, at approximately 11:30 a.m., a storage tank having a nominal capacity of 12,000 gallons perchlorethylene broke at the weld and began to spill its contents on the ground.

According to our records the tank had an approximate inventory of 11,300 gallons at the time it began to spill.

The following is a narrative of the sequence of events on July 25:

1. Plant employee notifies management at 11:30 of tank break.

2. Within 30 seconds the undersigned inspects area of break personally and begins remedial action.

3. Two plant employees are instructed to sandbag sewer catch basins on South First Street.

4. Two drivers are instructed to hook up to a ready vacuum tank trailer and bring the same on street. Vacuum tank trailer has its own self contained diesel engine.

5. Our crew, with the vacuum equipment, begins to suck up the spilled solvent from the street area.

6. Sandbags are also placed on the property line to avoid any more solvent from leaving the property and spilling on the street. Eventually this solvent, too, is sucked up with the vacuum unit.

7. Once these operations are in progress the mandatory report is made to DEP, where this report is accepted by Mr. Faherty at 12:40.

8. As the vacuum trailer is filled up, a second empty available trailer is brought in from our yard and the initially picked up load is transferred into this trailer for storage pruposes. As the vacuum trailer is now empty again, it is placed back into further service in picking up the remaining solvent.

9. A second call is placed to Mr. Faherty at 3:05 in the afternoon advising him of the continuance of the clean up operation.

10. Mr. Scott Santora and Mr. Frank Marshall, of the DEP, are on the scene and are observing the clean up operation and making constructive suggestions to facilitate complete pick up.

11. After all the solvent is removed from the street area, the vacuum tanker is moved over a manhole approximately 200 feet downstream from the spill site. The vacuum hose is lowered into the drain area and then the entire flow is sucked up from the drain into the vacuum tank. This process is continued for approximately one and a half hours, again under the supervision of Mr. Santora.

12. The entire operation is completed at approximately 4:45 in the afternoon and all the equipment is brought back into the yard.

13. During the entire operation city officials from the health department, fire department, water department, and sewer department were present. At the conclusion of the operation they expressed satisfaction with the way our company handled the clean up.

As was stated earlier, the tank contents at the time of spill were approximately 11,300 gallons. At the conclusion of the clean up operation, there was close to 12,000 gallons contained in the vacuum tank and the extra storage tank. This material is now being reclaimed. Since the vacuum tank, at the time of spill, contained a small quantity of dirty oil the entire salvaged chemicals have to be run through distillation to clean them up.

At this point no accurate estimate of the recovery is available, since the distillation operation has not been concluded.

The company had on its premises a sister tank, installed at the same time as the damaged tank. To avoid a recurrance of this type of problem, the company is now in the process of removing this sister tank from service, even though it still appears to be in servicable condition. At this time the tank contents of 12,000 gallons originally have been drawn down to about half capacity. It is expected that within the next thirty days the tank will be fully emptied and it will then be completely removed from service.

In the DPCC and DCR Plans filed earlier this year with your department our company contemplated replacement of the two above mentioned tanks by the end of 1979 and we are now removing these tanks from service ahead of schedule.

If any further information in regard to this incident is required, please feel free to contact us.

Yours very truly

PERK CHEMICAL CO., INC.

Ray Rothschild
President

RR/jh

REFERENCE NO. 8

TD LOG# 8023

Form DEQ-0230
10/87

RECEIVED
1987 DEC -1 A 9:33

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIV. OF ENVIRONMENTAL QUALITY – BUR. OF COMMUNICATIONS AND SUPPORT SERVICES
Phone: 609-292-7172

COMMUNICATIONS CENTER NOTIFICATION REPORT

CASE NO. 87 (Yr) - 12 (Mo) - 01 (Day) - 0923 (Time)

DATE 12 (Mo) - 01 (Day) - 87 (Yr) REC'D BY EXCEL (Initials) REVIEWED BY

INCIDENT REPORT BY:
Name GARY HOADLEY Phone 201-355-5800
Street 217 SO. 1st ST.
City ELIZABETH State NJ
Affiliation/Title PERK/CYCLE CHEM

INCIDENT LOCATION: ___ Transportation X Facility ___ Other
Name (Site): PERK/CYCLE CHEM Phone 201-355-5800
Street 217 SO. 1 st. ST.
City ELIZABETH County UNION State NJ Zip Code

Date of Incident: 12 (Mo) - 01 (Day) - 87 Time: 0905

IDENTITY OF SUBSTANCE(S) SPILLED, RELEASED, ETC.: X Known ___ Suspected ___ Unknown
Name of Substance(s) [Gas, Liquid, Solid]: 11 TRICHLOROETHANE
CAS Number:
Amount Released/Spilled 10-15 GAL. ___ Actual ___ Potential X Estimated
Substance Contained (Y/N/U)
Type of Release/Spill: X Terminated ___ Continuous ___ Intermittent

Hazardous Material (Y/N)

NATURE OF INCIDENT: ___ Complaint ___ Munic. Notification ___ Emergency X Facil. Notification

INCIDENT DESCRIPTION:

A-2

REFERENCE NO. 9

NUS CORPORATION
SUPERFUND DIVISION

PROJECT NOTES

TO: Perk Chem. Co. Inc. File

DATE: 3/18/91

FROM: J Brown

COPIES:

SUBJECT: NJDEP Inspection Reports

REFERENCE:

Attached are NJDEP Hazardous Waste Facility Inspection reports from February 6, 1979 to December 31, 1980.

NUS 443A 58 1182

HAZARDOUS WASTE FACILITY
INSPECTION FORM

06

Facility Name: Perk Chemical Co. ID# 2004C Date: 2/6/79 Time: 2:30

Street: 217 S. First St. Lot & Block: 865.2

Town: Elizabeth Phone:

County: Union Person Contacted: Norman Cohen
Position: Treasurer

Inspector: M. Kramer

Weather Conditions: Clear

Wind Dir./SP: W-5 mph Temp: 30°

Inspection Observations:

Odors: On Site X Off Site

Leaks, Spills: Yes X No

Source: Odor-around barrels; Spills-from exposed drums containing material

Overall Housekeeping: Poor-dumping tipped over, exposed. Shop covered with waste material

Security Measures: Chain link fence and gates around perimeter of property

Safety Features:

Comments: On February 2 I inspected the premises. Perk Chemical is primarily in the business of solvent reclamation. It is equipped to handle solvent reclamation only. It does however accept other types of waste which is stored haphazardly on the yard. Spills and exposed drums were evident throughout the yard. It is estimated that the yard contains approximately 3,000 drums of waste material. None of the drums display manifest numbers.

The solvent reclamation method consists of distilling contaminated solvents in what appears to be a makeshift still. It was not ascertained what is done with the contaminants. Contaminated solvent is fed into the intake by tipping a barrel over on its side and spilling the contents into a pit.

The yard itself contains approximately 25 trailers and haulers. Mr. Cohen accompanying me during the inspection stated that several trailers weren't even theirs. He did not know who owned them. They displayed Maine license plates. Almost all trailers were locked and Mr. Cohen did not have the keys. An inspection could not be made of their contents. Of the trailers that were open, most contained waste material either in barrels or cartons.

Perk Chemical Cont'd

Several spills were noted throughout the yard. A 15,000 gallon undiked tank was stated as containing trichloroethane. Several barrels were observed leaking their contents onto the ground. A roll-off container looked as if it had been used for the deposition of paint sludges.

Numerous haulers were present on the property. Some were used for storage while others were still in service on the road. One hauler was stated as containing fuel for the still boiler.

An inspection of the manifests reveals the facility as accepting acids, ketones, oils and solvents. A large amount of these materials have been accepted within the last 2 months.

Mr. Rothchild, the president was absent during this inspection. It was stated by Mr. Cohen that he knows more about the operations of the facility and could answer more of my questions.

Recommendations

It is my opinion that this facility requires close observation. An immediate follow-up inspection is recommended. In full extent of waste storage on the premises, particularly trailer contents, should be determined.

Michael Kramer

hjg

MEMO

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO File

FROM Mark Boriek M.B. DATE March 21, 1979

SUBJECT Perk Chemical - On-site visit

On March 16, 1979, David Longstreet and myself conducted an on-site inspection of Perk Chemical Company, Inc., Elizabeth, New Jersey. The facility is involved in chemical waste treatment recovery and transfer. Attendees were:

David Longstreet - N.J.D.E.P.
Mark Boriek - N.J.D.E.P.
Ken Woodruff - Resource Recovery Services, Inc.
Brodie Crawford - Resource Recovery Services, Inc.
Norman Cohen - Perk Chemical Co., Inc.
Ray Rothschild - Perk Chemical Co., Inc.

The facility is deficient in many areas with respect to the DPCC regulations.

Drum Storage Area - Mr. Rothschild estimated that there were about 3,000 55 gallon drums of virgin and waste chemical stored on the property at the time of our visit. Many of the drums were rusted and leaking chemicals onto the bare ground. A portion of the drum storage area was covered with concrete but this was ineffective in that the concrete was neither sloped nor curbed so as to contain any spilled chemicals. *

The bottom portion of a chain link fence and the sidewalk on the western boundary of the facility were discolored. It was obvious that chemicals had once spilled off of Perk's Chemical property. The following is a list of some of the chemicals that are stored in 55 gallon drums:

Perchloroethylene
Trichloroethylene
Methylene Chloride
Carbon Tetrachloride
Cyclohexanone
Butyl Cellusolve

Bulk Storage Tanks - There are three (3) 12,000 gallon storage tanks at the facility. Two of the tanks contain Perchloroethylene; the other tank contains Trichloroethylene. There is no secondary containment around any of these tanks. In addition, there are several tank trucks on the property that are used for storage of chemicals. Mr. Rothschild mentioned that these tank trucks were licensed and capable of movement. It appeared to me that the trucks had not moved for some time. One tank truck which contained caustic, had a leaky valve. There is no secondary containment around any of the tank trucks except for a five gallon plastic bucket under the leaky valve.

Truck loading/unloading area - There is no secondary containment.

Mr. Rothschild informed us that the Army Corp. of Engineers is planning to do some construction for a Flood Control Project that involves a portion of Perk's property. The Corps. plans call for the raising of the road on the western boundary of the Perk facility. Because the construction encroaches upon part of Perk's drum storage area, Perk has begun to install concrete pads for drum storage in an area removed from the proposed construction.

The upgrading of Perk's drum storage area is really dependent upon completion of the Flood Control Project. The Flood Control Project may, in fact, provide an adequate barrier for containment of spilled chemicals on the western and southern boundaries of the facility.

On Monday, March 19, 1979, I received a phone call from Ken Woodruff of Resource Recovery Services, Inc. We set up a meeting in Trenton to discuss the proposed upgrading of the Perk facility.

MB:jdm

MEMO

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO Director Tylutki

FROM Ronald J. Buchanan, Ph.D. DATE 5/7/79

SUBJECT Perk

This date I inspected the Perk site.

1. About 2/3 of the property has been "concreted" and will be bermed to prevent run-off according to Mr. Ray Rothschild, President.

2. Approximately 500 drums containing various solvents and unidentified organic waste are stored on the western edge of the property on bare soil. Some drums are leaking and some spillage is evident on the ground. I told Mr. Rothschild that this area must be cleaned up as soon as possible. He indicated this would take at least 45 days (our order specifies 90 days which is reasonable) and overall 3 months to pave.

3. Orderly, unpallatized stacks of product and waste (4-high) were arranged along the southern fence area. This appears to be an active area as drums were being constantly moved in and out. Mr. Rothschild again argued against pallatizing claiming this will increase the risk of accidents.

4. Stacks of empty drums were evident on the site. Mr. Rothschild explained that these were going to be sent out to a reconditioner and others disposed.

5. A trailer loaded with what appeared to be plastic residues and wastes being readied for disposal. Mr. Rothschild explained that Mr. Rosenberg had given permission to landfill this waste (I will verify this).

6. "Waste" is not segregated from "product". Mr. Rothschild explained that he must accumulate about 2,000 drums of a given waste (i.e. methylene chloride solvent) in order to make it profitable to reprocess. He argued that it is necessary for him to store the 6,200 drums on site. Waste from this operation is sent to Solite, Saugertes, New York, for incineration (cement kiln).

The main areas of concern are the drums and spillage on bare soil and "sloppy housekeeping". Mr. Rothschild explained he is in the process of "cleaning up his act" which appears to be the case from this inspection. He expresses a desire to cooperate with us.

Based on this inspection my feeling is that a Temporary Operating Authorization with cleanup conditions, waste segregation conditions, and a limit of drums on site not to exceed 6,200 (that claimed by Mr. Rothschild to be present) should be considered. I recommend a segregate of "waste" from "product" for ease of inspection.

Ronald J. Buchanan, Ph.D.

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3-12/79

-06

HAZARDOUS WASTE FACILITY
INSPECTION FORM

Facility Name: Perk Chemical I.D. # 2004C Date:9/25/79 Time: 1:00

Facility Type: Transfer/Storage/Reprocessing/Reclamation/Blending/Treatment

Street: 217 South First Lot: Block:

Town: Elizabeth Phone:

County: Union Person Contacted: Ray Rothschild
Position: President

Inspector: Mike Kramer

Weather Conditions: Clear /X/ Rain / / Snow / /

Wind Direction: East Temp: 70° Speed 2 MPH

REVIEWED
OCT [illegible]
R.T.C.

Security Measures: Fence /X/ Yes / / No

Guard / / Yes /X/ No

Other _____

Safety Features:

Firefighting /X/ Yes / / No

Type:

Extinguisher /X/ Guns / / Other / /

Protective Clothing: /X/ Yes / / No
(Issued to Employees)

Written Emergency Procedures Posted / / Yes / / No

Inspection Observations:

Odors: On Site / / Yes /X/ No Off Site / / Yes / / No

Source: _____

Leaks, Spills: On Site /X/ Yes / / No Off Site / / Yes /X/ No

* Source: One drum spilled, absorbent placed on ground. Others have leaks.

Overall Housekeeping: Poor / / Fair /X/ Good / / Excellent / /

Drum Storage:

Total No. 6,000 Size 55 gallon Type Metal

Stacked Height: / / 1 Drum / / 2 Drums / / 3 Drums /X/ 4 or more

Palletized: / / Yes /X/ No

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A-7

Categorized: /X/ Yes /_/ No Labeled: /X/ Yes /_/ No

Manifested: /X/ Yes /_/ No

Condition:

Leaking: /X/ Yes /_/ No Number of Leakers 4

General Condition: /_/ Poor /X/ Fair /_/ Good /_/ Excellent

Vehicles: Registered /X/ Yes /_/ No

Numbers Displayed /X/ Yes /_/ No

Manifest Check:

Properly completed /_/ Yes /X/ No

Explain: See comments

Monitoring System: Air /_/ Yes /X/ No

Water /_/ Yes /X/ No

Does T.O.A. reflect capability: (Treatment/Processes) /X/ Yes /_/ No

Explain:

Samples Gathered: /_/ yes /X/ no Number _____

Photos: /_/ Yes /X/ No No. _____ Location: _____

1. _____

2. _____

3. _____

4. _____

5. _____

Observations and/or Other Comments Standing H_2O noted in process area and yard. Some drums noted in standing H_2O. Concrete pad almost near completion. Yard is reorganized for concrete pad placement. Some material leaking from tops of drums. Manifest A107253 CR.(Diox. fur.) 378 gallons. Explained to be wrong. Bill of Lading shows tri and perchloroethylene.

Inspector's Signature

Facility Operator's Signature

20-06

HAZARDOUS WASTE FACILITY INSPECTION FORM

Facility Name: Perk Chemical I.D. # 2004C Date: 10/30/79 Time:

Facility Type: Transfer, Storage, Reprocesser, Blending, Treatment

Street: 217 S. First St. Lot: Block:

Town: Elizabeth Phone:

County: Union Person Contacted:

Inspector: Mike Nalbone Position:

Weather Conditions: Clear /X/ Rain /_/ Snow /_/

Wind Direction: N Temp: 50° Speed 1-3 MPH

Security Measures: Fence /X/ Yes /_/ No

Guard /_/ Yes /_/ No

Other _____

Safety Features:

Firefighting /X/ Yes /_/ No

Type:

Extinguisher /X/ Guns /_/ Other /_/

Protective Clothing: /X/ Yes /_/ No
(Issued to Employees)

Written Emergency Procedures Posted /_/ Yes /X/ No

Inspection Observations:

Odors: On Site /X/ Yes /_/ No Off Site /_/ Yes /X/ No

Source: Ambient

Leaks, Spills: On Site /_/ Yes /X/ No Off Site /_/ Yes /X/ No

Source: _____

Overall Housekeeping: Poor /_/ Fair /X/ Good /_/ Excellent /_/

Drum Storage: Reorganization of drums because of construction on site.

Total No. _____ Size _____ Type _____

Count of drums will be made next inspection.

Stacked Height: /_/ 1 Drum /_/ 2 Drums /_/ 3 Drums /X/ 4 or more

Palletized: /_/ Yes /X/ No

Categorized: /X/ Yes /_/ No Labeled: /X/ Yes /_/ No

Manifested: /_/ Yes /_/ No Numbers on some.

Condition:

Leaking: /X/ Yes /_/ No Number of Leakers 2

General Condition: /_/ Poor /X/ Fair /_/ Good /_/ Excellent

Vehicles: Registered /X/ Yes /_/ No

Numbers Displayed /X/ Yes /_/ No

Manifest Check:

Properly completed /X/ Yes /_/ No

Explain:

Monitoring System: Air /_/ Yes /X/ No

Water /_/ Yes /X/ No

Does T.O.A. reflect capability: (Treatment/Processes) /X/ Yes /_/ No

Explain:

Samples Gathered: /_/ yes /X/ no Number _____

Photos: /_/ Yes /X/ No No._____ Location: _____

1._____

2._____

3._____

4._____

5._____

Observations and/or Other Comments Still constructing concrete floor. Scrap drums being hauled off site during our inspection. Still constructing solidification basin. Noted 15,000 gallon horizontal tank on site pitching toward the West of site. Probably caused by crack in concrete foundation under tank. Also noted some drums stored on site in standing water.

Inspector's Signature Mike Mall

Facility Operator's Signature

120-06

HAZARDOUS WASTE FACILITY INSPECTION FORM

Facility Name: Perk Chemical I.D. #2004C Date: 10-16-79 Time: 1:00

Facility Type: Tras./Stor./Repr./Recl./Blending/Trtmt.

Street: 217 S. First St. Lot: 865 Block: 2

Town: Elizabeth Phone:

County: Union Person Contacted: Ray Rotlschild

Inspector: Kramer Position: President

Weather Conditions: Clear [X] Rain [ ] Snow [ ]

Wind Direction: NW Temp: 60° Speed 1 MPH

Security Measures: Fence [X] Yes [ ] No

Guard [ ] Yes [ ] No

Other _____

Safety Features:

Firefighting [X] Yes [ ] No

Type:

Extinguisher [X] Guns [ ] Other [ ]

Protective Clothing: [X] Yes [ ] No
(Issued to Employees)

Written Emergency Procedures Posted [X] Yes [ ] No

Inspection Observations:

Odors: On Site [ ] Yes [X] No Off Site [ ] Yes [ ] No

Source: _____

Leaks, Spills: On Site [x] Yes [ ] No Off Site [ ] Yes [x] No

Source: Spilled drum (wax) drum storage (minor)

Overall Housekeeping: Poor [ ] Fair [X] Good [ ] Excellent [ ]

Drum Storage: will count next wk.

Total No. _____ Size 55 gl Type metal

Stacked Height: [ ] 1 Drum [ ] 2 Drums [ ] 3 Drums [x] 4 or more

Palletized: [ ] Yes [x] No

JD

Categorized: [X] Yes [ ] No Labeled: [X] Yes [ ] No

Manifested: [X] Yes [ ] No

Condition:

Leaking: [X] Yes [ ] No Number of Leakers 1

General Condition: [ ] Poor [X] Fair [ ] Good [ ] Excellent

Vehicles: Registered [X] Yes [ ] No

Numbers Displayed [X] Yes [ ] No

Manifest Check:

Properly completed [X] Yes [ ] No

Explain:

Monitoring System: Air [ ] Yes [X] No

Water [ ] Yes [X] No

Does T.O.A. reflect capability: (Treatment/Processes) [ ] Yes [ ] No

Explain:

Samples Gathered: [ ] yes [X] no Number _____

Photos: [ ] Yes [X] No No. _____ Location: _____

1. _____

2. _____

3. _____

4. _____

5. _____

Observations and/or Other Comments

Horizontal tank installed with pitch to facilitate drainage. Still laying concrete pad. Starting to arrange drums by category is saleable, special recyclable with 2 ft. empty row separation.

Inspector's Signature

20-06

HAZARDOUS WASTE FACILITY INSPECTION FORM

Facility Name: Perk Chemical I.D. # 2004G Date: 11-20-79 Time: 11:00

Facility Type: Transfer, Storage, Reprocesser, Reclamation, Recovery, Blending, Treatment

Street: 217 So. First St. Lot: 865 Block: 2

Town: Elizabeth Phone:

County: Union Person Contacted: R. Rothschild

Position: President

Inspector: Kramer

Weather Conditions: Clear /X/ Rain /_/ Snow /_/

Wind Direction: Temp: 60° Speed _____ MPH

Security Measures: Fence /X/ Yes /_/ No

Guard /_/ Yes /_/ No

Other _____

Safety Features:

Firefighting /X/ Yes /_/ No

Type:

Extinguisher /X/ Guns /_/ Other /_/

Protective Clothing: /X/ Yes /_/ No
(Issued to Employees)

Written Emergency Procedures Posted /X/ Yes /_/ No

Inspection Observations:

Odors: On Site /X/ Yes /_/ No Off Site /_/ Yes /X/ No

Source: PROCESS STILL

Leaks, Spills: On Site /X/ Yes /_/ No Off Site /_/ Yes /_/ No

Source: DRUMS

Overall Housekeeping: Poor /_/ Fair /_/ Good /X/ Excellent /_/

Drum Storage: SEE LAST WEEKS REPORT

Total No. _____ Size _____ Type _____

Stacked Height: /_/ 1 Drum /_/ 2 Drums /_/ 3 Drums /X/ 4 or more

Palletized: /_/ Yes /X/ No

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Categorized: /X/ Yes /_/ No Labeled: /X/ Yes /_/ No

Manifested: /X/ Yes /_/ No

Condition:

Leaking: /X/ Yes /_/ No Number of Leakers 1

General Condition: /_/ Poor /X/ Fair /_/ Good /_/ Excellent

Vehicles: Registered /X/ Yes /_/ No

Numbers Displayed /X/ Yes /_/ No

Manifest Check:

Properly completed /X/ Yes /_/ No

Explain:

Monitoring System: Air /_/ Yes /X/ No

Water /_/ Yes /X/ No

Does T.O.A. reflect capability: (Treatment/Processes) /_/ Yes /_/ No

Explain:

Samples Gathered: /_/ yes /X/ no Number _____

Photos: /_/ Yes /X/ No No. _____ Location: _____

1. _____

2. _____

3. _____

4. _____

5. _____

Observations and/or Other Comments . Drum reorganizing still taking place. Surface water accumulation noted in one area of yard except to have drums reorganized on south end of facility by next week.

Inspector's Signature

Facility Operator's Signature

20-06

HAZARDOUS WASTE FACILITY
INSPECTION FORM

Facility Name: Perk Chemical I.D. #2004G Date: 11-27-79 Time: 2:00

Facility Type: Transfer, Storage, Reproc. Recl. Blending, Treatment

Street: 217 S. First St. Lot: 865 Block: 2

Town: Elizabeth Phone:

County: Union Person Contacted: Roy Rothschild

Inspector: Kramer Position: President

Weather Conditions: Clear [X] Rain [ ] Snow [ ]

Wind Direction: N Temp: 60° Speed 5-10 MPH

Security Measures: Fence [X] Yes [ ] No

Guard [ ] Yes [X] No

Other _____

Safety Features:

Firefighting [X] Yes [ ] No

Type:

Extinguisher [X] Guns [ ] Other [ ]

Protective Clothing: [X] Yes [ ] No
(Issued to Employees)

Written Emergency Procedures Posted [X] Yes [ ] No

Inspection Observations:

Odors: On Site [ ] Yes [X] No Off Site [ ] Yes [X] No

Source: _____

Leaks, Spills: On Site [X] Yes [ ] No Off Site [ ] Yes [X] No

Source: Heavy material by standing water in drum storage area.

Overall Housekeeping: Poor [ ] Fair [X] Good [ ] Excellent [ ]

Drum Storage: SEE LAST REPORT

Total No. _____ Size _____ Type _____

Stacked Height: [ ] 1 Drum [ ] 2 Drums [ ] 3 Drums [ ] 4 or more

Palletized: [ ] Yes [ ] No

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Categorized: [ ] Yes [ ] No Labeled: [ ] Yes [ ] No

Manifested: [ ] Yes [ ] No

Condition:

Leaking: [ ] Yes [ ] No Number of Leakers Possible leaker (1)

General Condition: [ ] Poor [X] Fair [ ] Good [ ] Excellent

Vehicles: Registered [X] Yes [ ] No

Numbers Displayed [X] Yes [ ] No

Manifest Check:

Properly completed [ ] Yes [ ] No

Explain:

Monitoring System: Air [ ] Yes [X] No

Water [ ] Yes [X] No

Does T.O.A. reflect capability: (Treatment/Processes) [ ] Yes [ ] No

Explain:

Samples Gathered: [ ] yes [X] no Number _____

Photos: [ ] Yes [X] No No._____ Location: _____

1._____

2._____

3._____

4._____

5._____

Observations and/or Other Comments

Spilled material noted on standing water in drum storage area. Is being cleaned up immediately. Drums being reorganized-approximately 50% complete.

Inspector's Signature

Facility Operator's Signature

20-06

HAZARDOUS WASTE FACILITY INSPECTION FORM

Facility Name: Perk Chemical I.D. # 2004C Date: 12-5-79 Time: 11:00

Facility Type: Trans./Stor./Reproc./Reclaim/Rec./Blding/.Treat

Street: First Ave. Lot: Block:

Town: Elizabeth Phone:

County: Union Person Contacted: R. Rothschild

Inspector: Kramer Position: President

Weather Conditions: Clear /X/ Rain /_/ Snow /_/

Wind Direction: NW Temp: 50° Speed 1 MPH

Security Measures: Fence /X/ Yes /_/ No

Guard /_/ Yes /_/ No

Other _____

Safety Features:

Firefighting /X/ Yes /_/ No

Type:

Extinguisher /X/ Guns /_/ Other /_/

Protective Clothing: /X/ Yes /_/ No
(Issued to Employees)

Written Emergency Procedures Posted /X/ Yes /_/ No

Inspection Observations:

Odors: On Site /X/ Yes /_/ No Off Site /_/ Yes /_/ No

Source: drum storage

Leaks, Spills: On Site /X/ Yes /_/ No Off Site /_/ Yes /X/ No

Source: decayed drums set aside for processing. Absorbant placed on spill

Overall Housekeeping: Poor /_/ Fair /X/ Good /_/ Excellent /_/

Drum Storage: will take count next week

Total No. _____ Size _____ Type _____

Stacked Height: /_/ 1 Drum /_/ 2 Drums /_/ 3 Drums /X/ 4 or more

Palletized: /_/ Yes /X/ No

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Categorized: /X/ Yes / / No Labeled: /X/ Yes / / No

Manifested: / / Yes / / No 1 recent shipment pointed out by Mr. Rothschild does not display manifest number. approximately 80 drums.

Condition:

Leaking: /X/ Yes / / No Number of Leakers see comments

General Condition: / / Poor /X/ Fair / / Good / / Excellent

Vehicles: Registered /X/ Yes / / No

Numbers Displayed /X/ Yes / / No

Manifest Check:

Properly completed /X/ Yes / / No

Explain: outgoing

Monitoring System: Air / / Yes /X/ No

Water / / Yes /X/ No

Does T.O.A. reflect capability: (Treatment/Processes) / / Yes / / No

Explain:

Samples Gathered: / / yes /X/ no Number _____

Photos: / / Yes /X/ No No._____ Location: _____

1.

2.

3.

4.

5.

Observations and/or Other Comments Final drum reorganization awaiting concrete pad placement. Will be completed in approximately 2 weeks. 25 decayed drums set aside and processed. Drums noted in standing water in one section of yard. Advised to lay pallets on bottom when drum reorganization takes place.

Inspector's Signature

Facility Operator's Signature

20-04

HAZARDOUS WASTE FACILITY INSPECTION FORM

Facility Name: Perk Chemical I.D. #2004G Date: 12-26-79 Time: 10:00

Facility Type: Trans, Stor, Reproc., Recl, Recov, Blnd, Trtmt.

Street: S. First Ave. Lot: 865 Block: 2

Town: Elizabeth Phone:

County: Union Person Contacted: Ray Rothchild
Position: President

Inspector: Kramer

Weather Conditions: Clear [X] Rain [ ] Snow [ ]

Wind Direction: SE Temp: 45° Speed 5-10 MPH

Security Measures: Fence [X] Yes [ ] No

Guard [ ] Yes [X] No

Other _____

Safety Features:

Firefighting [X] Yes [ ] No

Type:

Extinguisher [X] Guns [ ] Other [ ]

Protective Clothing: [X] Yes [ ] No
(Issued to Employees)

Written Emergency Procedures Posted [X] Yes [ ] No

Inspection Observations:

Odors: On Site [ ] Yes [X] No Off Site [ ] Yes [X] No

Source: _____

Leaks, Spills: On Site [X] Yes [ ] No Off Site [ ] Yes [X] No

Source: empty drums with slight residue turned over/Runoff collection of lowpoint (see comm

Overall Housekeeping: Poor [X] Fair [ ] Good [ ] Excellent [ ]

Drum Storage:

Total No. not counted this inspection Size _____ Type _____

Stacked Height: [ ] 1 Drum [ ] 2 Drums [ ] 3 Drums [X] 4 or more

Palletized: [ ] Yes [X] No

Categorized: /X/ Yes / / No Labeled: /X/ Yes / / No

Manifested: /X/ Yes / / No

Condition:

Leaking: /X/ Yes / / No Number of Leakers 2 detected

General Condition: / / Poor /X/ Fair / / Good / / Excellent

Vehicles: Registered /X/ Yes / / No

Numbers Displayed /X/ Yes / / No

Manifest Check:

Properly completed /X/ Yes / / No

Explain:

Monitoring System: Air / / Yes /X/ No

Water / / Yes /X/ No

Does T.O.A. reflect capability: (Treatment/Processes) / / Yes / / No

Explain:

Samples Gathered: /X/ yes / / no Number 2

Photos: / / Yes /X/ No No._____ Location: runoff accumulation at South end of facility.

1.

2.

3.

4.

5.

Observations and/or Other Comments: Drum reorganization complete. Bad drums pulled out & segregated. Contaminated absorbant noted on facility grounds. Drums noted in standing water on south side of facility. Standing H_2O appears contaminated-2samples obtained. Empty drums now stored on side to eliminate residue spillage. Inspection was made within one hour of reopening after 4 days X-mas holiday and after heavy rains-the material described avove would have been vacuumed this morning but earliness of inspections did not pesuit sufficient time to do the vacuum cleanup. JRR

Inspector's Signature Facility Operator's Signature

20-06

BUREAU OF HAZARDOUS WASTE
FACILITY INSPECTION FORM

Facility Name: Perk Chemical I.D. # 2004G Date: 1-30-80 Time: 10:45

Facility Type: Transfer/Storage/Reproc./ Recovery./Blending/Treatment

Street: So. First Ave. Lot: 865 Block: 2

Town: Elizabeth Phone:

County: Union Person Contacted: Ray Rothschild

Inspector: Kramer Position: President

Weather Conditions: Clear /X/ Rain /_/ Snow /_/

Wind Direction: E Temp: 20° Speed 3 MPH

Security Measures: Fence /X/ Yes /_/ No

Guard /_/ Yes /X/ No

Other _____

Safety Features:

Firefighting /X/ Yes /_/ No

Type:

Extinguisher /X/ Guns /_/ Other /_/

Protective Clothing: /X/ Yes /_/ No
(Issued to Employees)

Written Emergency Procedures Posted /X/ Yes /_/ No

Inspection Observations:

Odors: On Site /X/ Yes /_/ No Off Site /_/ Yes /X/ No

Source: PROCESSING

Leaks, Spills: On Site /X/ Yes /_/ No Off Site /_/ Yes /X/ No

Source: MINIMAL LEAKAGE FROM DRUM STORAGE ABSORBENT PLACED AROUND SPILLAGE

Overall Housekeeping: Poor /_/ Fair /_/ Good /X/ Excellent /_/

Drum Storage:

Total No. 4000* Size 55 gal. Type metal

*estimate supplied by Perk.

Stacked Height: /_/ 1 Drum /_/ 2 Drums /X/ 3 Drums /_/ 4 or more

Palletized: /_/ Yes /X/ No

Observations and/or Other Comments

and Fence Co. in Elizabeth. Mr. Cohen requested we not contact him for fear that the contractor might pull off the job completely.

According to Keith White the drums blocking the entrance contain Methylene Chloride sludge. Bob Dante verified that the drums were full and contained a sludge material.

Inspector's Signature

Thomas W. Downey

Facility Operator's Signature

Categorized: /X/ Yes Labeled: /X/ Yes

Manifested: /X/ Yes /_/ No

Condition:

Leaking: /X/ Yes /_/ No Number of Leakers minimal around tops

General Condition: /_/ Poor /_/ Fair /X/ Good /_/ Excellent

Vehicles: Registered /X/ Yes /_/ No

Numbers Displayed /XX/ Yes /_/ No

Manifest Check:

Properly completed /X/ Yes /_/ No

Explain:

Monitoring System: Air /_/ Yes /X/ No

Water /_/ Yes /XX/ No

Does T.O.A. reflect capability: (Treatment/Processes) /_/ Yes /_/ No

Explain:

Samples Gathered: /_/ yes /XX/ no Number _____

Photos: /_/ Yes /X/ No No._____ Location: _____

1. _____

2. _____

3. _____

4. _____

5. _____

Observations and/or Other Comments _____

Manifests display still bottoms to SCP. Check on status of SCP.

Inspector's Signature

Facility Operator's Signature

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BUREAU OF HAZARDOUS WASTE
FACILITY INSPECTION FORM

Facility Name: Perk Chemical I.D. # 2004C Date: 2/22/80 Time: 1:00

Facility Type: Trans./Stor./Reproc./Prclam./Recov./Blending/Treatment.

Street: 217 S. 1st St. Lot: Block:

Town: Elizabeth Phone:

County: Union Person Contacted: Ray Rothschild

Inspector: Kramer/McGuinness Position: Pres.

Weather Conditions: Clear [ ] Rain [X] Snow [ ]

Wind Direction: E Temp: 30 Speed 5 MPH

Security Measures: Fence [X] Yes [ ] No

Guard [ ] Yes [ ] No

Other _____

Safety Features:

Firefighting [X] Yes [ ] No

Type:

Extinguisher [X] Guns [ ] Other [ ]

Protective Clothing: [X] Yes [ ] No
(Issued to Employees)

Written Emergency Procedures Posted [X] Yes [ ] No

Inspection Observations:

Odors: On Site [X] Yes [ ] No Off Site [ ] Yes [X] No

Source: Processing

Leaks, Spills: On Site [X] Yes [ ] No Off Site [ ] Yes [X] No

Source: Water Soluble Oil

Overall Housekeeping: Poor [ ] Fair [X] Good [ ] Excellent [ ]

Drum Storage:

Total No. 4500 Size 55 Gal Type Metal

Stacked Height: [ ] 1 Drum [ ] 2 Drums [ ] 3 Drums [X] 4 or more

Palletized: [ ] Yes [X] No

Containerized: /X/ Yes /_/ No Labeled: /X/ Yes /_/ No

Manifested: /X/ Yes /_/ No

Condition:

Leaking: /_/ Yes /X/ No Number of Leakers _____

General Condition: /_/ Poor /X/ Fair /_/ Good /_/ Excellent

Vehicles: Registered /X/ Yes /_/ No

Numbers Displayed /X/ Yes /_/ No

Manifest Check:

Properly completed /X/ Yes /_/ No

Explain:

Monitoring System: Air /_/ Yes /X/ No

Water /_/ Yes /X/ No

Does T.O.A. reflect capability: (Treatment/Processes) /_/ Yes /_/ No

Explain:

Samples Gathered: /_/ yes /X/ no Number _____

Photos: /_/ Yes /X/ No No._____ Location: _____

1._____

2._____

3._____

4._____

5._____

Observations and/or Other Comments 1. Heavy water accumulations due to rainfall.

2. Some water soluble oil mixed with rain water.

3. Cleaning of old drums proceeding.

4. Will have to reorganize the yard (South end of facility) due to corp. of engineers plans for easement construction.

Inspector's Signature

Tim McGuinness

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Facility Operator's Signature

20-06

BUREAU OF HAZARDOUS WASTE
FACILITY INSPECTION FORM

Facility Name: Perk Chemical I.D. # 2004G Date: 3/13/80 Time: 9:00

Facility Type: Transfer/Storage/Processor

Street: First Street Lot: Block:

Town: Elizabeth Phone:

County: Union Person Contacted: Ray Rothchild
Position: President

Inspector:

Weather Conditions: Clear [x] Rain [ ] Snow [ ]

Wind Direction: E Temp: 30 Speed 1 MPH

Security Measures: Fence [xx] Yes [ ] No

Guard [ ] Yes [x] No

Other _____

Safety Features:

Firefighting [xx] Yes [ ] No

Type:

Extinguisher [x] Guns [ ] Other [ ]

Protective Clothing: [x] Yes [ ] No
(Issued to Employees)

Written Emergency Procedures Posted [xx] Yes [ ] No

Inspection Observations:

Odors: On Site [xx] Yes [ ] No Off Site [ ] Yes [x] No

Source: Processing

Leaks, Spills: On Site [x] Yes [ ] No Off Site [ ] Yes [x] No

Source: _____

Overall Housekeeping: Poor [ ] Fair [ ] Good [ ] Excellent [ ] ?

Drum Storage:

Total No. 4500 Size 55 Gal Type Metal

Stacked Height: [ ] 1 Drum [ ] 2 Drums [ ] 3 Drums [xx] 4 or more

Palletized: [ ] Yes [x] No

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Categorized: /X/ Yes / / Labeled: /X/ Yes / /

Manifested: /X/ Yes / / No

Condition:

Leaking: /X/ Yes / / No Number of Leakers _____

General Condition: / / Poor /X/ Fair / / Good / / Excellent

Vehicles: Registered /X/ Yes / / No

Numbers Displayed /X/ Yes / / No

Manifest Check:

Properly completed /X/ Yes / / No

Explain:

Monitoring System: Air / / Yes /X/ No

Water / / Yes /X/ No

Does T.O.A. reflect capability: (Treatment/Processes) /X/ Yes /X/ No

Explain:

Samples Gathered: / / yes /X/ no Number _____

Photos: /X/ Yes / / No No._____ Location: _____

1._____

2._____

3._____

4._____

5._____

Observations and/or Other Comments 1. some drums leaking slightly due to freezing. 2. During time of inspection, worker being treated for exposure to chlorinated hydrocarbons. He was receiving treatment from the Elizabeth Emergency Squad.

Inspector's Signature

Tim McGuinness

Facility Operator's Signature

_____

CLM

Mr. Charles Maack, Principal Environmental Engineer

Mr. Charles Johnson, Environmental Engineer Trainee April 9, 1980

Park Chemical Company, Elizabeth, Union County
SWA Authorized Chemical Waste Processing Facility # 2004C

On April 7, 1980, the writer and Mr. Paul Harvey inspected Park Chemical Company, Elizabeth.

The inspectors observed the process area where the company uses a distillation process to separate chemicals. Non-contact cooling water is used in the process and is discharged into the City of Elizabeth sanitary sewer system. Finished and waste products are pumped into drums or tank cars.

The remaining area of the plant is used for chemical storage in drums and tanks. Drums are placed on concrete pads, but these pads are not diked (berned) to prevent discharges. Park has proposed to install new dikes and Park representatives stated that concrete pads will be installed in the near future.

The Army Corps of Engineers is preparing to install a levee on an easement on Park Chemical's property to protect the area from flooding in the event of a high intensity storm. This construction should be completed by early summer, 1980, and Park will then install its proposed dikes and pads.

Although some spillages were observed, these were on existing pads. Surface water can presently flow off the site and into storm drains, but when the levee and dike systems are installed, this problem should be abated.

Therefore, it is recommended that Park Chemical Company be required to install the new dikes and concrete pads it has proposed for spillage containment.

ES4:Gl
cc: Mr. Honachefsky
Mr. Post

20-6

E OF HAZARDOUS WASTE
FACILITY INSPECTION FORM

Facility Name: Perk Chemical I.D.:# 2004C Date: 4/21/80 Time: 10:00

Facility Type: Trns./Stor./Reproc./Recov./Bldng./Trtment.

Street: S. First St. Lot: 865 Block: 2

Town: Elizabeth Phone: 201 355-5800

County: Union Person Contacted: N. Cohen/R. Rothschild

Inspector: Kramer Position: Pres.

Weather Conditions: Clear /X/ Rain /_/ Snow /_/

Wind Direction: E Temp: 65 Speed 5 MPH

Security Measures: Fence /x/ Yes /_/ No

Guard /_/ Yes /x/ No

Other temporary fence set up in excavation area

Safety Features:

Firefighting /x/ Yes /_/ No

Type:

Extinguisher /x/ Guns /_/ Other /_/

Protective Clothing: /x/ Yes /_/ No
(Issued to Employees)

Written Emergency Procedures Posted /x/ Yes /_/ No

Inspection Observations:

Odors: On Site /x/ Yes /_/ No Off Site /x/ Yes /_/ No

Source: drum storage, army corp. excavation around perimeter (S)

Leaks, Spills: On Site /_/ Yes /x/ No Off Site /x/ Yes /_/ No

Source: groundwater leaching into excavation pit

Overall Housekeeping: Poor /x/ Fair /_/ Good /_/ Excellent /_/

Drum Storage:

Total No. 4000* Size 55 gal Type metal

Stacked Height: /_/ 1 Drum /_/ 2 Drums /x/ 3 Drums /_/ 4 or more

Palletized: /_/ Yes /x/ No estimate

27
4-2

Categorized: /x/ Yes /_/ No Labeled: /x/ Yes /_/ No

Manifested: /x/ Yes /_/ No

Condition:

Leaking: /x/ Yes /_/ No Number of Leakers 1 (bungs)

General Condition: /_/ Poor /x/ Fair /_/ Good /_/ Excellent

Vehicles: Registered /x/ Yes /_/ No

Numbers Displayed /x/ Yes /_/ No

Manifest Check:

Properly completed /x/ Yes /_/ No

Explain:

Monitoring System: Air /_/ Yes /x/ No

Water /_/ Yes /x/ No

Does T.O.A. reflect capability: (Treatment/Processes) /_/ Yes /_/ No

Explain:

Samples Gathered: /_/ yes /_/ no Number _____

Photos: /_/ Yes /_/ No No._____ Location: _____

1. _____

2. _____

3. _____

4. _____

5. _____

Observations and/or Other Comments Excavation performed on south end of facility (perimeter). Multi-colored leachate present in excavation. Leachate emirating odor. Red, green, and black pockets observed. Starting excavation on west end of perimeter. Vacumm track observed vacuming up contaminated water from pit. Yard reorganized because of project. Drums moved to center of yard.

Inspector's Signature

Facility Operator's Signature

28

OF HAZARDOUS WASTE
FACILITY INSPECTION FORM

Facility Name: Perk Chemical I.D.:# 2004C Date: 4/28/80 Time: 1:00

Facility Type: Trns. /Stor./Reproc./Recov./Bldg./Trtmt.

Street: S. First St. Lot: 865 Block: 2

Town: Elizabeth Phone: 201 355-5800

County: Union Person Contacted: Norman Cohen

Inspector: Kramer Position: Treasurer

Weather Conditions: Clear [ ] Rain [x] Snow [ ]

Wind Direction: Sw Temp: 50 Speed 1 MPH

Security Measures: Fence [x] Yes [ ] No

Guard [ ] Yes [x] No

Other temporary fence erected for Corp. project

Safety Features:

Firefighting [x] Yes [ ] No

Type:

Extinguisher [x] Guns [ ] Other [ ]

Protective Clothing: [x] Yes [ ] No
(Issued to Employees)

Written Emergency Procedures Posted [x] Yes [ ] No

Inspection Observations:

Odors: On Site [x] Yes [ ] No Off Site [x] Yes [ ] No

Source: drum storage/ambient

Leaks, Spills: On Site [ ] Yes [ ] No Off Site [ ] Yes [ ] No

Source: could not ascertain due to heavy rainfall

Overall Housekeeping: Poor [ ] Fair [x] Good [ ] Excellent [ ]

Drum Storage:

Total No. 4500 Size 55 gal Type metal

Stacked Height: [ ] 1 Drum [ ] 2 Drums [ ] 3 Drums [x] 4 or more

Palletized: [ ] Yes [x] No

Categorized: /X/ Yes /_/ No Labeled: /X/ Yes /_/ No

Manifested: /X/ Yes /_/ No

Condition:

Leaking: /_/ Yes /X/ No Number of Leakers _____

General Condition: /_/ Poor /_/ Fair /X/ Good /_/ Excellent

Vehicles: Registered /X/ Yes /_/ No

Numbers Displayed /X/ Yes /_/ No

Manifest Check:

Properly completed /X/ Yes /_/ No

Explain: see comments

Monitoring System: Air /_/ Yes /X/ No

Water /_/ Yes /X/ No

Does T.O.A. reflect capability: (Treatment/Processes) /_/ Yes /_/ No

Explain:

Samples Gathered: /_/ yes /X/ no Number _____

Photos: /_/ Yes /X/ No No. _____ Location: _____

1. _____

2. _____

3. _____

4. _____

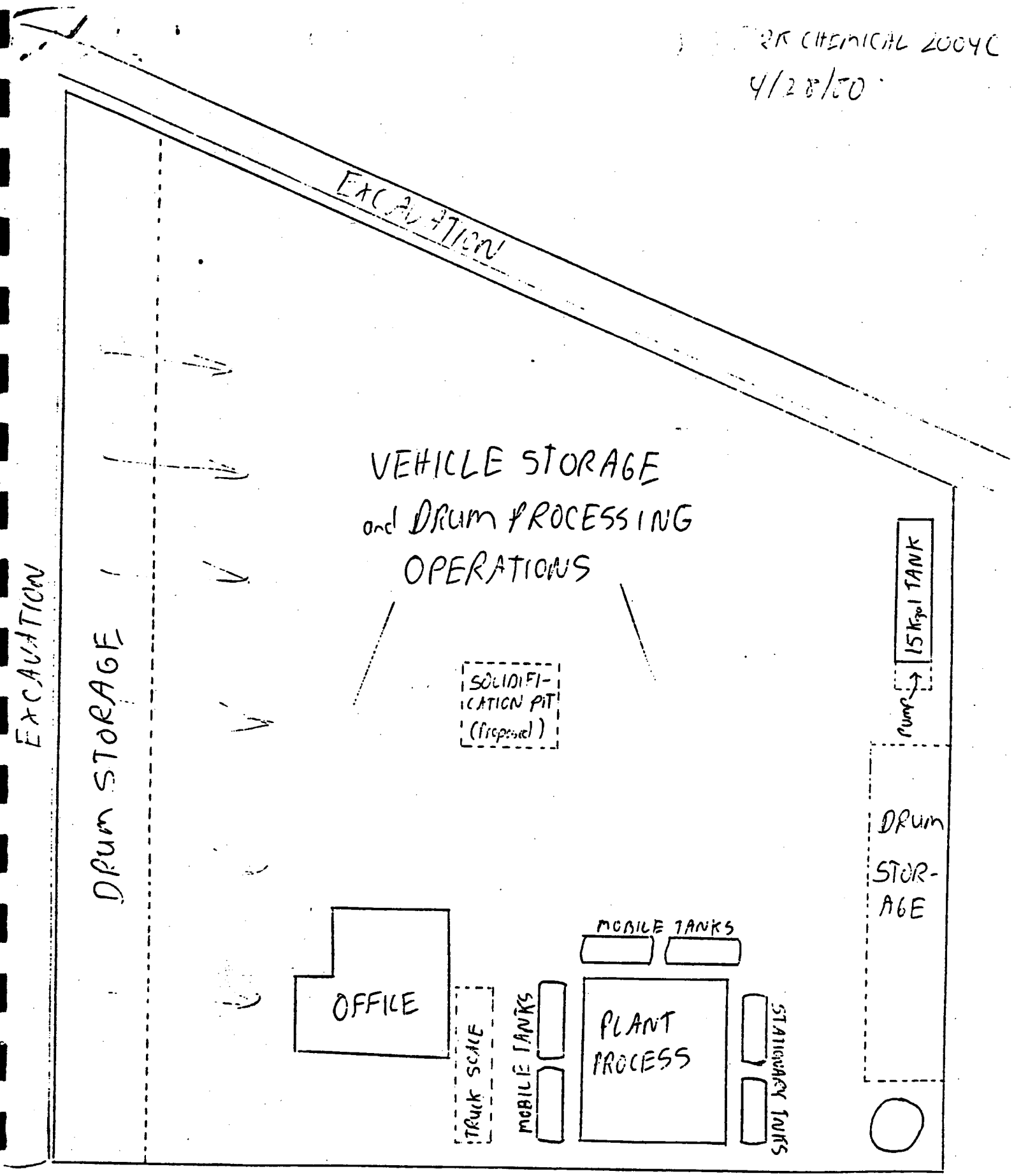
5. _____

Observations and/or Other Comments Excavation present at perimeter of facility. Army Corp starting to lay concrete pad in excavation. Could not observe leachate due to heavy rainfall. Surface water collection noted throughout facility. Manifests A-32138-Acid to kit rejected. Are currently shipping acid to Environmental Waste C-49933, C-36516, A-32183 Watergury Conneticut

Inspector's Signature

30
A-2

Facility Operator's Signature


EXCAVATION
VEHICLE STORAGE
and DRUM PROCESSING
OPERATIONS
EXCAVATION
DRUM STORAGE
SOLIDIFI-
CATION PIT
(Proposed)
15 Kgal TANK
pump
DRUM
STOR-
AGE
MOBILE TANKS
OFFICE
TRUCK SCALE
MOBILE TANKS
PLANT
PROCESS
STATIONARY TANKS

20-06

BUREAU OF HAZARDOUS WASTE
FACILITY INSPECTION FORM

Facility Name: Perk Chemical I.D.# 2004C Date: 5/5/80 Time: 10:00

Facility Type: Trns. Stor, Reproc. Recov, Bldng, Trtmt.

Street: S. First St. Lot: 865 Block: 2

Town: Elizabeth Phone: 355-5000

County: Union Person Contacted: Ray Rothschild

Inspector: Kramer Position: President

Weather Conditions: Clear /x/ Rain /_/ Snow /_/

Wind Direction: E Temp: 75 Speed 1-2 MPH

Security Measures: Fence /x/ Yes /_/ No temporary while flood project going on

Guard /_/ Yes /x/ No

Other _____

Safety Features:

Firefighting /x/ Yes /_/ No

Type:

Extinguisher /x/ Guns /_/ Other /_/

Protective Clothing: /x/ Yes /_/ No
(Issued to Employees)

Written Emergency Procedures Posted /x/ Yes /_/ No

Inspection Observations:

Odors: On Site /x/ Yes /_/ No Off Site /_/ Yes /x/ No

Source: drum storage

Leaks, Spills: On Site /x/ Yes /_/ No Off Site /_/ Yes /x/ No

Source: drum storage (1 leaker)

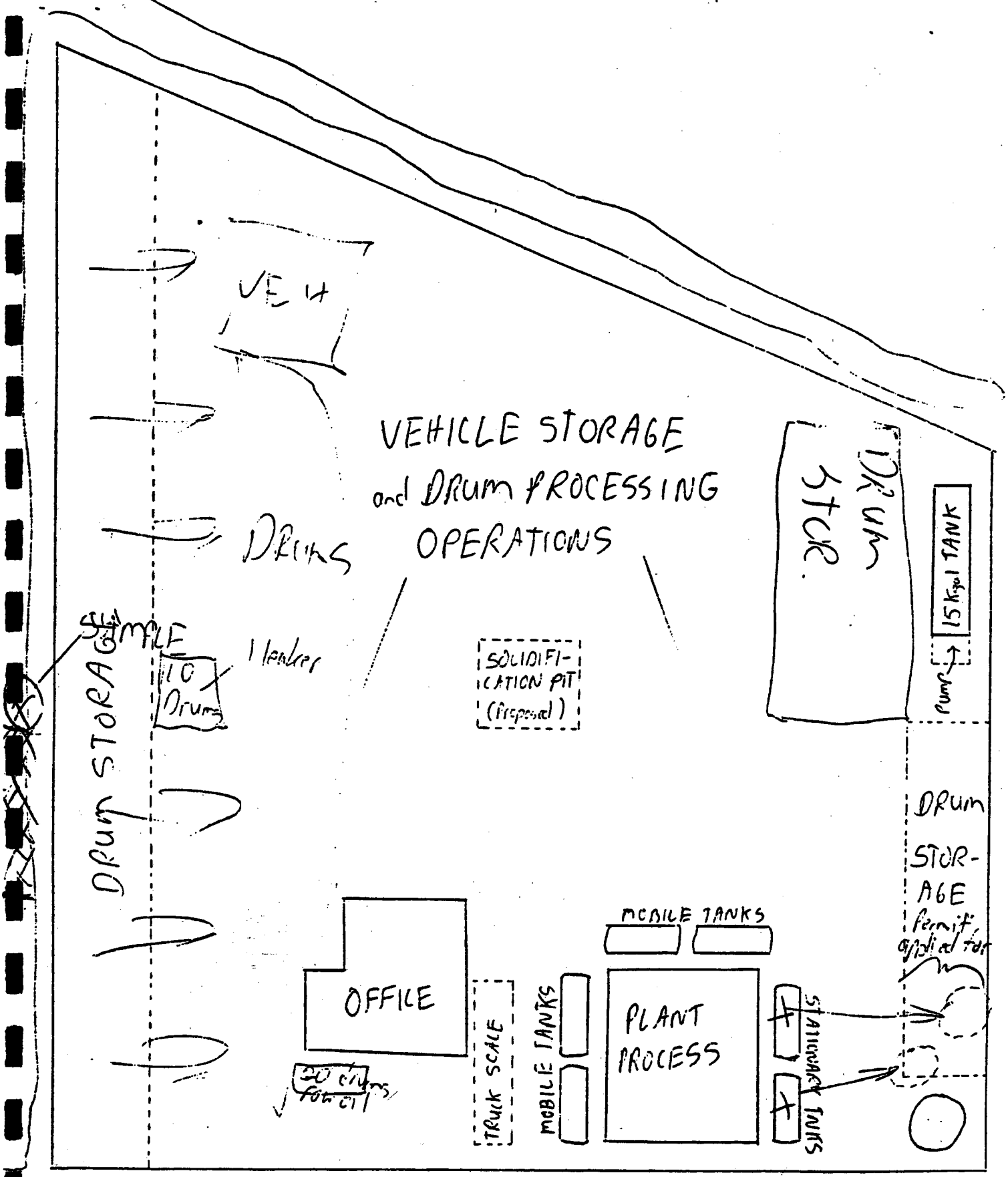
Overall Housekeeping: Poor /_/ Fair /x/ Good /_/ Excellent /_/

Drum Storage:

Total No. 4507 Size 55 gl. Type metal

Stacked Height: /_/ 1 Drum /_/ 2 Drums /_/ 3 Drums /x/ 4 or more

Palletized: /_/ Yes /x/ No


VEH
VEHICLE STORAGE
and DRUM PROCESSING
OPERATIONS
DRUMS
DRUM STORAGE
SAMPLE
10 Drums
1 leaker
SOLIDIFI-
CATION PIT
(Proposed)
DRUM
STOR.
15 Kgal TANK
pump
DRUM
STOR-
AGE
permit applied for
MOBILE TANKS
OFFICE
TRUCK SCALE
MOBILE TANKS
PLANT
PROCESS
STATIONARY TANKS
50 drums
for oil

20-06

BUREAU OF HAZARDOUS WASTE
FACILITY INSPECTION FORM

Facility Name: Perk Chemical I.D.: #20046 Date: 5/21/80 Time: 1:00

Facility Type: Trng./Stor./Reproc./Recl./Recov./Blnd./Trtmt.

Street: S. First Ave. Lot: 865 Block: 2

Town: Elizabeth Phone: 355-5000

County: Union Person Contacted: Ray Rothschild
Position: President

Inspector: Kramer

Weather Conditions: Clear [ ] Rain [x] Snow [ ]

Wind Direction: NE Temp: 60 Speed 10 MPH

Security Measures: Fence [x] Yes [ ] No

Guard [ ] Yes [x] No

Other _____

Safety Features:

Firefighting [x] Yes [ ] No

Type:

Extinguisher [x] Guns [ ] Other [ ]

Protective Clothing: [x] Yes [ ] No
(Issued to Employees)

Written Emergency Procedures Posted [x] Yes [ ] No

Inspection Observations:

Odors: On Site [x] Yes [ ] No Off Site [ ] Yes [x] No

Source: process room

Leaks, Spills: On Site [x] Yes [ ] No Off Site [ ] Yes [x] No

Source: drum tipped over by mistake, drum storage (see comments)

Overall Housekeeping: Poor [ ] Fair [x] Good [ ] Excellent [ ]

Drum Storage:

Total No. 4500 Size 55gl Type metal

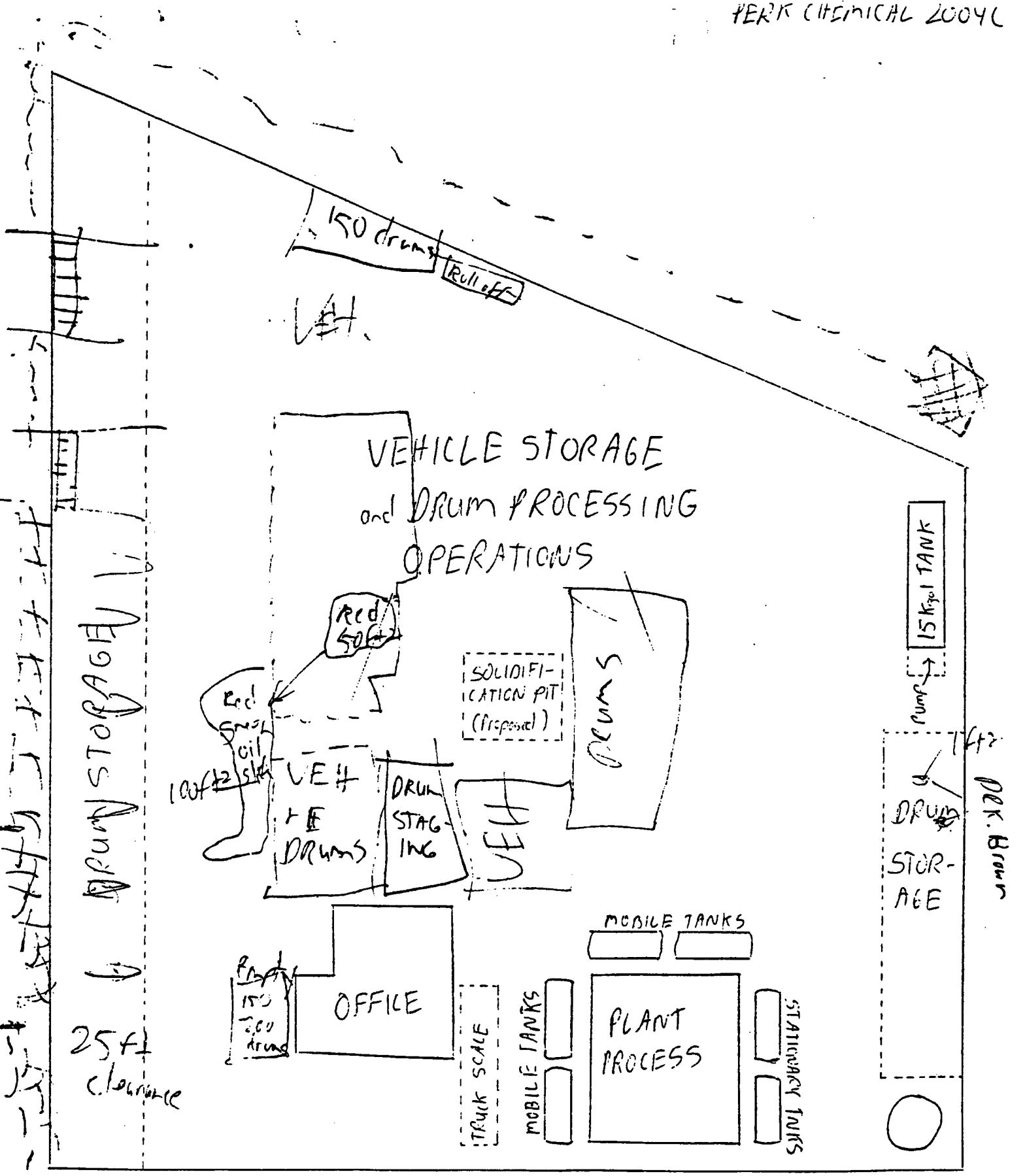
Stacked Height: [ ] 1 Drum [ ] 2 Drums [ ] 3 Drums [x] 4 or more

Palletized: [ ] Yes [x] No

Surface water accumulation observed throughout facility due to recent heavy rains. Some drums observed standing in water accumulations. 150 drums observed adjacent to W end of facility fence. Yard under reorganization due to flood control project.

(Outside of facility in flood control excavation.) Regarding the spilled material caused by the drum tipping over, Mr. Rotnschild stated he would attend to it right away. A maintenance worker was observed placing sawdust on the spill.

PERK CHEMICAL 2004C



ATTACHMENT 2

20-6

...RE OF HAZARDOUS WASTE
FACILITY INSPECTION FORM

Facility Name: Perk Chemical I.D.: 02004C Date 6/5/80 Time: 10:00

Facility Type: Trns./Stor./Reproc./Recov./Bldg./Trtmt.

Street: S. First Street Lot: 865 Block: 2

Town: Elizabeth Phone: 355-5000

County: Union Person Contacted: Ray Rothschild
Position: President

Inspector: Kramer

Weather Conditions: Clear /X/ Rain /_/ Snow /_/

Wind Direction: E Temp: 70 Speed 5 MPH

Security Measures: Fence /X/ Yes /_/ No

Guard /_/ Yes /_/ No

Other _____

Safety Features:

Firefighting /X/ Yes /_/ No

Type:

Extinguisher /X/ Guns /_/ Other /_/

Protective Clothing: /X/ Yes /_/ No
(Issued to Employees)

Written Emergency Procedures Posted /X/ Yes /_/ No

Inspection Observations:

Odors: On Site /X/ Yes /_/ No Off Site /_/ Yes /X/ No

Source: drum storage, process room

Leaks, Spills: On Site /X/ Yes /_/ No Off Site /_/ Yes /X/ No

Source: drum storage, drum staging operations

Overall Housekeeping: Poor /_/ Fair /X/ Good /_/ Excellent /_/

Drum Storage:

Total No. 4500 Size 55 gal. Type metal

Stacked Height: /_/ 1 Drum /_/ 2 Drums /_/ 3 Drums /X/ 4 or more

Palletized: /_/ Yes /X/ No

Observations and/or Other Comments

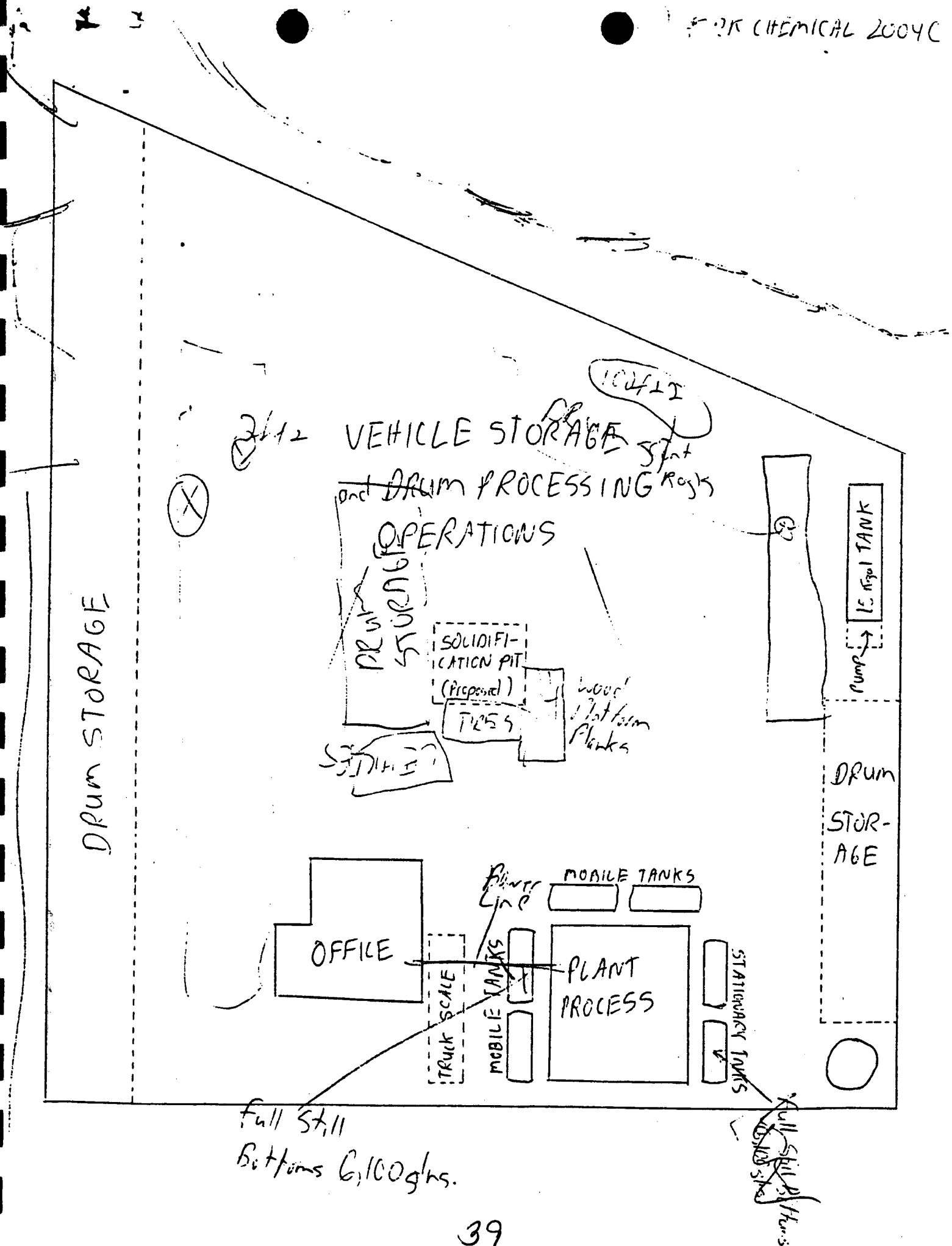
Contaminated rags from drums placed on ground in west end of facility. It is recommended that the rags be placed in ac acceptable container (drum, roll off etc.) to prevent spillage onto ground as they are removed from drums for pumping.

Alleged power lines are intercom and telephone lines power lines. Enter office building at southern corner.

Inspector's Signature

Facility Operator's Signature

A-2 38


VEHICLE STORAGE
and DRUM PROCESSING
OPERATIONS
DRUM STORAGE
SOLIDIFI-
CATION PIT
(Proposed)
TIRES
Wood
Platform
Planks
15 Kgal TANK
Pump
DRUM
STOR-
AGE
MOBILE TANKS
OFFICE
TRUCK SCALE
MOBILE TANKS
PLANT
PROCESS
STATIONARY TANKS
Full Still
Bottoms 6,100 gms.

BUREAU OF HAZARDOUS WASTE
FACILITY INSPECTION FORM

Facility Name: Perk Chemical I.D. # 2004C Date: 6/20/80 Time: 1:00

Facility Type: Transfer, Storage, Reprocess, Reclamation, Recovery Blending, Treatment

Street: S. First Ave. Lot: 865 Block: 2

Town: Elizabeth Phone: 355-5000

County: Union Person Contacted: Ray Rothschild
Position: President

Inspector: M. Kramer

Weather Conditions: Clear /X/ Rain /_/ Snow /_/

Wind Direction: NE Temp: 70 Speed 10-15 MPH

Security Measures: Fence /X/ Yes /_/ No

Guard /_/ Yes /_/ No

Other _____

Safety Features:

Firefighting /X/ Yes /_/ No

Type:

Extinguisher /X/ Guns /_/ Other /_/

Protective Clothing: /X/ Yes /_/ No
(Issued to Employees)

Written Emergency Procedures Posted /X/ Yes /_/ No

Inspection Observations:

Odors: On Site /X/ Yes /_/ No Off Site /_/ Yes /X/ No

Source: Drum storage, processing

Leaks, Spills: On Site /X/ Yes /_/ No Off Site /X/ Yes /_/ No see comments

Source: Drum storage, drum tipped over by mistake while transporting

Overall Housekeeping: Poor /_/ Fair /X/ Good /_/ Excellent /_/

Drum Storage:

Total No. 4500 Size 55 gal Type metal

Stacked Height: /_/ 1 Drum /_/ 2 Drums /_/ 3 Drums /X/ 4 or more

Palletized: /_/ Yes /X/ No

Categorized: /x/ Yes /_/ No Labeled: /x/ Yes /_/ No

Manifested: /x/ Yes /_/ No

Condition:

Leaking: /x/ Yes /_/ No Number of Leakers 1

General Condition: /_/ Poor /_/ Fair /x/ Good /_/ Excellent

Vehicles: Registered /x/ Yes /_/ No

Numbers Displayed /x/ Yes /_/ No

Manifest Check: C28476, 38953, 49962, 49961

Properly completed /x/ Yes /_/ No

Explain:

Monitoring System: Air /_/ Yes /x/ No

Water /_/ Yes /x/ No

Does T.O.A. reflect capability: (Treatment/Processes) /_/ Yes /_/ No

Explain:

Samples Gathered: /_/ yes /x/ no Number _____

Photos: /_/ Yes /x/ No No. _____ Location: _____

1. _____

2. _____

3. _____

4. _____

5. _____

Observations and/or Other Comments Drum tipped over while being transported on fork lift. Saw dust immediately applied to spill. Work continuing on flood control wall. Drum staging area to be moved from rear to front area by office. While constructing flood control wall a sanitary sewer line leading from the facility was broken.

Any flow going into sanitary sewer from facility now discharges into drainage channel adjacent to flood control wall.

Spills approx. 5ft^2 brown liquid marked by ⊗ in drum storage area.

Mr. Rothschild inquired about when new T.O.A.'s are coming out. I explained that I did'nt know.

Inspector's Signature

Facility Operator's Signature

REAU OF HAZARDOUS WASTE
FACILITY INSPECTION FORM

20-6

Facility Name: Perk Chemical Co. I.D.:# 20045 Date: 8/21/80 Time: 1:30

Facility Type: Transfer/Storage/Reprocessor

Street: 217 So. First St. Lot: 865 Block: 2

Town: Elizabeth Phone: 355-5800

County: Union Person Contacted: Mr. Rothchild
Position: President

Inspector: Thomas Downey

Weather Conditions: Clear /X/ Rain /_/ Snow /_/

Wind Direction: NE Temp: 80 Speed 10 MPH

Security Measures: Fence /X/ Yes /_/ No

Guard /_/ Yes /X/ No

Other Gates are locked at night.

Safety Features:

Firefighting /X/ Yes /_/ No

Type:

Extinguisher /X/ Guns /_/ Other /_/

Protective Clothing: /_/ Yes /X/ No
(Issued to Employees)

Written Emergency Procedures Posted /X/ Yes /_/ No

Inspection Observations:

Odors: On Site /_/ Yes /X/ No Off Site /_/ Yes /X/ No

Source:

Leaks, Spills: On Site /X/ Yes /_/ No Off Site /_/ Yes /X/ No

Source: 2 drums

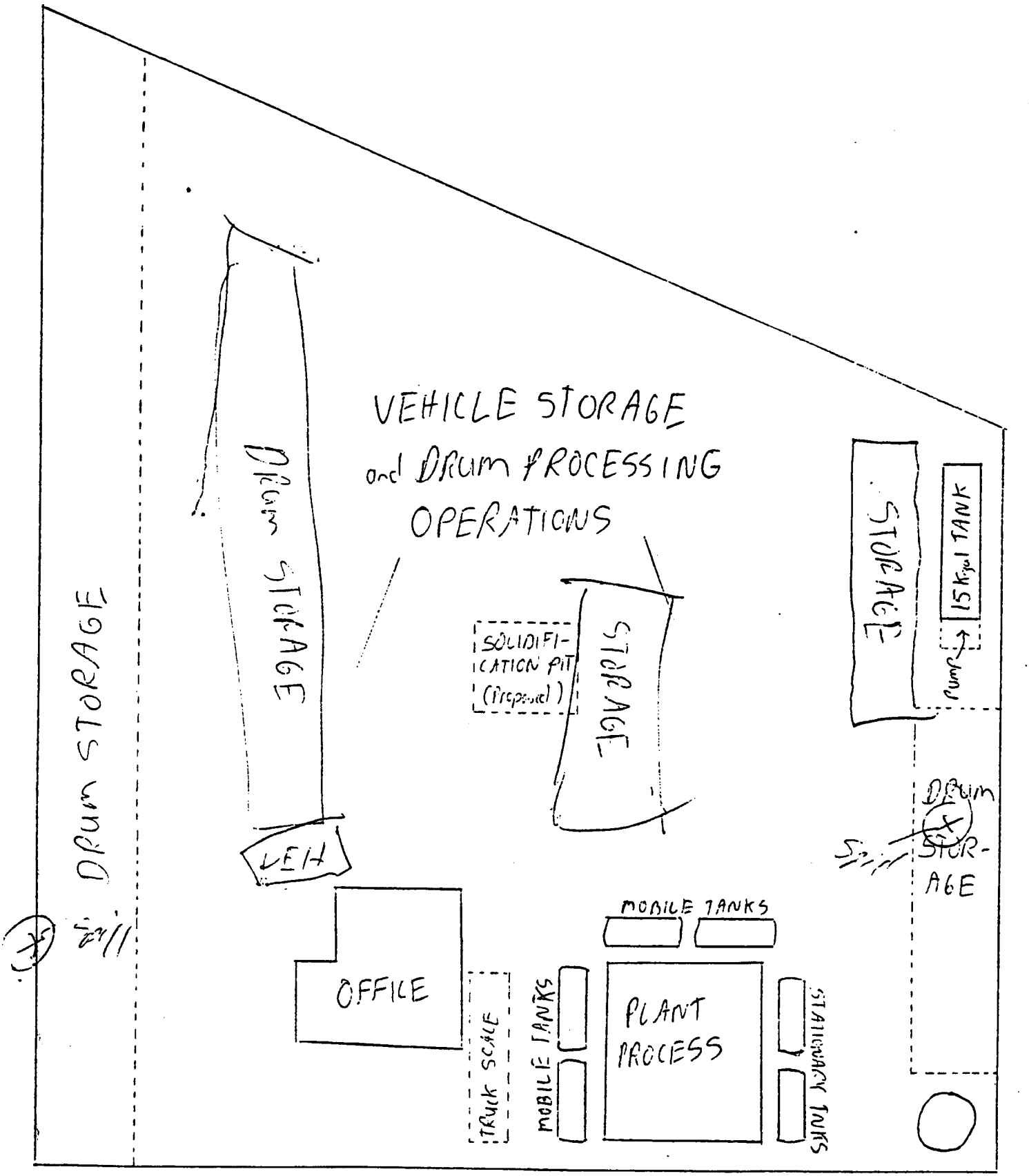
Overall Housekeeping: Poor /_/ Fair /_/ Good /X/ Excellent /_/

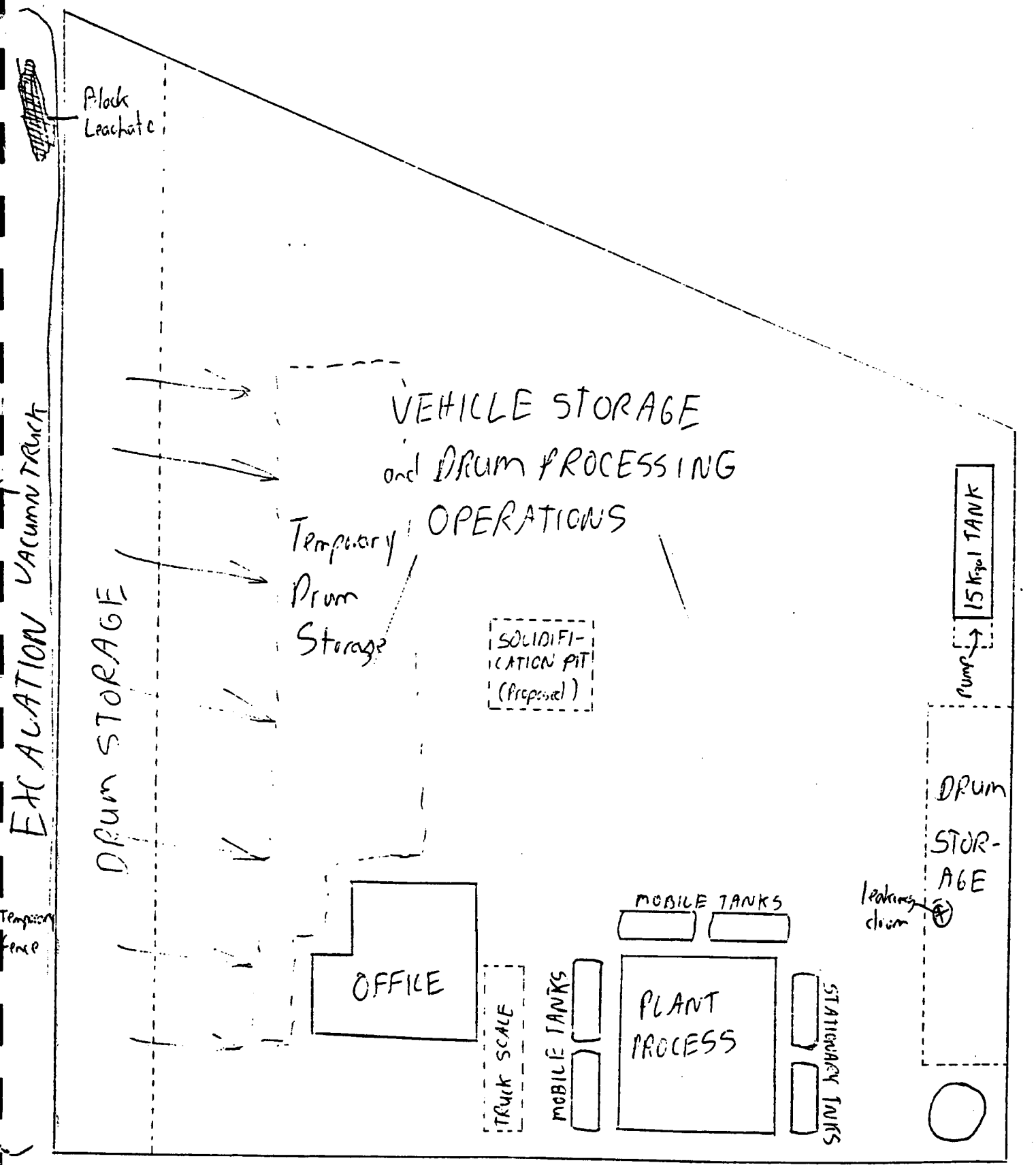
Drum Storage:

Total No. 4500 Size 55 gallon Type Metal

Stacked Height: /_/ 1 Drum /_/ 2 Drums /_/ 3 Drums /X/ 4 or more

Palletized: /_/ Yes /X/ No


VEHICLE STORAGE
and DRUM PROCESSING
OPERATIONS
DRUM STORAGE
DRUM STORAGE
VEH
SOLIDIFI-
CATION PIT
(Proposed)
STORAGE
STORAGE
15 Kgal TANK
Pump
DRUM
STOR-
AGE
MOBILE TANKS
OFFICE
TRUCK SCALE
MOBILE TANKS
PLANT
PROCESS
STATIONARY TANKS


Block Leachate
VEHICLE STORAGE and DRUM PROCESSING OPERATIONS
Temporary Drum Storage
SOLIDIFICATION PIT (Proposed)
15 Kgal TANK
pump
DRUM STORAGE
EXCAVATION VACUUM TRUCK
DRUM STORAGE
leaking drum
Temporary fence
MOBILE TANKS
OFFICE
TRUCK SCALE
MOBILE TANKS
PLANT PROCESS
STATIONARY TANKS

E

BUREAU OF HAZARDOUS WASTE
FACILITY INSPECTION FORM

Facility Name: Perk Chemical Co. I.D. # 2004 Date: 9/5/80 Time: 1:00

Facility Type: Transfer/storage/reprocessor

Street: 217 S. First St. Lot: 865 Block: 2

Town: Elizabeth Phone: 355-5800

County: Union Person Contacted: Mr. Rothschild
Position:

Inspector: T. Downey/D. Potts/C. Elmendorf

Weather Conditions: Clear /X/ Rain / / Snow / /

Wind Direction: SE Temp: 80 Speed 10 MPH

Security Measures: Fence /X/ Yes / / No

Guard / / Yes /X/ No

Other Gates locked at night

Safety Features:

Firefighting /X/ Yes / / No

Type:

Extinguisher /X/ Guns / / Other / /

Protective Clothing: /X/ Yes / / No
(Issued to Employees)

Written Emergency Procedures Posted /X/ Yes / / No

Inspection Observations:

Odors: On Site / / Yes /X/ No Off Site / / Yes /X/ No

Source:

Leaks, Spills: On Site /X/ Yes / / No Off Site / / Yes /X/ No

Source: Leaking drums, see comment #8.

Overall Housekeeping: Poor / / Fair / / Good /X/ Excellent / /

Drum Storage:

Total No. 4500 Size 55 gal. Type metal

Stacked Height: / / 1 Drum / / 2 Drums / / 3 Drums /X/ 4 or more

Palletized: / / Yes /X/ No

5. Two small spills (2' x 4') (2' x 3') noted in front of process plant; recommended cleaning of spills and scraping area from process building to mobil tanks. Spill seemed to consist of water with an oily sheen.

6. Most drums are stored on a concrete pad. Only noticed a few drums stored on earth. Recommended they be moved on to concrete pad.

7. Two leakers found, according to Mr. Rothchild. They will be repacked in new drums.

8. Mr. Rothchild states that any waste water generated from drum cleaning is mixed with saw dust and drummed off and shipped to Alabama.

9. A fire inspection is to be held on August 26, 1980.

10. Drums are stacked 4 high according to present TOA they should only be stacked 3 high. Mr. Rothchild stated that Ron Corcory is aware of this and a decision will be made soon as to what height drums may be stacked.

Thomas Downey

Thomas Downey

hjg

MEMO

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO Ron Corcory

FROM Phil Cole through Furman Stoop DATE September 8, 1980

SUBJECT Inspection of Perk Chemical

Purpose:

Perk Chemical 217 South First Street, Elizabeth, was inspected on Thursday, August 21, 1980 by Frank Gagliano and myself. Also in attendance were Kevin Gashlin, Tom Downey and Chuck Elmendorf of Bureau of Hazardous Waste. The joint inspection was intended to aid both agencies. The facility was inspected relative to spill prevention regulation and hazardous waste regulations.

Persons Contacted:

Ray Rothchild - Owner/Manager
Kevin White - Foreman

Discussion:

Prior to the inspection we met with Mr. Rothchild and explained our purpose, (inspection relative to spill prevention regulation and hazardous waste regulations). He agreed to show us around the facility with Mr. White present to aid in answering questions.

Background:

Perk Chemical Co. is 2-3 acre site. They handle solvents, mostly for cleaning and resale. Most business is done in reclaimation and some in waste disposal, (waste disposal reportedly constructed to Solvent Recovery Services).

A large volume of material is in drums. These are generally empty except for residuels. The tops are cut off and material removed (process area). Material is distilled for cleaning. Finished produced may be returned in same drums.

There exists one 12,000 gallon above ground tank five tank-truck trailers as storage of liquids and wight enclosed box trailers as storage of drums.

Site Inspection:

The process area is a two door garage building. The floors are oil stained. Sorbents (possibly saw dust) were being used as cleanup procedure.

The drum storage area is almost entirely concrete. There are some bare ground areas. The drum storage area on the south and west sides by Third Avenue was heavily stained. The drum storage area on the north and east side showed fewer stains.

All drums to be processed are vertically stored in rows of two drums wide and five drums high. Length of rows varied.

All empty drums were without lids (cut off). These empty drums were stored horizontally and may be source of discharge.

I asked Mr. Rothchild about daily inspections of the drums, he replied that either he or Mr. White inspect daily in the morning.

A drum was found to be leaking. Mr. Gashlin informed Mr. Rothchild that the contents will have to be transferred into suitable container before our departure.

There is a concrete pad in the center of the facility. It contains about 500 gallons of rain water that is run off from the general area. Although the water may be contaminated it does not pose an immediate threat to groundwater.

Recommendations:

The sections of the facility that have exposed ground should be protected from run off by curbing or paving.

Tank truck trailers used as primary storage should have secondary containment. This secondary containment should be impermeable and capable of holding the entire contents of any single compartment.

There is a column tank on the facility's north east corner (near the processing area). This tank is presently without secondary containment. Secondary containment should be provided. It should be impermeable and capable of holding the entire contents of the tank plus freeboard for accumulated precipitation.

BUREAU OF HAZARDOUS WASTE
FACILITY INSPECTION FORM

Facility Name: Perk Chemical I.D. # 2004 Date 9/11/80 Time: 10:00

Facility Type: Transfer/storage/reprocessor/reclaimation/recovery/blending/treatment

Street: 217 So. First St. Lot: 865 Block: 2

Town: Elizabeth Phone: 355-5800

County: Union Person Contacted: Ray Rothschild
Position: President

Inspector: T. Downey/ C. Elmendorf

Weather Conditions: Clear /X/ Rain /_/ Snow /_/

Wind Direction: W Temp: 80° Speed 5 MPH

Security Measures: Fence /X/ Yes /_/ No

Guard /_/ Yes /X/ No

Other Gates locked at night

Safety Features:

Firefighting /X/ Yes /_/ No

Type:

Extinguisher /X/ Guns /_/ Other /_/

Protective Clothing: /X/ Yes /_/ No
(Issued to Employees)

Written Emergency Procedures Posted /X/ Yes /_/ No

Inspection Observations:

Odors: On Site /X/ Yes /_/ No Off Site /_/ Yes /X/ No

Source: In process building

Leaks, Spills: On Site /X/ Yes /_/ No Off Site /_/ Yes /X/ No

Source: 1 leaking drum see comment # 11

Overall Housekeeping: Poor /_/ Fair /_/ Good /X/ Excellent /_/

Drum Storage:

Total No. 4500 Size 55 gal. Type Metal

Estimate by Mr. Rothschild

Stacked Height: /_/ 1 Drum /_/ 2 Drums /_/ 3 Drums /X/ 4 or more

Palletized: /_/ Yes /X/ No

Perk Chemical
September 11, 1980

6. Two 6,000 gal. tanks next to process building to be moved out when crane comes in next week.

7. Trailer (TA 419E NJ) from Accurate Forming Hamburg N.J. in yard to be unloaded and reprocessed. C38882

8. Trailer (NJSWA 2841AK) loaded to be shipped to Environmental Waste, Waterbury Conn. on 9/12/80.

9. Part of secondary fence inside of facility has been removed now that permanent fence and wall around perimeter of facility is nearing completion.

10. Employees repacking drums during inspection.

11. Three out of the four leakers found during last inspection have been repacked . The fourth could not be located. I located it during this inspection. Mr. Rothschild stated that this leaker wiould be taken care of shortly.

12. Drums remain stacked four high due to space shortage caused by construction. According to Mr. Rothschild, Ron Corcory is aware of this situation.

BUREAU OF HAZARDOUS WASTE
FACILITY INSPECTION FORM

20-6

Facility Name: Perk Chemical I.D. #: Date: 9-17-8 Time: 2:00

Facility Type: Transfer, Storage, Reprocess, Reclaimation, Recovery, Blending Treatment

Street: S. First Ave Lot: 865 Block: 2

Town: Elizabeth Phone: 355-5000

County: Union Person Contacted: Ray Rothschild
Position: President

Inspector: C. Elmendorf

Weather Conditions: Clear /_/ Rain /_/ Snow /_/ x overcast

Wind Direction: to W Temp: 72 Speed 10-15 MPH

Security Measures: Fence /x/ Yes /_/ No

Guard /_/ Yes /x/ No

Other _____

Safety Features:

Firefighting /x/ Yes /_/ No

Type:

Extinguisher /x/ Guns /_/ Other /_/

Protective Clothing: /x/ Yes /_/ No
(Issued to Employees)

Written Emergency Procedures Posted /x/ Yes /_/ No

Inspection Observations:

Odors: On Site /_/ Yes /x/ No Off Site /_/ Yes /x/ No

Source: _____

Leaks, Spills: On Site /x/ Yes /_/ No Off Site /_/ Yes /x/ No

Source: Small (3'dia.) oil spill from truck-will be cleaned up.

Overall Housekeeping: Poor /_/ Fair /_/ Good /x/ Excellent /_/

Drum Storage:

Total No. 4158 Size 55 gal. Type Steel

Stacked Height: /_/ 1 Drum /_/ 2 Drums /_/ 3 Drums /x/ 4 or more

Palletized: /_/ Yes /x/ No

BUREAU OF HAZARDOUS WASTE
FACILITY INSPECTION FORM

Facility Name: Perk Chemical I.D. # 20045 Date: 9/24/80 Time: 1:00

Facility Type: Transfer/storage/reprocessor

Street: 217 So. First St. Lot: 865 Block: 2

Town: Elizabeth Phone: 355-5800

County: Union Person Contacted: Ray Rothschild

Inspector: Downey/Dante Position: President

Weather Conditions: Clear /X/ Rain /_/ Snow /_/

Wind Direction: NW Temp: 75 Speed 10 MPH

Security Measures: Fence /X/ Yes /_/ No

Guard /_/ Yes /X/ No

Other Gates locked at night

Safety Features:

Firefighting /X/ Yes /_/ No

Type:

Extinguisher /X/ Guns /_/ Other /_/

Protective Clothing: /X/ Yes /_/ No
(Issued to Employees)

Written Emergency Procedures Posted /X/ Yes /_/ No

Inspection Observations:

Odors: On Site /_/ Yes /X/ No Off Site /_/ Yes /X/ No

Source:

Leaks, Spills: On Site /X/ Yes /_/ No Off Site /_/ Yes /X/ No

Source: see comment #4

Overall Housekeeping: Poor /_/ Fair /_/ Good /X/ Excellent /_/

Drum Storage:

Total No. 4500 Size 55 gal Type metal

Stacked Height: /_/ 1 Drum /_/ 2 Drums /_/ 3 Drums /X/ 4 or more

Palletized: /_/ Yes /X/ No

52

BUREAU OF HAZARDOUS WASTE
FACILITY INSPECTION FORM

Facility Name: Perk Chemical I.D.:# 20045 Date: 9/29/80 Time: 11:00

Facility Type: Transfer/storage/reprocessor

Street: 217 So. First St. Lot: 865 Block: 2

Town: Elizabeth Phone: 355-5800

County: Union Person Contacted: Roy Rothschild

Inspector: Downey/Dante Position: President

Weather Conditions: Clear /X/ Rain /_/ Snow /_/

Wind Direction: NW Temp: 58 Speed 5-10 MPH

Security Measures: Fence /X/ Yes /_/ No

Guard /_/ Yes /X/ No

Other gates locked at night

Safety Features:

Firefighting /X/ Yes /_/ No

Type:

Extinguisher /X/ Guns /_/ Other /_/

Protective Clothing: /X/ Yes /_/ No
(Issued to Employees)

Written Emergency Procedures Posted /X/ Yes /_/ No

Inspection Observations:

Odors: On Site /X/ Yes /_/ No Off Site /_/ Yes /X/ No

Source: usual processing odors

Leaks, Spills: On Site /X/ Yes /_/ No Off Site /_/ Yes /X/ No

Source: see comments 3&4

Overall Housekeeping: Poor /_/ Fair /_/ Good /X/ Excellent /_/

Drum Storage:

Total No. 4,000 Size 55 Type steel
according to Mr. Rothchild

Stacked Height: /_/ 1 Drum /_/ 2 Drums /_/ 3 Drums /X/ 4 or more

Palletized: /_/ Yes /X/ No on concrete pad

A-2

53

said these drums will be taken care of.

5. Leaker recorded in last inspection report has not been cleaned. Mr. Rothschild told a worker to attend to the drum.

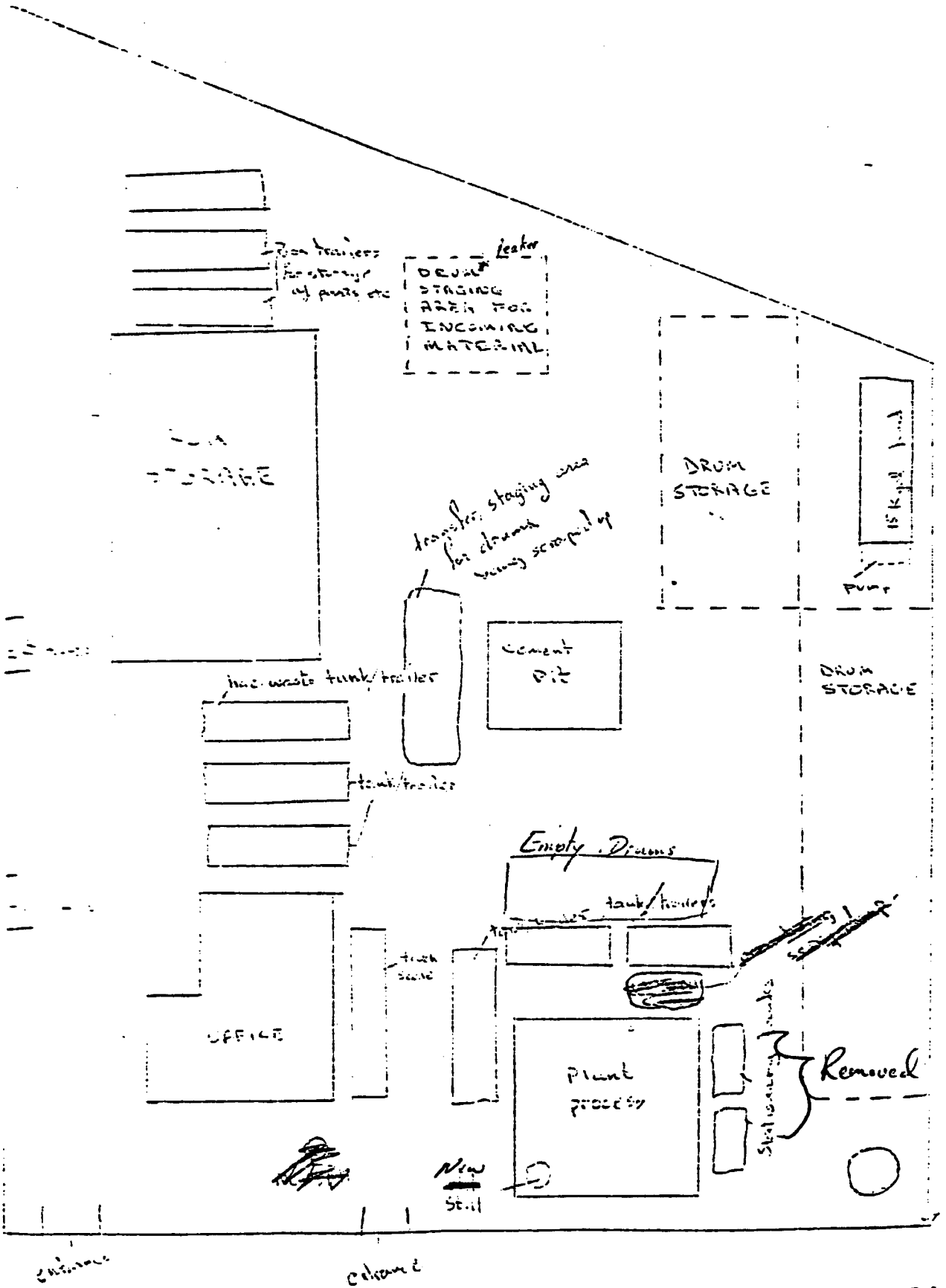
6. Work still in progress on floodwall.

Observations and/or Other Comments

top for access for sampling in accordance with item #28 of TOA. 7. Most of secondary fence has been removed. Only a small section behind office remains. The storm water trenches have been concreted and appear to be complete. Flood gates have been installed and appear to be operational. Mr. Rothschild was not sure where storm water runoff went to. He did show me the engineering DPCC plans for a 4 inch curb between the storm trench and the facility. 8. Mr. Rothschild stated that he does not store any waste in storage tanks, thus item # 26 of the TOA does not apply to him. However item #27 of the TOA does apply - Tank Integrity. Mr. Rothschild stated he would take care of this, he informed his engineer of this while I was there. 9. I discussed with Mr. Rothschild the stacking of drums 4 high. He informed me that his attorney has written to Dr. Pasceri concerning this matter. He gave me a copy of a letter dated 9/24/80. He is now waiting for a reply from our office concerning this. 10. The leaking drum found during last weeks inspection has been repacked.

Inspector's Signature

Facility Operator's Signature



56 PERK CHEMICAL NOT TO SCALE

BUREAU OF HAZARDOUS WASTE
FACILITY INSPECTION FORM

Facility Name: Perk Chemical I.D. #20046 Date: 10-15-80 Time: 11:00

Facility Type: Transfer, Storage, Reprocer, Reclaimation, Recovery, Blending Treatment

Street: 217 S, First Street Lot: 865 Block: 2

Town: Elizabeth Phone: 355-5000

County: Union Person Contacted: Kieth White
Position: Plant Manager

Inspector: Dante/Downey

Weather Conditions: Clear /_/ Rain /X/ Snow /_/

Wind Direction: Temp: 60 Speed 5-10 MPH

Security Measures: Fence /X/ Yes /_/ No

Guard /_/ Yes /X/ No

Other _____

Safety Features:

Firefighting /X/ Yes /_/ No

Type:

Extinguisher /X/ Guns /_/ Other /_/

Protective Clothing: /X/ Yes /_/ No
(Issued to Employees)

Written Emergency Procedures Posted /X/ Yes /_/ No

Inspection Observations:

Odors: On Site /X/ Yes /_/ No Off Site /_/ Yes /X/ No

Source: odors due to processing

Leaks, Spills: On Site /X/ Yes /_/ No Off Site /_/ Yes /X/ No

Source: undetermined according to Mr. White (see comment #5)

Overall Housekeeping: Poor /_/ Fair /_/ Good /X/ Excellent /_/

Drum Storage:

Total No. less than 4,500 according to Mr. White Size 55 gal. Type metal

Stacked Height: /_/ 1 Drum /_/ 2 Drums /_/ 3 Drums /X/ 4 or more

Palletized: /_/ Yes /X/ No concrete pad

57 A-2

6. One drum ½ full with liquid waste with no lid on it, informed Mr. White to put the lid on it.
7. 66 drums of waste are blocking entrance to Perk Chemical the drums were placed there to take the place of the gate that was broken down on 10-10-80 (refer to comment 1). We informed Mr. White that the drums should be removed. Mr. White said the drums will be removed today because the person is coming to repair the gate. Mr. Cohen, treasurer of Perk, said the person who was supposed to call him and give him a price to fix the gate never called. Mr. Cohen said if he doesn't show he will try to get another person as soon as possible

50-6

BUREAU OF HAZARDOUS WASTE

FACILITY INSPECTION FORM

Facility Name: Perk Chemical I.D. # 2004B Date: 10/21/80 Time: 12:00

Facility Type: Transfer, storage, reprocessor, reclamation
Recovery, blending, treatment

Street: 217 S. First Street Lot: 865 Block: 2

Town: Elizabeth Phone: 355-5000

County: Union Person Contacted: Keith White
Position: Yard Foreman

Inspector: Downey/Dante

Weather Conditions: Clear /X/ Rain /_/ Snow /_/

Wind Direction: W Temp: 53 Speed 15 MPH

Security Measures: Fence /_/ Yes /X/ No

Guard /_/ Yes /X/ No

Other _____

Safety Features:

Firefighting /X/ Yes /_/ No

Type:

Extinguisher /X/ Guns /_/ Other /_/

Protective Clothing: /X/ Yes /_/ No
(Issued to Employees)

Written Emergency Procedures Posted /X/ Yes /_/ No

Inspection Observations:

Odors: On Site /X/ Yes /_/ No Off Site /_/ Yes /X/ No

Source: Slight solvent odors

Leaks, Spills: On Site /_/ Yes /X/ No Off Site /_/ Yes /X/ No

Source: _____

Overall Housekeeping: Poor /_/ Fair /_/ Good /X/ Excellent /_/

Drum Storage:

Total No. Less than 4100 Size 55 gal. Type metal
supplied by Keith White

Stacked Height: /_/ 1 Drum /_/ 2 Drums /_/ 3 Drums /X/ 4 or more

Palletized: /_/ Yes /X/ No

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FACILITY INSPECTION FORM

Facility Name: Perk Chemical I.D.:# 2004G Date: 11/6/80 Time: 9:00

Facility Type: Transfer, Storage, Reprocess, Reclaimation, Recovery

Street: 217 S. First St. Lot: 865 Block: 2

Town: Elizabeth Phone: 355-5000

County: Union Person Contacted: Ray Rothschild

Inspector: Dante Position: President

Weather Conditions: Clear /X/ Rain /_/ Snow /_/

Wind Direction: NW Temp: 50 Speed 5-10 MPH

Security Measures: Fence /X/ Yes /_/ No

Guard /_/ Yes /X/ No

Other _____

Safety Features:

Firefighting /X/ Yes /_/ No

Type:

Extinguisher /X/ Guns /_/ Other /_/

Protective Clothing: /X/ Yes /_/ No
(Issued to Employees)

Written Emergency Procedures Posted /X/ Yes /_/ No

Inspection Observations:

Odors: On Site /_/ Yes /X/ No Off Site /_/ Yes /X/ No

Source: _____

Leaks, Spills: On Site /_/ ~~Yes~~ /X/ No Off Site /_/ Yes /X/ No

Source: _____

Overall Housekeeping: Poor /_/ Fair /X/ Good /_/ Excellent /_/

Drum Storage:

Total No. 4000 or less according to Mr. Rothschild Size _____ Type _____

Stacked Height: /_/ 1 Drum /_/ 2 Drums /_/ 3 Drums /X/ 4 or more

Palletized: /_/ Yes /X/ No On concrete pad.

BUREAU OF HAZARDOUS WASTE
FACILITY INSPECTION FORM

20-6

Facility Name: Perk Chemical I.D. # 2004G Date: 11/12/80 Time: 1300

Facility Type: Transfer, Storage, Reprocessor, Reclaimation, Recovery

Street: 217 South 1st Street Lot: 865 Block: 2

Town: Elizabeth Phone: 355-5000

County: Union Person Contacted: Ray Rothschild
Position: President

Inspector: Downey/Dante

Weather Conditions: Clear /X/ Rain / / Snow / /

Wind Direction: NW Temp: 50 Speed 25 MPH

Security Measures: Fence /X/ Yes / / No

Guard / / Yes /X/ No

Other _____

Safety Features:

Firefighting /X/ Yes / / No

Type:

Extinguisher /X/ Guns / / Other / /

Protective Clothing: /X/ Yes / / No
(Issued to Employees)

Written Emergency Procedures Posted /X/ Yes / / No

Inspection Observations:

Odors: On Site / / Yes /X/ No Off Site / / Yes /X/ No

Source: _____

Leaks, Spills: On Site / / Yes /X/ No Off Site / / Yes /X/ No

Source: _____

Overall Housekeeping: Poor / / Fair / / Good /X/ Excellent / /

Drum Storage:

Total No. under 4000 Size _____ Type _____
*estimate by Ray Rothchilds

Stacked Height: / / 1 Drum / / 2 Drums / / 3 Drums /X/ 4 or more

Palletized: / / Yes /X/ No On concrete pad

Observations and/or Other Comments

Waste Administration concerning this situation.

5. Perk's two storage tanks which contain virgin material will be labeled by next week to identify material inside. This is in accordance with paragraph 26 of TOA.

6. According to Ray Rothschild a plan to test and monitor the structural integrity of storage tanks has been submitted.

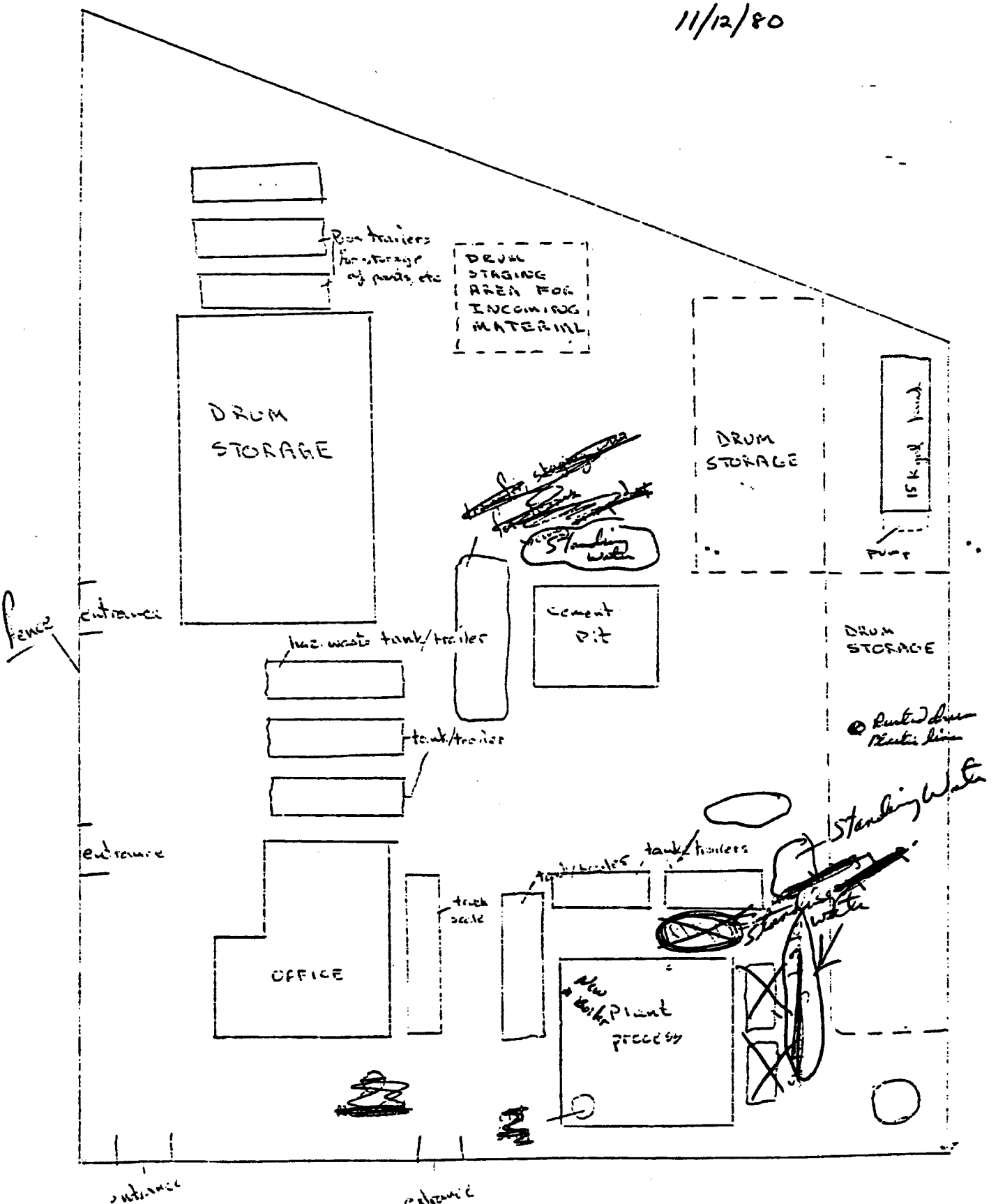
7. Both storage tanks are equipped with ports suitable for sampling contents of tank as well as a safe means of access to port in accordance with paragraph 28 of TOA.

8. Work is continuing on flood wall on the north side of Perk's property.

Inspector's Signature

Facility Operator's Signature

11/12/80



PERK CHEMICAL NOT TO SCALE
ELIZABETH

Observations and/or Other Com. ..s

4. The facility is snow covered and no leaks have been found during inspection.

5. Very little activity at facility since last inspection.

Inspector's Signature

Robert Dante

Facility Operator's Signature

BUREAU OF HAZARDOUS WASTE
FACILITY INSPECTION FORM

Facility Name: Perk Chemical I.D. # 2004C Date: 11/18/80 Time: 9:45

Facility Type: Transfer, storage, reprocessor

Street: 217 S. First St. Lot: 865 Block: 2

Town: Elizabeth Phone: 355-5800

County: Union Person Contacted: Ray Rothschild
Position: President

Inspector: Dante/Downey

Weather Conditions: Clear /_/ Rain /X/ Snow /_/

Wind Direction: NW Temp: 40 Speed 15-20 MPH

Security Measures: Fence /X/ Yes /_/ No

Guard /_/ Yes /X/ No

Other _____

Safety Features:

Firefighting /X/ Yes /_/ No

Type:

Extinguisher /X/ Guns /_/ Other /_/

Protective Clothing: /X/ Yes /_/ No
(Issued to Employees)

Written Emergency Procedures Posted /X/ Yes /_/ No

Inspection Observations:

Odors: On Site /_/ Yes /X/ No Off Site /_/ Yes /X/ No

Source: _____

Leaks, Spills: On Site /_/ Yes /X/ No Off Site /_/ Yes /X/ No

Source: _____

Overall Housekeeping: Poor /_/ Fair /_/ Good /X/ Excellent /_/

Drum Storage:

Total No. Less than 4200 Size 55 gal Type steel

Stacked Height: /_/ 1 Drum /_/ 2 Drums /_/ 3 Drums /X/ 4 or more

Palletized: /_/ Yes /X/ No On concrete pad.

66 A-2

Observations and/or Other Comments

6. One drum in bad shape should be repacked. Drum contains mixed chlorinated solvents.

7. Perk has received their plastic lined drums and two rows of drums which contain HCL acid some in bad shape. The bad drums will be repacked by next week.

8. Expanded drum of flammable solvent. Mr. Rothschild said it will be taken care of.

9. Facility has much standing water from recent rain.

Inspector's Signature

Facility Operator's Signature

20-6 e

BUREAU OF HAZARDOUS WASTE
FACILITY INSPECTION FORM

Facility Name: Perk Chemical I.D.# 2004G Date: 11/25/80 Time: 12:00

Facility Type: Transfer, storage , reprocessor, reclamation, recovery

Street: 217 S. First St. Lot: 865 Block: 2

Town: Elizabeth Phone: 355-5000

County: Union Person Contacted: Ray Rothschild
Position: President

Inspector: Downey/Dante

Weather Conditions: Clear /_/ Rain /_/ Snow /_/ Overcast X

Wind Direction: NW Temp: 50 Speed 10 MPH

Security Measures: Fence /X/ Yes /_/ No

Guard /_/ Yes /X/ No

Other _____

Safety Features:

Firefighting /X/ Yes /_/ No

Type:

Extinguisher /X/ Guns /_/ Other /_/

Protective Clothing: /X/ Yes /_/ No
(Issued to Employees)

Written Emergency Procedures Posted /X/ Yes /_/ No

Inspection Observations:

Odors: On Site /_/ Yes /X/ No Off Site /_/ Yes /X/ No

Source: _____

~~XXXXXXXXXXXX~~: On Site /X/ Yes /_/ No Off Site /_/ Yes /X/ No
Contaminated water
Source: See comment

Overall Housekeeping: Poor /_/ Fair /X/ Good /_/ Excellent /_/

Drum Storage:

Total No. 4000 Size 55 gal Type metal

Stacked Height: /_/ 1 Drum /_/ 2 Drums /_/ 3 Drums /X/ 4 or more

Palletized: /_/ Yes /X/ No on concrete pad

68 A-2

Observations and/or Other Comments

last nights and yesterdays heavy rain. (See map). Water in ponds nearest process building was yellowish in color. According to Mr. Rothschild this resulted from material on top of and inside of empty drums plus possible wash down from concrete pad. Photos were taken of area and 2 split samples were taken, A0330, B0330, A0331, B0331. Another pond of water with an oil sheen was noted next to concrete pit.

6. Blown drum noted during last weeks inspection has been repacked

Operator comment to add to inspector's comment: Article 26 of the TOA specifically refers to "identify the waste type use of each tank". It has been explained to the inspector that this particular storage tank does not contain any waste whatsoever, and therefore is not covered under item 26 of the TOA. We have offered our voluntary cooperation in marking this tank and another tank on the premises to identify the virgin contents and in case of the other tank this has been done. The lettering for the second tank is on hand and will be completed, time permitting, by the time the inspector revisits the premises. It is our strong feeling that labeling of this tank is not covered under the TOA, since the use of this tank is not for waste. We therefore feel that characterizing the omission of labeling as violation is erroneous and casts an unnecessary bad reflection on our operation.

Inspector's Signature

Thomas W. Tong

Facility Operator's Signature

BUREAU OF HAZARDOUS WASTE
FACILITY INSPECTION FORM

Facility Name: Perk Chemical I.D.:# 2004G Date: 12/2/80 Time: 1400

Facility Type: Transfer, Storage, Reprocessor, Reclamation, Recovery

Street: 217 S. First Street Lot: 865 Block: 2

Town: Elizabeth Phone: 355-5000

County: Union Person Contacted: Ray Rothschild
Position: President

Inspector: Tom Downey

Weather Conditions: Clear /X/ Rain /_/ Snow /_/

Wind Direction: SE Temp: 50 Speed 10 MPH

Security Measures: Fence /X/ Yes /_/ No

Guard /_/ Yes /X/ No

Other _____

Safety Features:

Firefighting /X/ Yes /_/ No

Type:

Extinguisher /X/ Guns /_/ Other /_/

Protective Clothing: /X/ Yes /_/ No
(Issued to Employees)

Written Emergency Procedures Posted /X/ Yes /_/ No

Inspection Observations:

Odors: On Site /_/ Yes /X/ No Off Site /_/ Yes /X/ No

Source: _____

Leaks, Spills: On Site /X/ Yes /_/ No Off Site /_/ Yes /X/ No

Source: See comment #6.

Overall Housekeeping: Poor /_/ Fair /_/ Good /X/ Excellent /_/

Drum Storage:

Total No 3900 or less supplied by Keith White Size 55 gal. Type metal

Stacked Height: /_/ 1 Drum /_/ 2 Drums /_/ 3 Drums /X/ 4 or more

Palletized: /_/ Yes /X/ No On concrete pad. See comment #7.

70 A-2

Observations and/or Other Comments

6. A spill from an unknown source was noted near cement pit (see map). Spill was about 3'x3' and 3'x1'. I advised Keith White to have spill material and contaminated soil shoveled up into a drum to be manifested out. Mr. White said this whould be taken care of.

7. Some rows of drums are still stacked 4 high. According to Perk's TOA they should be stacked 3 high. Perk has contested this point with the DEP and is waiting a decision on this.

Inspector's Signature

Facility Operator's Signature

71

BUREAU OF HAZARDOUS WASTE
FACILITY INSPECTION FORM

Facility Name: Perk Chemical I.D.:# 20046 Date: 12/8/80 Time: 11:00

Facility Type: Transfer, storage, reporcess, reclamation, recovery

Street: 217 S. First St. Lot: 865 Block: 2

Town: Elizabeth Phone: 355-5000

County: Union Person Contacted: Ray Rothschild
Position: President

Inspector: Dante/Downey

Weather Conditions: Clear /X/ Rain /_/ Snow /_/

Wind Direction: Temp: 57 Speed 0 MPH

Security Measures: Fence /X/ Yes /_/ No

Guard /_/ Yes /X/ No

Other _____

Safety Features:

Firefighting /X/ Yes /_/ No

Type:

Extinguisher /X/ Guns /_/ Other /_/

Protective Clothing: /X/ Yes /_/ No
(Issued to Employees)

Written Emergency Procedures Posted /X/ Yes /_/ No

Inspection Observations:

Odors: On Site /_/ Yes /X/ No Off Site /_/ Yes /X/ No

Source: _____

Leaks, Spills: On Site /X/ Yes /_/ No Off Site /_/ Yes /X/ No

Source: See comment 4.

Overall Housekeeping: Poor /_/ Fair /_/ Good /X/ Excellent /_/

Drum Storage:

Total No. *about 4,400 Size 55 gal Type steel
*according to Mr. Rothschild

Stacked Height: /_/ 1 Drum /_/ 2 Drums /_/ 3 Drums /X/ 4 or more

Palletized: /_/ Yes /_/ No On concrete pad.

A-2

FERR CHEMICAL 2004C
12/8/80

20-6 e

BUREAU OF HAZARDOUS WASTE
FACILITY INSPECTION FORM

Facility Name: Perk Chemical I.D. # 2004G Date: 12/18/80 Time: 11:00

Facility Type: Transfer, storage, reprocessor, reclamation, recovery, blending, treatment.

Street: 217 S. First St. Lot: 865 Block: 2

Town: Elizabeth Phone: 355-5000

County: Union Person Contacted: Ray Rothschild
Position: President

Inspector: Downey/Dante

Weather Conditions: Clear /_/ Rain /_/ Snow /_/ Overcast X

Wind Direction: SW Temp: 40 Speed 10 MPH

Security Measures: Fence /X/ Yes /_/ No

Guard /_/ Yes /X/ No

Other _____

Safety Features:

Firefighting /X/ Yes /_/ No

Type:

Extinguisher /X/ Guns /_/ Other /_/

Protective Clothing: /X/ Yes /_/ No
(Issued to Employees)

Written Emergency Procedures Posted /X/ Yes /_/ No

Inspection Observations:

Odors: On Site /_/ Yes /X/ No Off Site /_/ Yes /X/ No

Source: _____

Leaks, Spills: On Site /_/ Yes /X/ No Off Site /_/ Yes /X/ No

Source: _____

Overall Housekeeping: Poor /_/ Fair /_/ Good /X/ Excellent /_/

Drum Storage:

Total No. less than 4000 Size 55 gal. Type metal
Supplied by Keith White

Stacked Height: /_/ 1 Drum /_/ 2 Drums /_/ 3 Drums /X/ 4 or more See comment #2.

Palletized: /_/ Yes /X/ No on concrete pad

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Observations and/or Other Comments

did not pertain to them because of the wording "proposed facility". I explained to them that this meant existing facility. Mr. Cohen said he would take care of these items as soon as possible.

Inspector's Signature

Facility Operator's Signature

20 06

BUREAU OF HAZARDOUS WASTE

FACILITY INSPECTION FORM

Facility Name: Perk Chemical I.D. # 20046 Date: 12/24/80 Time: 10:00

Facility Type: Transfer, storage, reprocess, reclamation, recovery

Street: 217 S. First Street Lot: 865 Block: 2

Town: Elizabeth Phone: 355-5000

County: Union Person Contacted: Ray Rothschild
Position: President

Inspector: Dante/Downey

Weather Conditions: Clear /X/ Rain /_/ Snow /_/

Wind Direction: 0 Temp: 30 Speed 0 MPH

Security Measures: Fence /X/ Yes /_/ No

Guard /_/ Yes /X/ No

Other _____

Safety Features:

Firefighting /X/ Yes /_/ No

Type:

Extinguisher /X/ Guns /_/ Other /_/

Protective Clothing: /X/ Yes /_/ No
(Issued to Employees)

Written Emergency Procedures Posted /X/ Yes /_/ No

Inspection Observations:

Odors: On Site /_/ Yes /X/ No Off Site /_/ Yes /X/ No

Source: _____

Leaks, Spills: On Site /_/ Yes /X/ No Off Site /_/ Yes /X/ No

Source: _____

Overall Housekeeping: Poor /_/ Fair /_/ Good /X/ Excellent /_/

Drum Storage:

Total No. less than 4,500 Size 55 Type steel
according to Mr. Rothschild

Stacked Height: /_/ 1 Drum /_/ 2 Drums /_/ 3 Drums /X/ 4 or more

Palletized: /_/ Yes /X/ No on concrete pad

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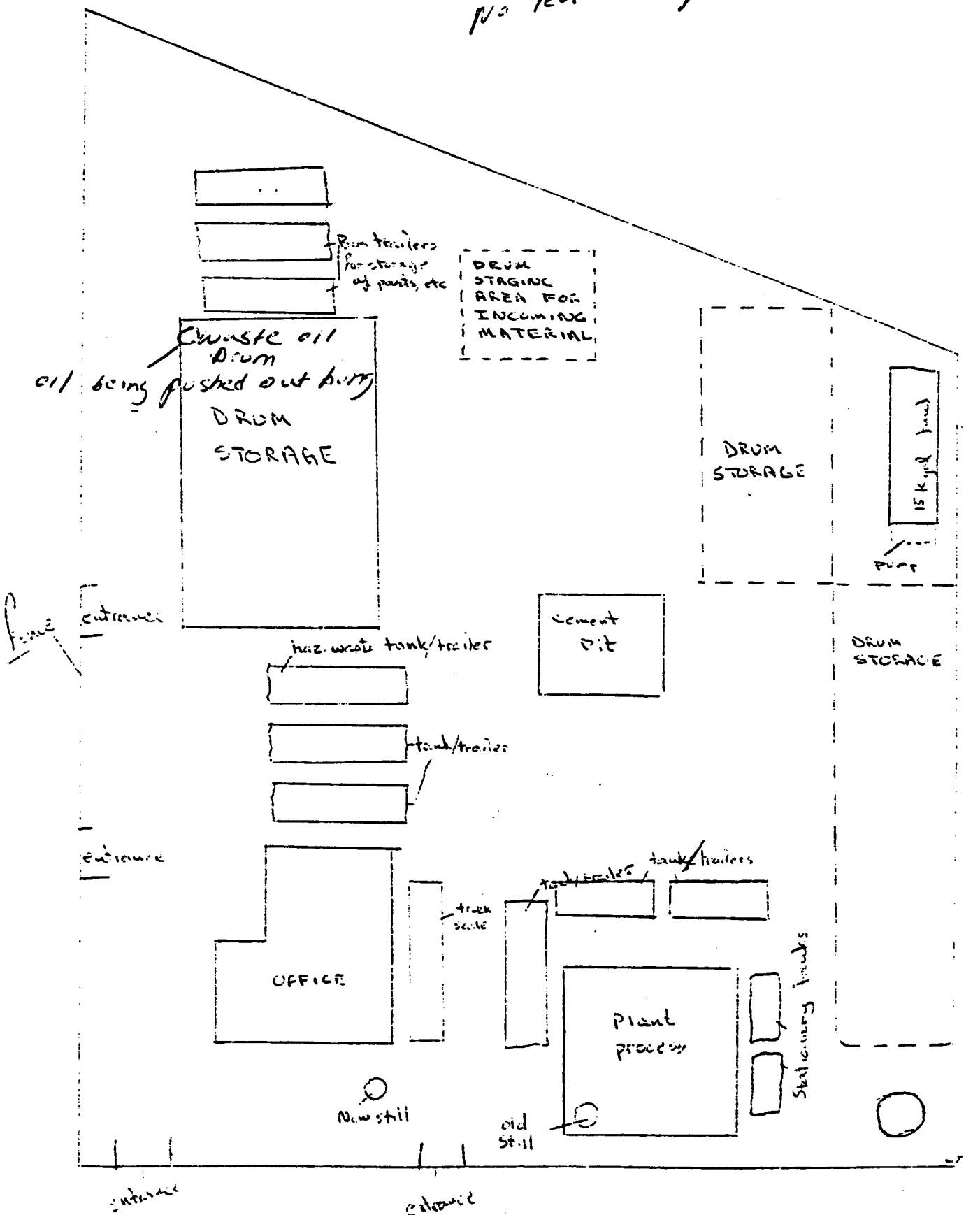
ERK 12/24/80

no leaks or spills



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PERK CHEMICAL NOT TO SCALE
ELIZABETH

50-6

BUREAU OF HAZARDOUS WASTE
FACILITY INSPECTION FORM

Facility Name: Park Chemical I.D.: #20046 Date: 12/31/80 Time: 1030

Facility Type: Transfer, storage, reprocess, reclamation, recovery blending, treatment

Street: 217 So. First St. Lot: 865 Block: 2

Town: Elizabeth Phone: 355-5000

County: Union Person Contacted: Mr. Cohen
Position:

Inspector: Downey / Dante

~~Weather Conditions: Clear [X] Rain [ ] Snow [ ]~~

Wind Direction: W Temp: 28 Speed 5 MPH

Security Measures: Fence [X] Yes [ ] No

Guard [ ] Yes [X] No

Other _____

Safety Features:

Firefighting [X] Yes [ ] No

Type:

Extinguisher [X] Guns [ ] Other [ ]

Protective Clothing: [X] Yes [ ] No
(Issued to Employees)

Written Emergency Procedures Posted [X] Yes [ ] No

Inspection Observations:

Odors: On Site [ ] Yes [✓] No Off Site [ ] Yes [✓] No

Source: _____

Leaks, Spills: On Site [✓] Yes [ ] No Off Site [ ] Yes [✓] No

Source: See comment #3

Overall Housekeeping: Poor [ ] Fair [ ] Good [✓] Excellent [ ]

Drum Storage:

Total No. 4150 Size 55 gal Type Metal
Supplied by Keith White

Stacked Height: [ ] 1 Drum [ ] 2 Drums [ ] 3 Drums [✓] 4 or more

Palletized: [ ] Yes [ ] No

78 A-2

KY-3

Perk Chemical [illegible]/80

Observations and/or Other Comments

this drum will be repacked this afternoon.

(4) Perk is not experiencing any major problems with new manifest. However there are a few blanks such as expected date of arrival that are not being filled in. They are also behind in mailing copies back to the state.

Inspector's Signature

Thomas W [illegible]

Facility Operator's Signature

[illegible]

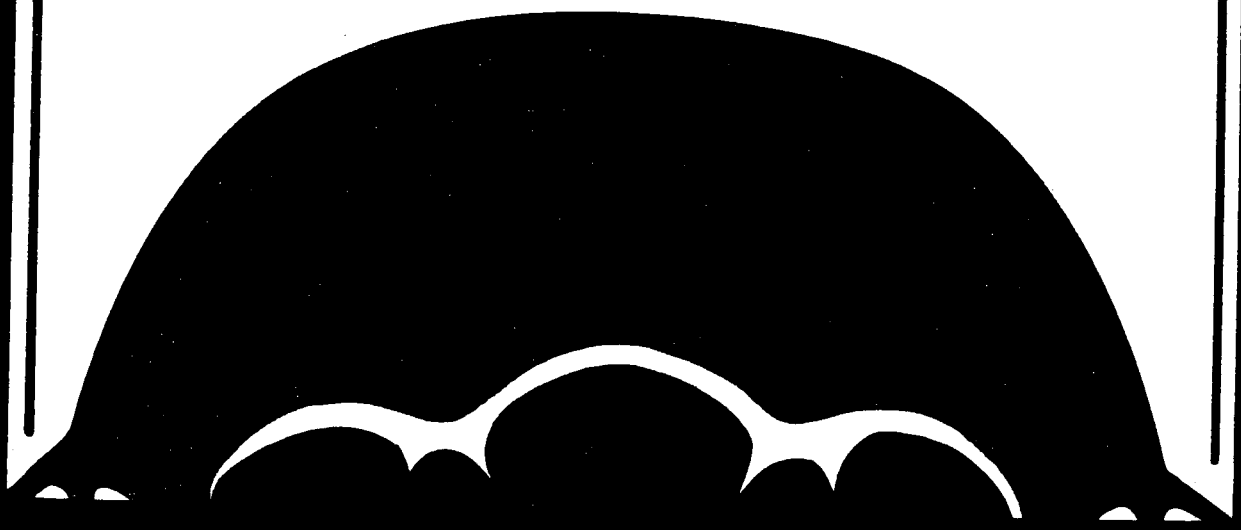
79

I spoke with Mr. Rothschild concerning the list of qualifications of employees which according to his TOA was to be submitted to the office.He showed me proof that the list had been sent on9/9/80. He also gave me a copy of qualification and proof of mailing which I will submit.

I also spoke with Mr. Rothschild concerning submittal of a bond. He showed me a letter from his attorney indicating that our office is presently reviewing his volume of business and will soon determine the amount of his bond.

REFERENCE NO. 10

GROUNDWATER



R. Allan Freeze/John A. Cherry

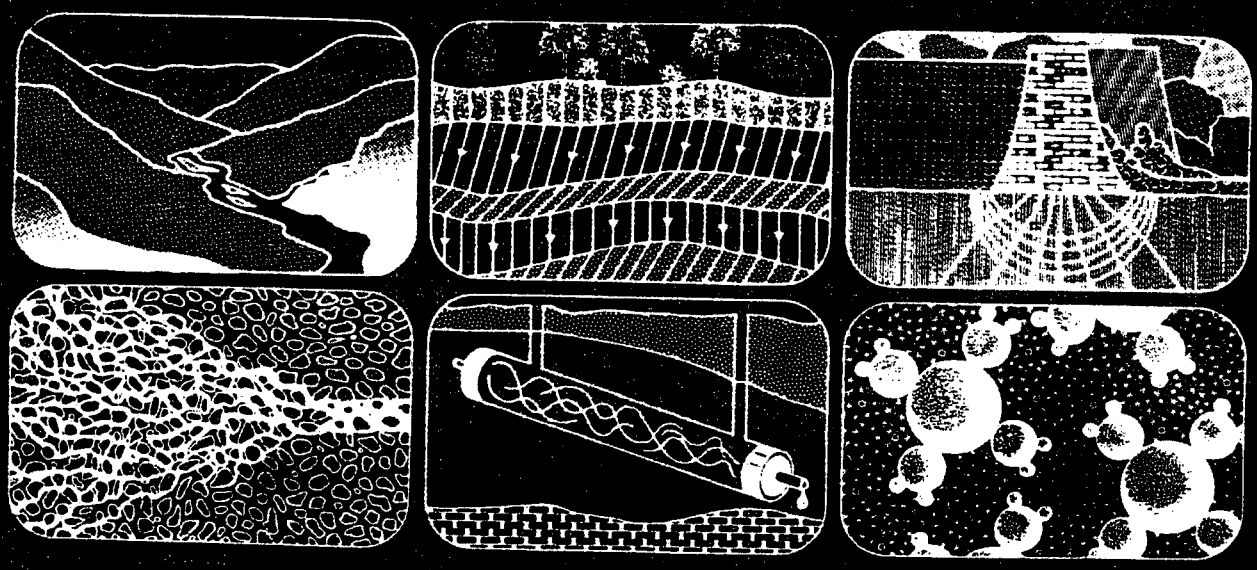


Table 2.2 Range of Values of Hydraulic Conductivity and Permeability

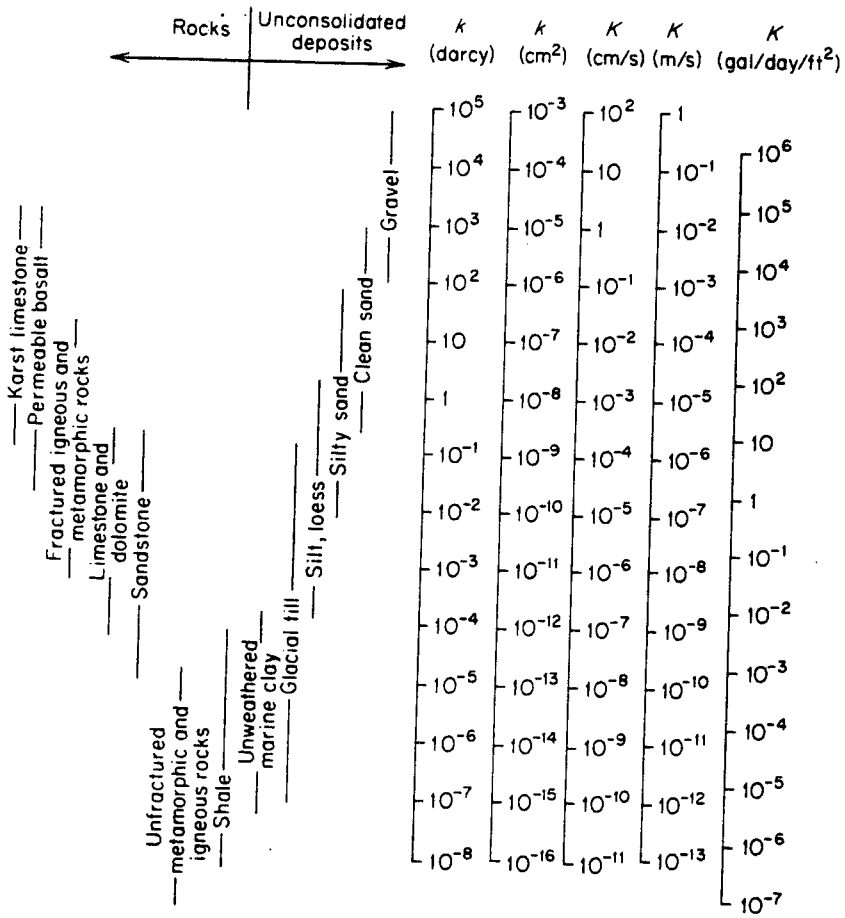


Table 2.3 Conversion Factors for Permeability and Hydraulic Conductivity Units

	Permeability, k*			Hydraulic conductivity, K		
	cm^2	ft^2	darcy	m/s	ft/s	U.S. gal/day/ft²
cm^2	1	1.08×10^{-3}	1.01×10^{8}	9.80×10^{2}	3.22×10^{3}	1.85×10^{9}
ft^2	9.29×10^{2}	1	9.42×10^{10}	9.11×10^{5}	2.99×10^{6}	1.71×10^{12}
darcy	9.87×10^{-9}	1.06×10^{-11}	1	9.66×10^{-6}	3.17×10^{-5}	1.82×10^{1}
m/s	1.02×10^{-3}	1.10×10^{-6}	1.04×10^{5}	1	3.28	2.12×10^{6}
ft/s	3.11×10^{-4}	3.35×10^{-7}	3.15×10^{4}	3.05×10^{-1}	1	6.46×10^{5}
U.S. gal/day/ft²	5.42×10^{-10}	5.83×10^{-13}	5.49×10^{-2}	4.72×10^{-7}	1.55×10^{-6}	1

*To obtain k in ft^2, multiply k in cm^2 by 1.08×10^{-3}.

REFERENCE NO. 11

GEOLOGY AND GROUND-WATER RESOURCES OF UNION COUNTY, NEW JERSEY

By Bronius Nemickas

U.S. GEOLOGICAL SURVEY
Water-Resources Investigations 76–73

Prepared in cooperation with
NEW JERSEY DEPARTMENT OF ENVIRONMENTAL
PROTECTION, DIVISION OF WATER RESOURCES

June 1976

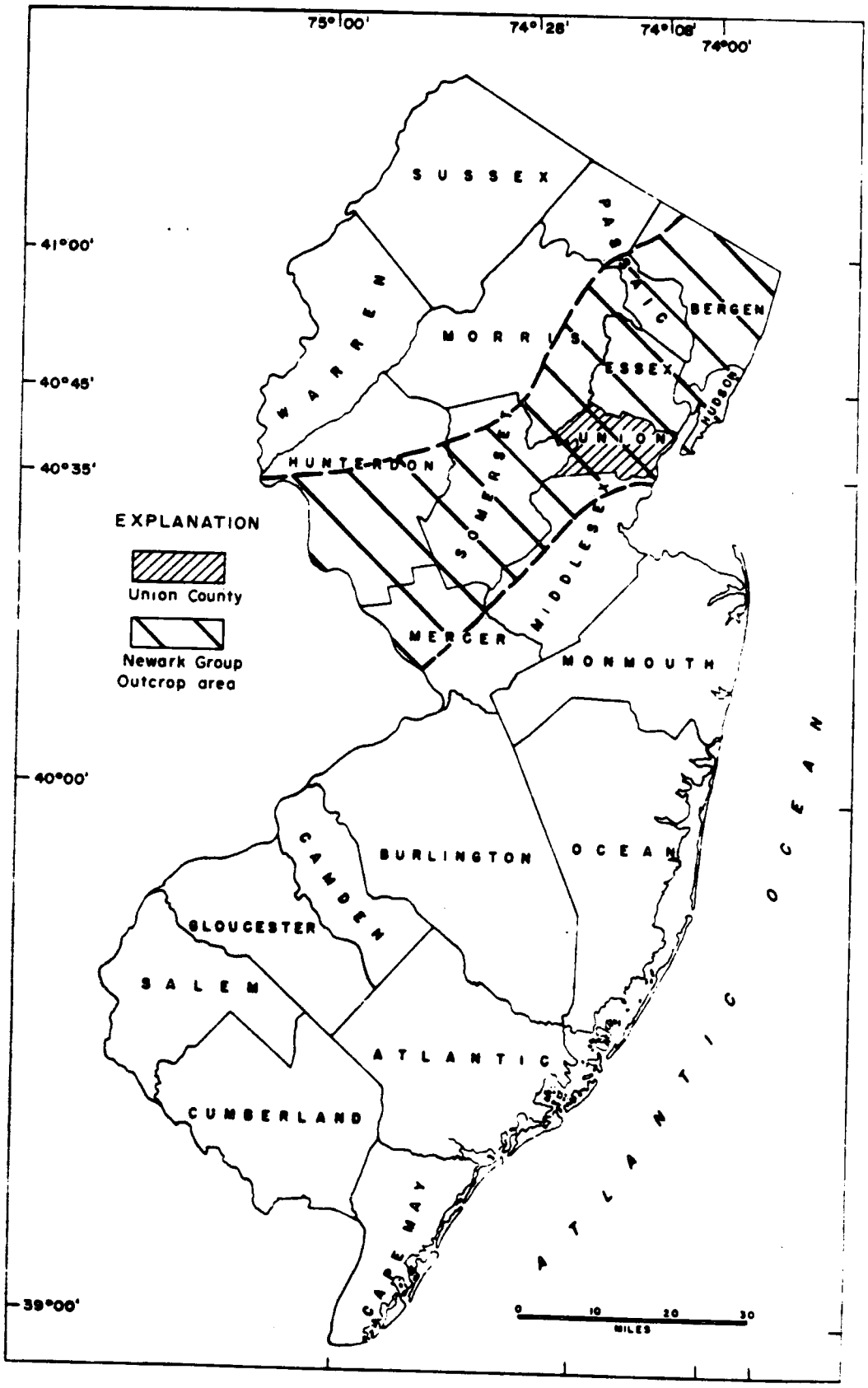


FIGURE 1.--LOCATION OF UNION COUNTY AND OUTCROP AREA OF THE NEWARK GROUP.

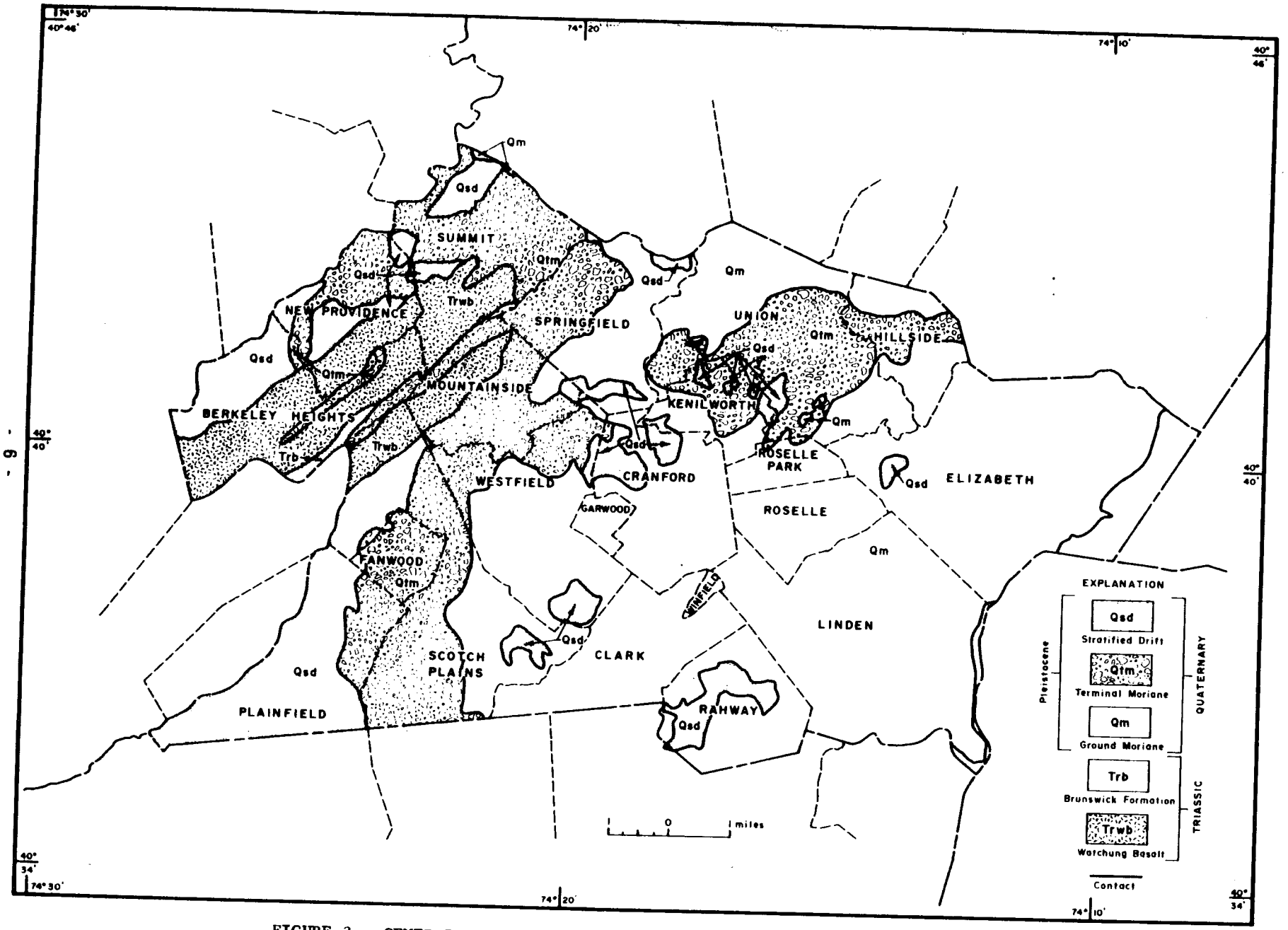


FIGURE 3.--GENERALIZED SURFICIAL GEOLOGIC MAP OF UNION COUNTY, NEW JERSEY.

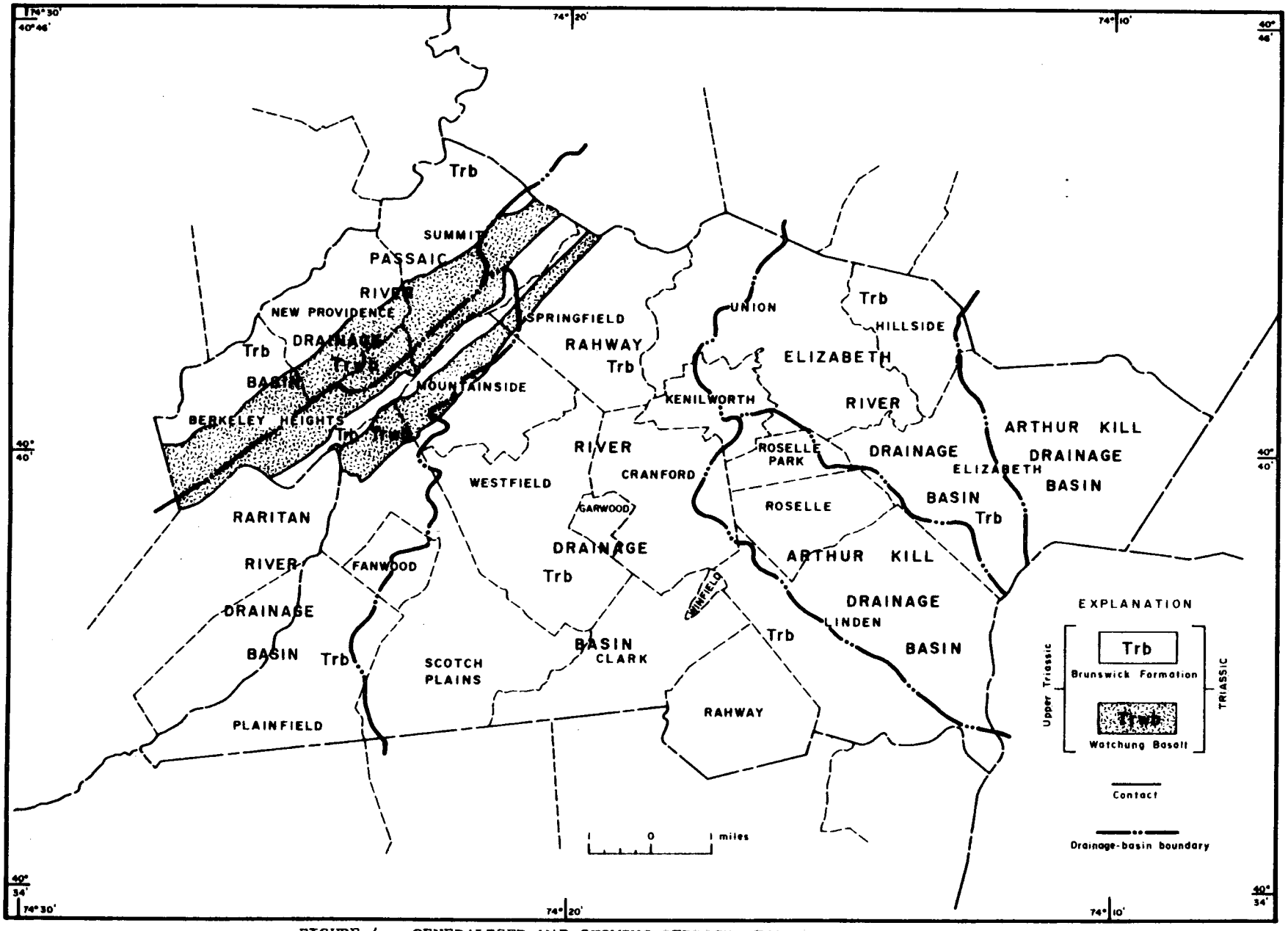


FIGURE 4.--GENERALIZED MAP SHOWING BEDROCK GEOLOGY AND DRAINAGE BASINS OF UNION COUNTY, NEW JERSEY.

Industrial Products	Number of Establishments
Chemicals and allied products	104
Fabricated metal products	226
Machinery, except electrical	275
Food and kindred products	71
Miscellaneous manufacturing	77
Printing and publishing	113
Furniture and fixtures	34
Instruments and related products	25
Textile mill products	14
Stone, clay, and glass products	26
Rubber and plastics products	63
Total	1,424

(New Jersey Department of Environmental Protection, 1967)

GEOLOGY

Newark Group

During the Late Triassic Epoch downfaulting produced a series of northeast-southwest trending basins in the Piedmont Plateau from Nova Scotia to North Carolina. Sedimentary and associated igneous rocks of Triassic age occupy the downfaulted basins and are known as the Newark Group. In New Jersey the Newark Group crops out in a band 16 to 30 miles wide trending northeast-southwest from the Delaware River to the Hudson River (fig. 1). Union County lies entirely within this band.

The Newark Group in New Jersey contains 15,000 to 20,000 feet of non-marine shales, mudstones, sandstones, conglomerates, and basic igneous rocks that unconformably overlie rocks of Paleozoic and Precambrian age. The sedimentary rocks of the Newark Group were largely derived from Paleozoic and Precambrian rocks to the southeast and deposited in a non-marine intermontane basin (Van Houten, 1965). During Triassic time the sedimentary rocks were intruded by a diabase sill, dikes, and covered by several flows of basalt.

The Newark Group underlying Union County consists of the Brunswick Formation and Watchung Basalt. The generalized geologic map (fig. 4) shows the areal distribution of the Triassic rocks underlying Union County. Figure 5 is a generalized section showing the geology and structure of Union County.

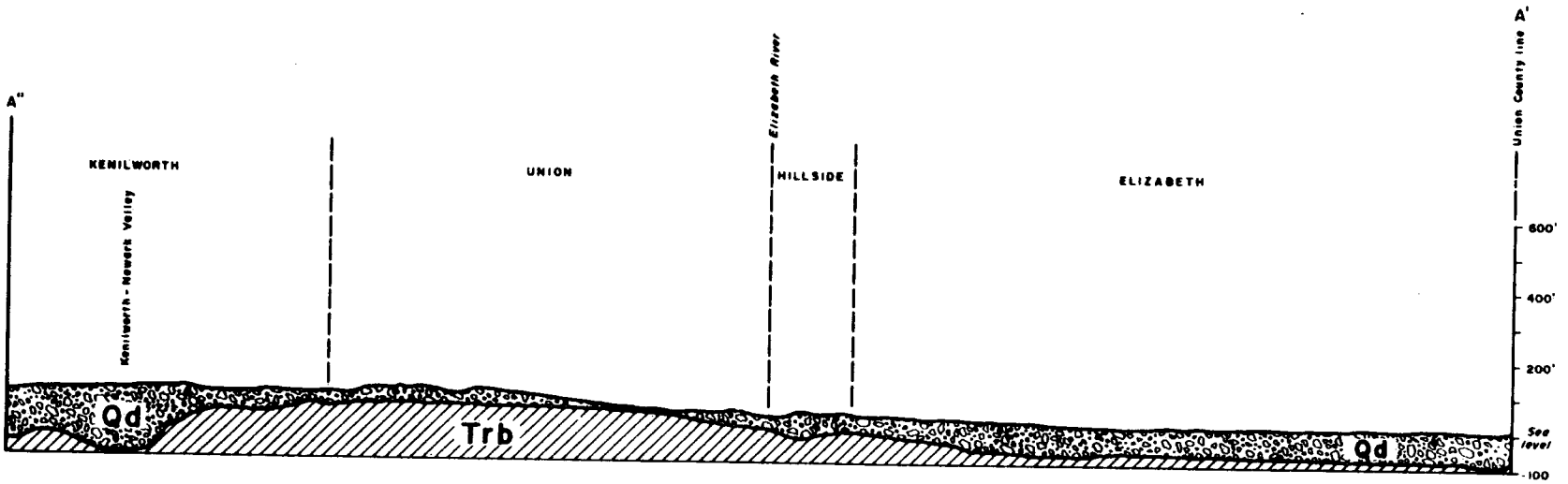


FIGURE 5.--CONTINUED

The Brunswick Formation consists of thin-bedded shales, mudstones, and sandstones which range in color from reddish-brown to gray. The reddish-brown color originates from reworked hematite which comprises 5 to 10 percent of the formation (Boch, 1959). The minerals of the Brunswick Formation include quartz, illite, muscovite, feldspar, and small amounts of calcite and gypsum. Primary structures such as ripple marks and mud cracks indicate that the Brunswick Formation was deposited in a shallow-water environment.

The regional strike of the Brunswick Formation in Union County is N50°E with dips 9° to 13°NW. The major joint sets strike approximately N45°E and N75°W and both sets have a vertical dip. The thickness of the formation is 6,000 to 8,000 feet.

The Watchung Basalt consists of three extensive basaltic lava sheets that are intercalated with the sedimentary rocks of the Brunswick Formation. The basalt flows are more resistant to erosion than the shales, mudstones, and sandstones and form prominent ridges. Two of the three lava sheets occur in Union County and form the First and Second Watchung Mountains. The third sheet forms a discontinuous ridge known as Long Hill and Hook Mountain in Morris County to the west of Union County.

The basalt flows are volcanic extrusive rocks which were formed by the outflow of lava onto the land surface. Rapid cooling of the flows produced a dense, aphanitic rock. Phenocrysts are present in the ground mass which give the basalt a porphyritic texture. The phenocrysts are usually augite and in some cases feldspar. The ground mass for the most part consists of augite and feldspar.

The basalt sheets vary in thickness from less than 300 feet in parts of the Long Hill flow to a maximum of about 1,200 feet in parts of the Second Watchung Mountain. The Second Watchung Mountain is a double flow sheet separated by a thin section of the Brunswick Formation. The thickest flow sheet is the upper flow of the Second Watchung Mountain which has a maximum thickness of about 800 feet.

Quaternary Deposits

Unconsolidated sediments deposited by glaciers or by glacial meltwater during the Pleistocene Epoch mantle the bedrock surface in Union County. These deposits consist of clay, silt, sand, gravel, and boulders. They are glacial, glaciolacustrine (deposited by glacial meltwater in lakes), or glacial fluvial (deposited by glacial meltwater in streams) in origin.

The Pleistocene sediments fall into three general classes: (1) end moraine--a moraine jointed across the course of a glacier at its farthest advance; (2) ground moraine--the material carried forward in and beneath the ice and finally deposited from its under surface; and (3) stratified

drift--deposits from glacial meltwater exhibiting both sorting and stratification. The stratified drift includes lacustrine (deposited in lakes) and fluviatile (deposited in streams) sands and clays.

Figure 3 is a surficial geologic map of Union County showing the extent of the end moraine, ground moraine, and stratified drift. West of the end moraine near Scotch Plains and Plainfield, stratified drift forms an outwash plain (fig. 3).

Before the last glaciation the rivers draining Union County cut deep valleys into the Brunswick Formation (fig. 2). Subsequently the valleys were filled and buried by glacial material. The thickness of the glacial deposits is controlled largely by the underlying bedrock topography. Figure 6 consists of three sections showing the altitudes of the bedrock valley floor and thickness of Pleistocene deposits in the bedrock valleys. These buried channels underlie parts of Hillside, Union, Springfield, Clark, and Scotch Plains Townships, and the Boroughs of Mountainside, New Providence and Kenilworth and the Cities of Summit and Rahway.

The Pleistocene sediments in the bedrock channels consist of unstratified and stratified clay, silt, sand, and gravel. Only the sand and gravel deposits of the stratified drift will yield large quantities of water to wells.

Deposits of Holocene (Recent) age cover only small areas and include river alluvium, and eolian deposits.

The stratigraphic units in Union County and their geologic and hydrologic characteristics are given in Table 1. Table 6 contains representative well logs indicating the variations in the lithologies of the geologic units.

GROUND WATER HYDROLOGY

Introduction

Water is continually being exchanged in a circulatory pattern between the earth and the atmosphere. In general, the amount of precipitation ultimately determines the amount of water available for man's use. Some of the precipitation that falls on land evaporates where it falls, some is absorbed by plants that later transpire the water back to the atmosphere, some flows overland to streams, and some infiltrates into the ground to become ground water. The ground water is discharged to streams, and streams flow to the oceans where the water can be evaporated back to the atmosphere.

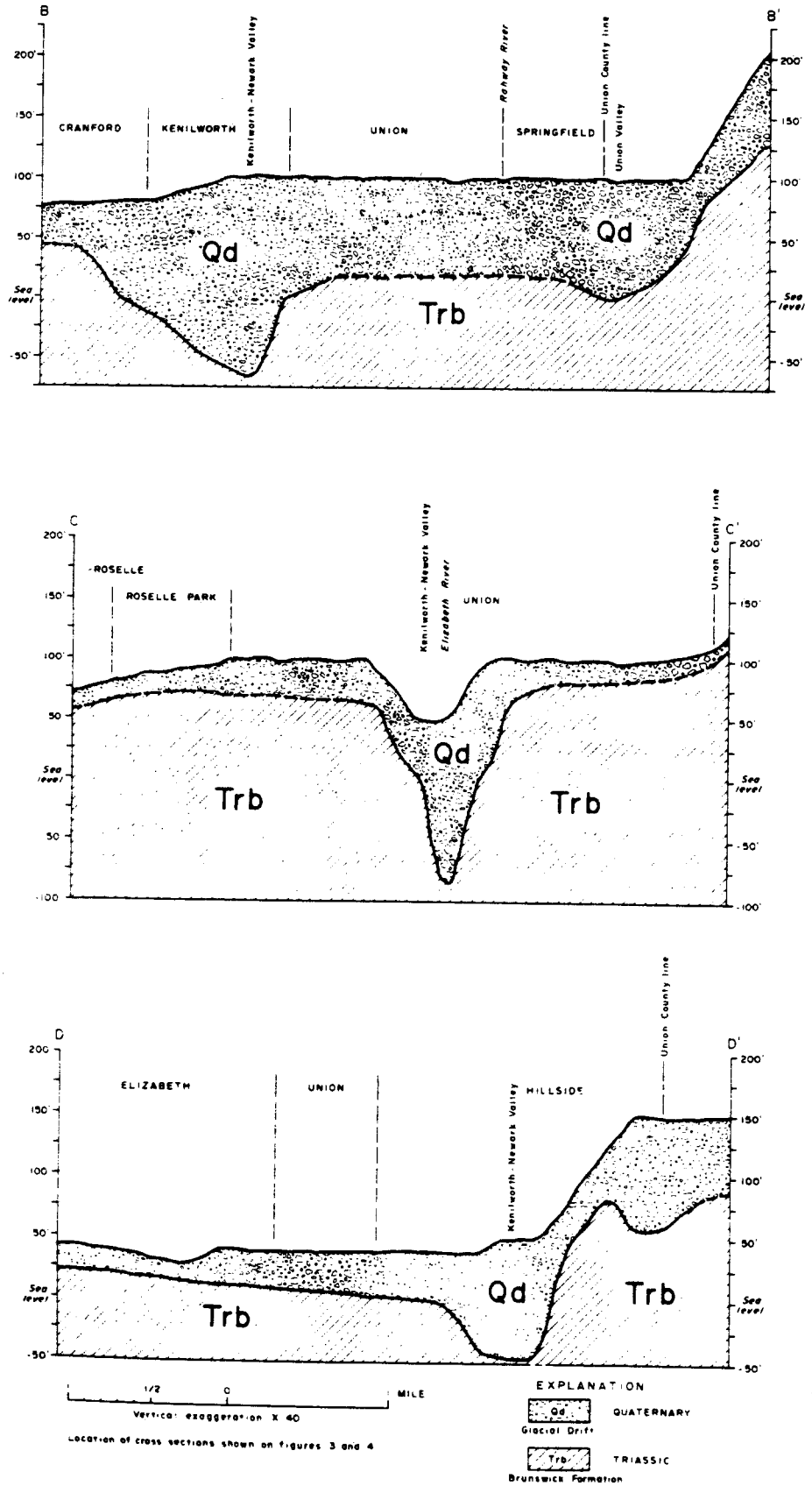


FIGURE 6.--GEOLOGIC SECTIONS SHOWING THE BURIED CHANNELS IN UNION COUNTY, NEW JERSEY.

Table 1.--Geology and hydrology of the rock units in Union County, New Jersey

Era	Period	Series	Formation or lithologic unit	Thickness (feet)	Lithology	Hydrologic characteristics
Cenozoic	Quaternary	Holocene	alluvium	0-25	Sand, silt, and mud in and along river channels.	Relatively impermeable deposits; retard intrusion of saline water through river beds.
			eolian deposits	0-10	Sand	Above water table; high rate of infiltration.
		Pleistocene	un-stratified drift (till)	0-200	Unstratified clay, sand and gravel; reddish brown in color. Forms the ground and end moraine deposits. Deposited by glaciers.	Because of low permeability, it is not an important aquifer in the County.
			stratified drift	0-60	Sand and gravel lenses which are stratified. Occurs as lenses in the till in the bedrock channels and inter-bedded with till in the end moraines. Deposited by water.	Important as an aquifer in the City of Rahway and in Union, Hillside and Springfield Townships and in Kenilworth Borough. At the City of Rahway and Hillside Township wells induce recharge from rivers.
					Unconformity	
Mesozoic	Triassic	Upper Triassic	Newark Group: Brunswick Formation	6,000-8,000	Interbedded, soft red shales, mudstones, and sandstones. Adjacent to the Watchung Basalt it is altered to a hornfels.	Most extensive and most important aquifer in Union County. Water stored in and transmitted along fracture and joint systems which decrease in number and volume with depth. Both artesian and water-table conditions exist.
			Newark Group: Watchung Basalt	300-800	Basaltic lava sheets inter-calated with the sedimentary rocks of the Newark Group. Two of the sheets crop out in Union County. The basalt is a dense, aphanitic, extrusive rock. Augite and feldspars are the chief minerals.	Minor aquifer in the county. Well yields are low to moderate.

The specific capacity of a well, the rate of yield per unit drawdown for some time interval, generally gallons per minute per foot of drawdown, can be a good measure of the transmissibility of the rocks. High specific capacities generally suggest a high coefficient of transmissibility, and low specific capacities generally suggest a low coefficient of transmissibility. However, specific capacity also is affected by the coefficient of storage, the thickness and boundary conditions of the aquifer penetrated by the well, and development and construction of the well.

For a more complete discussion of general ground-water hydraulics, the reader is referred to Theis (1935, p. 519-524), Ferris (1949, p. 226-272), Todd (1959, p. 77-114), DeWiest (1965, p. 161-183), and Davis and DeWiest (1966, p. 156-374).

Water-bearing Properties of Major Rock Units

Newark Group

Brunswick Formation

The Brunswick Formation of Late Triassic age is the major aquifer in Union County and underlies most of the county. Water in this formation occurs in joints and fractures. These joints and fractures become progressively tighter and fewer with increasing depth below land surface. Only moderate quantities of water can be stored or transmitted in these fractures.

Ground water occurs under both unconfined and confined conditions in the Brunswick Formation. Unconfined ground water occurs mainly in the upland areas where overlying unconsolidated sediments are thin or absent. In the lowland areas in the southern and eastern part of Union County the rocks are mantled by unconsolidated Pleistocene deposits that, in most places, contain silt and clay beds. In the lowland areas the silt and clay beds may confine water in the underlying rocks. Wherever such confinement occurs, water beneath the impermeable layers is under artesian pressure. In a few areas the artesian head is above land surface resulting in flowing wells. Locally, artesian conditions result from differences in permeability within the rock layers caused by varying degrees of fracturing, or weathering, or a combination of both.

Several pumping tests have been conducted on wells tapping the Brunswick Formation in Union County. The coefficient of transmissibility determined from five of these tests ranged from 5,900 to 25,400 gpd per ft; most of the values lie between 15,000 and 25,000 gpd per ft. The average coefficient of storage computed from these tests is about 0.00005.

Results of pumping tests indicate that the Brunswick Formation is anistropic; that is, its ability to transmit water is not equal in all directions. The greatest drawdowns caused by pumping are observed in wells aligned along the strike of the beds with respect to the pumping well. The smallest drawdowns are observed in wells aligned transverse to the strike (Vecchioli, 1967). These pumping test observations have been interpreted to indicate that joints and factures which strike parallel to the strike of the bedding are better developed and interconnected than joints and fractures which strike in other directions. Therefore, minimum interference between pumping wells in well fields tapping the Brunswick Formation can be achieved by aligning the wells across the strike of the beds rather than parallel to the strike.

The average reported yield of 230 public-supply, industrial, and commercial wells (table 4) tapping the Brunswick Formation is 200 gpm; yields range from 12 to 870 gpm. A better indication of the potential yield of properly located and developed wells tapping the Brunswick Formation can be obtained from analysis of yields of large diameter (10 inch or greater) wells. The large diameter wells, generally the deeper wells, represent attempts to develop the maximum supply of water. The average yield of 109 large diameter wells (table 4) is 310 gpm; yields range from 23 to 870 gpm.

The distribution of well yields is as follows:

Yield (gpm)	230 Wells	109 Large Diameter Wells
0 - 50	18	2
51 - 100	42	9
101 - 150	36	8
151 - 200	32	14
201 - 250	25	10
251 - 300	20	13
301 - 350	16	15
351 - 400	10	7
401 - 450	6	6
451 - 500	9	9
501 - 550	10	10
551 - 600	2	2
600	4	4

Figure 9 shows the cumulative frequency distribution of reported yields of wells in the Brunswick Formation. It can be seen on the graph that 50 percent of the 230 wells have yields equal to or less than 180 gpm; 50 percent of the large diameter wells have yields equal to or less than 300 gpm. Many of the higher yielding wells occur where the Brunswick Formation is overlain by relatively thick, saturated glacial deposits that readily pass water downward into the fractures in the Brunswick Formation.

The specific capacities of 205 wells (6 to 12 inches in diameter) in the Brunswick Formation range from 0.04 to 25 and average 3.5 gpm per foot of drawdown; 14 of the wells have specific capacities greater than 10 gpm per foot of drawdown. The depths of the wells range from 100 to 1,108 feet and average 387 feet.

Figure 10 is a cumulative frequency distribution graph of specific capacities of wells tapping the Brunswick Formation in Union County. In figure 10, specific capacities are related to the well diameter. The larger diameter wells have the higher specific capacities. Median specific capacities are 1.7 for 6 and 8-inch diameter wells, 2.0 for 10 inch diameter wells and 3.1 for 12 inch and larger diameter wells. The higher specific capacities in the larger diameter wells can be attributed to better well development, well site selection and decreased well entrance losses.

In table 2, specific capacities are listed in percentile on the basis of depth of well drilled below land surface. In order to minimize the effect of well diameter on specific capacity, separate listings for larger and smaller diameter wells are given. Wells between 200 and 600 feet deep, in general have higher specific capacities than wells of shallower or greater depths. This relationship suggests that the best water-producing zones in the Brunswick Formation are encountered between depths of 200 and 600 feet. Below 600 feet the fractures and joints are less enlarged and generally drilling to greater depths will not produce significantly greater well yields.

Wells tapping the Brunswick Formation generally draw water from several water-bearing zones. In areas where the rocks are exposed or covered by a thin layer of unconsolidated sediments the shallow water-bearing zones contain unconfined water to a depth of about 200 or 300 feet. If wells penetrate to depths between 200 and 600 feet one or more confined zones of greater permeability are intercepted. The wells that are drilled between 200 to 600 feet in general have the greatest yields.

Watchung Basalt

The Watchung Basalt is a minor aquifer and underlies the western edge of Union County. In this formation vesicles add primary porosity to the secondary porosity developed from the joints and fractures. However, all these openings constitute only a small part of the total volume of the basalt and their capacity to store and transmit water is poor.

REFERENCE NO. 12

NUS CORPORATION
SUPERFUND DIVISION

PROJECT NOTES

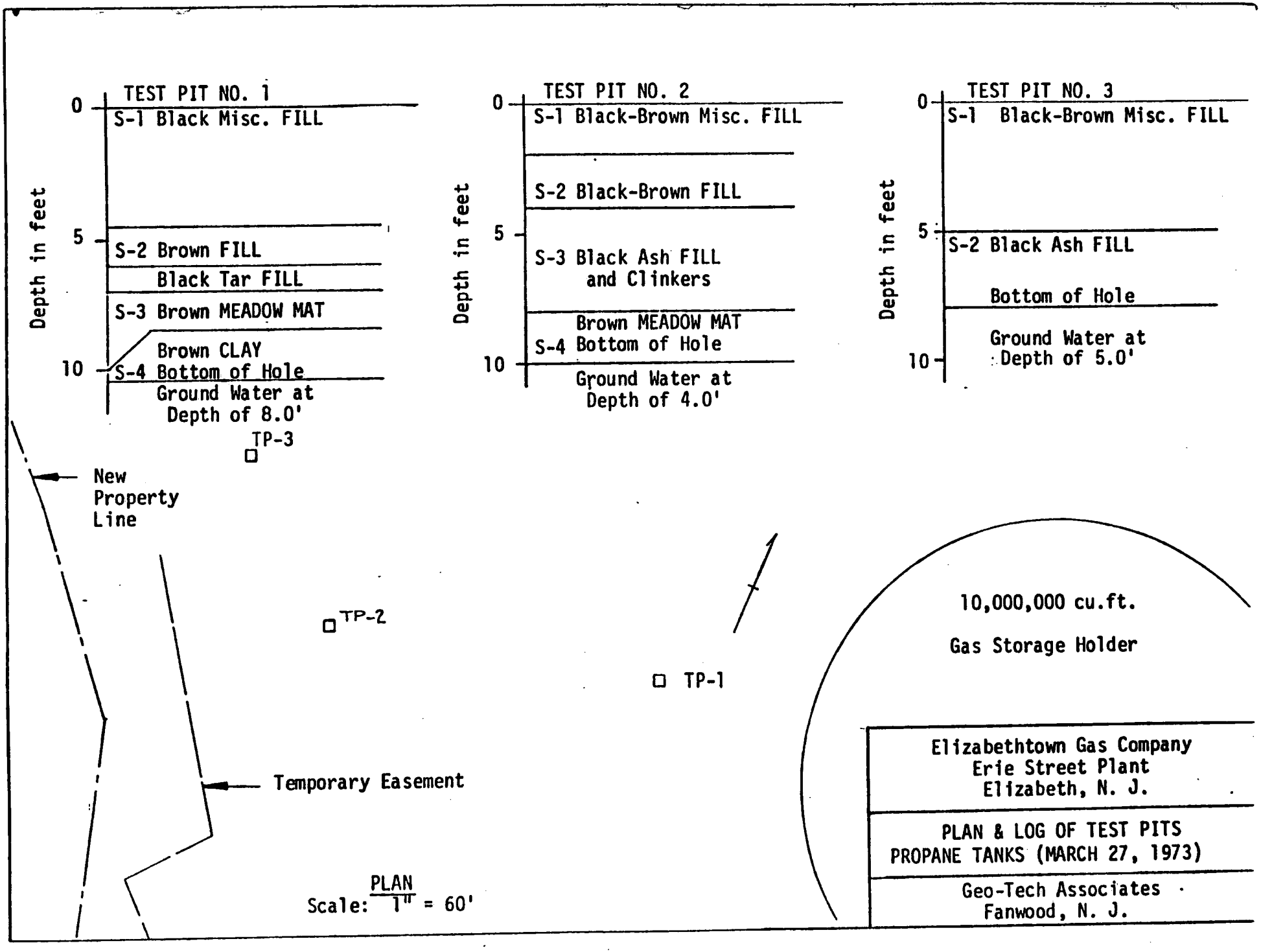
TO: Park Chem Co Inc File DATE: March 27, 1991

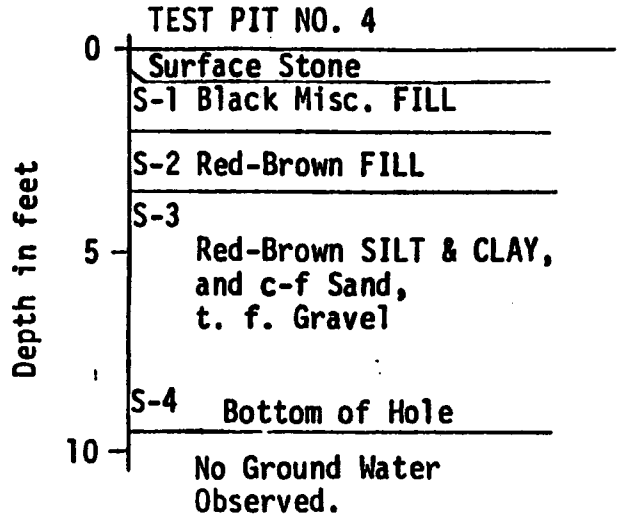
FROM: J Brown COPIES:

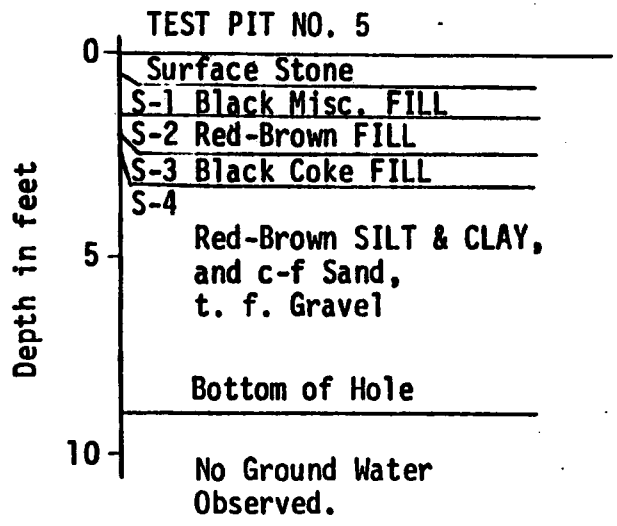
SUBJECT: Soil profile, test pits

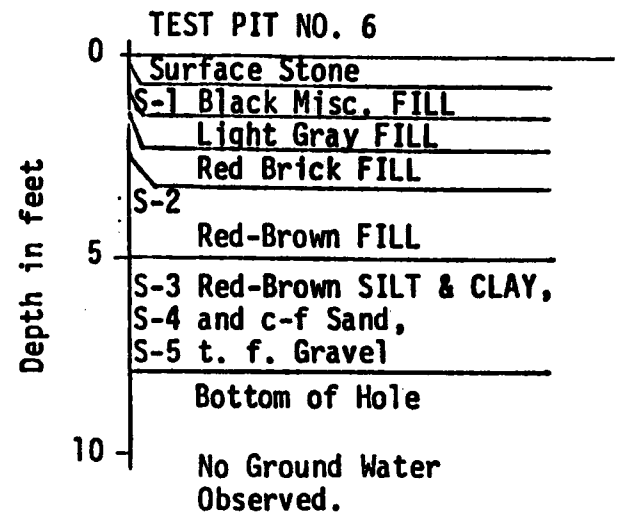
REFERENCE: Attached are sketches of test pits and soil boring information prepare by Geo-Tech Associates for a nearby Elizabethtown Gas Company facility

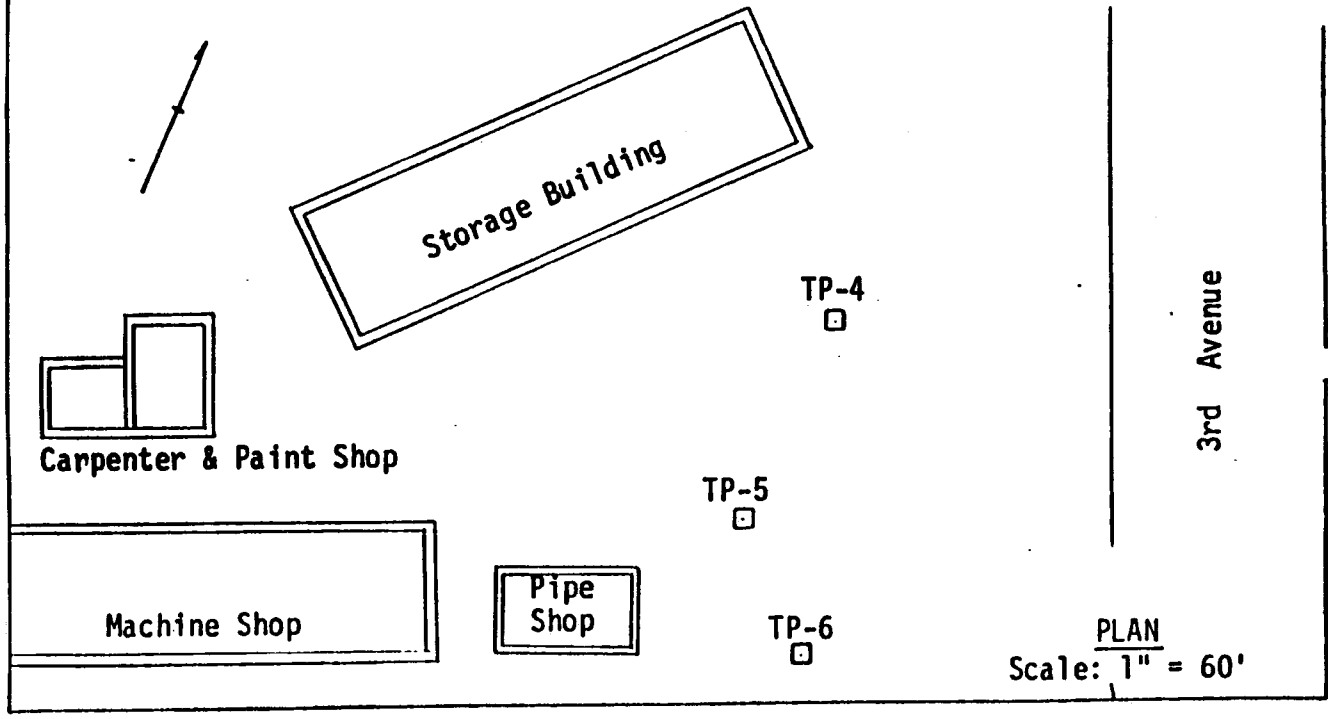
NUS 443A 58 1182


TEST PIT NO. 1
Depth in feet
0
5
10
S-1 Black Misc. FILL
S-2 Brown FILL
Black Tar FILL
S-3 Brown MEADOW MAT
Brown CLAY
S-4 Bottom of Hole
Ground Water at Depth of 8.0'
TEST PIT NO. 2
S-1 Black-Brown Misc. FILL
S-2 Black-Brown FILL
S-3 Black Ash FILL and Clinkers
Brown MEADOW MAT
S-4 Bottom of Hole
Ground Water at Depth of 4.0'
TEST PIT NO. 3
S-1 Black-Brown Misc. FILL
S-2 Black Ash FILL
Bottom of Hole
Ground Water at Depth of 5.0'
TP-3
TP-2
TP-1
New Property Line
Temporary Easement
10,000,000 cu.ft.
Gas Storage Holder
PLAN
Scale: 1" = 60'
Elizabethtown Gas Company
Erie Street Plant
Elizabeth, N. J.
PLAN & LOG OF TEST PITS
PROPANE TANKS (MARCH 27, 1973)
Geo-Tech Associates
Fanwood, N. J.





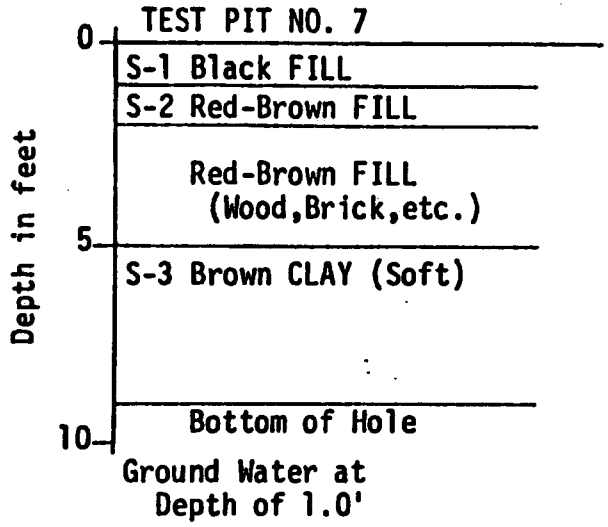


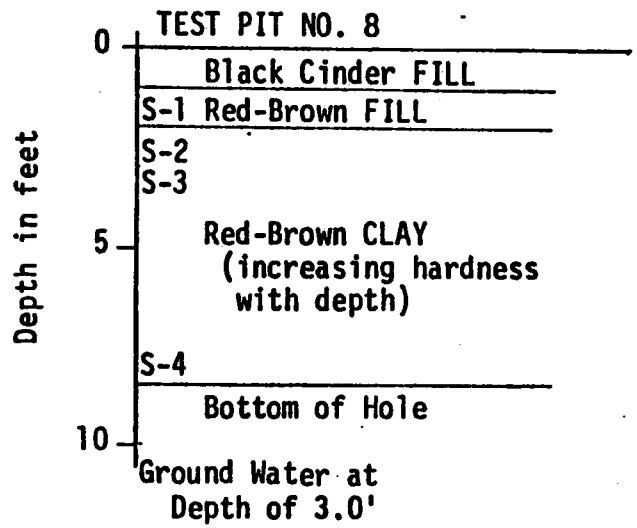


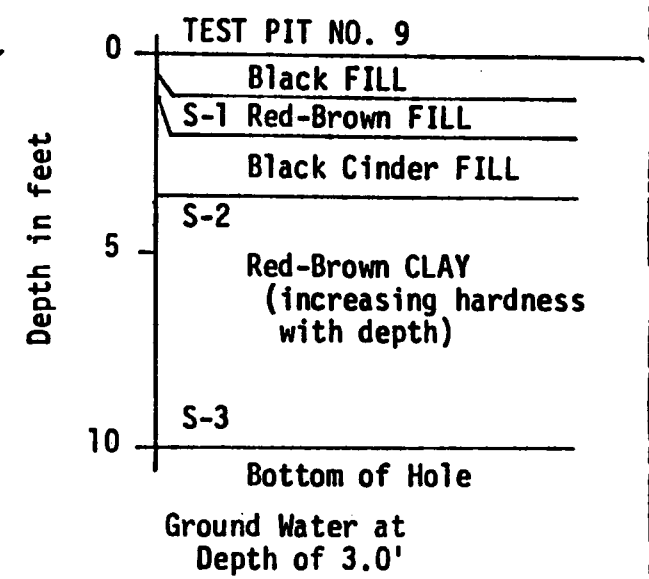
Elizabethtown Gas Company
Erie Street Plant
Elizabeth, N. J.

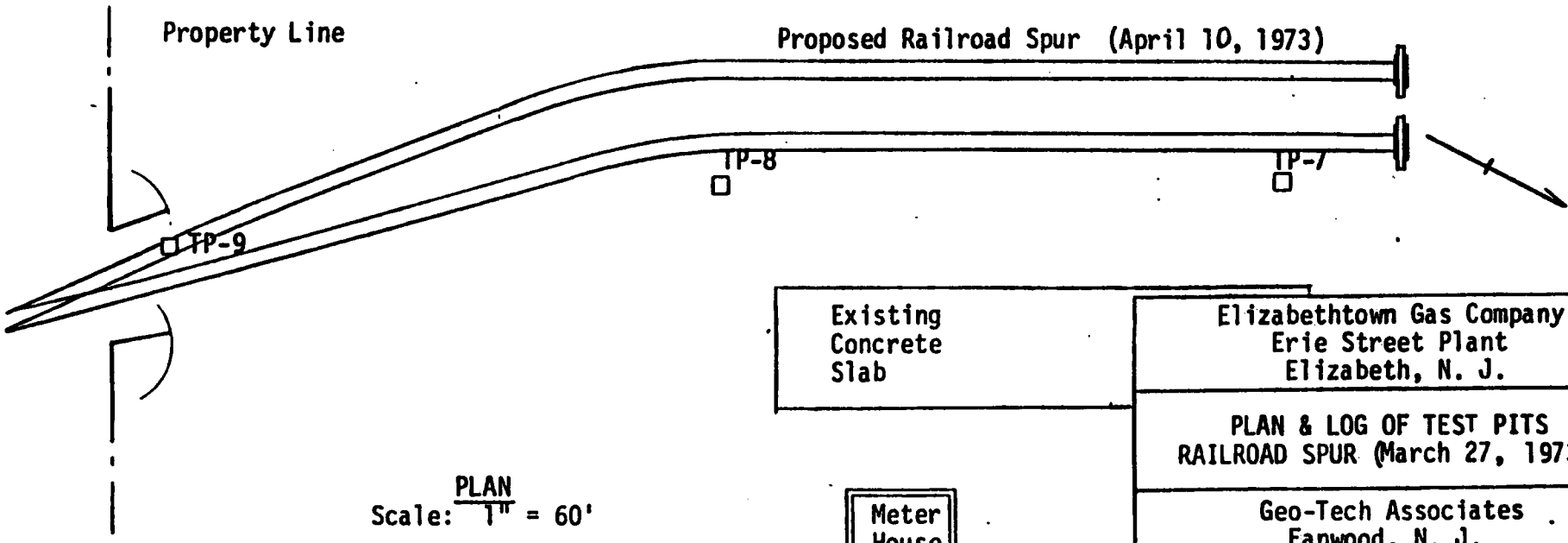
PLAN & LOG OF TEST PITS
PROPOSED BUILDING (MARCH 27, 1973)

Geo-Tech Associates
Fanwood, N. J.





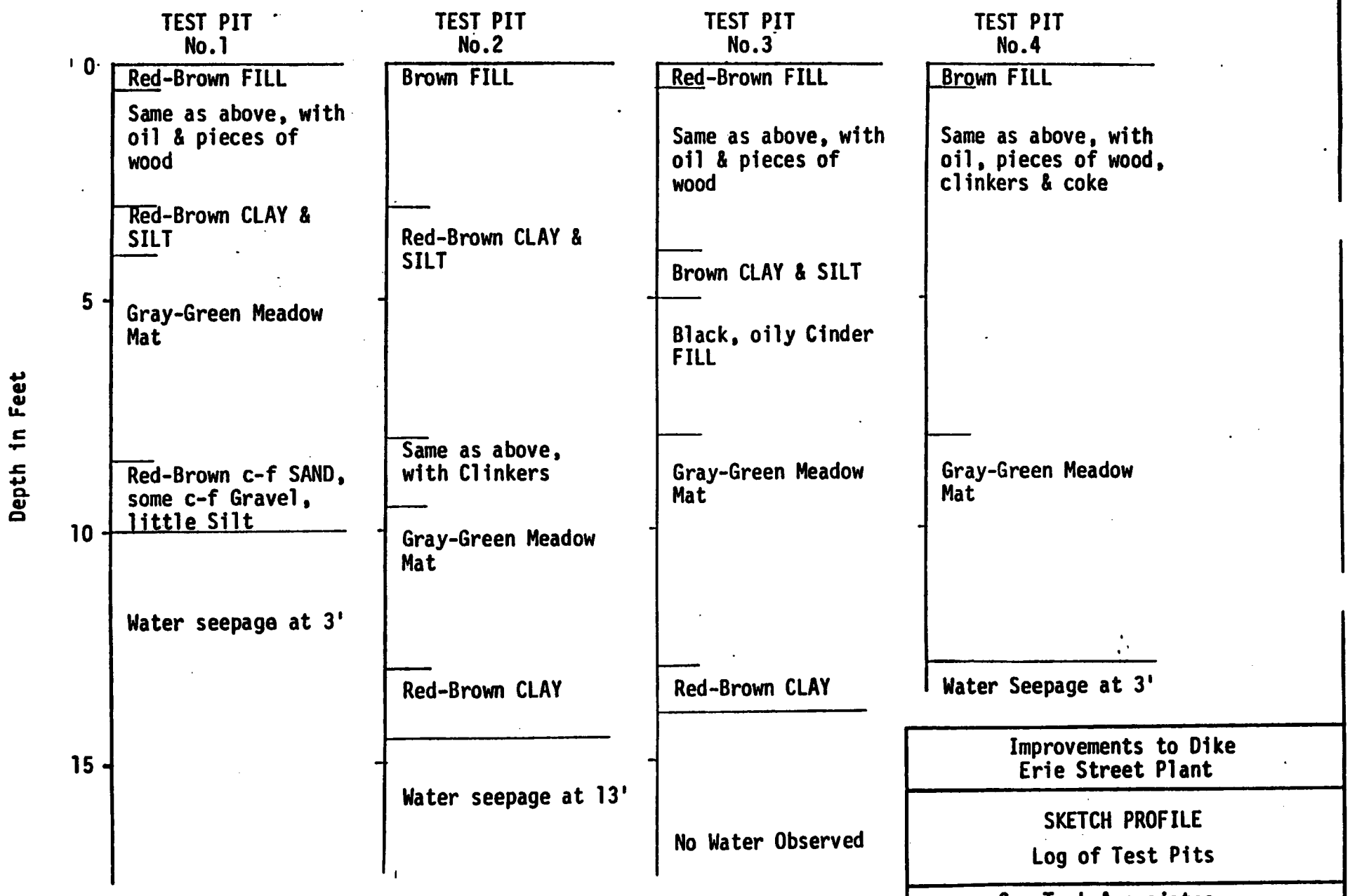




Elizabethtown Gas Company
Erie Street Plant
Elizabeth, N. J.

PLAN & LOG OF TEST PITS
RAILROAD SPUR (March 27, 1973)

Geo-Tech Associates
Fanwood, N. J.

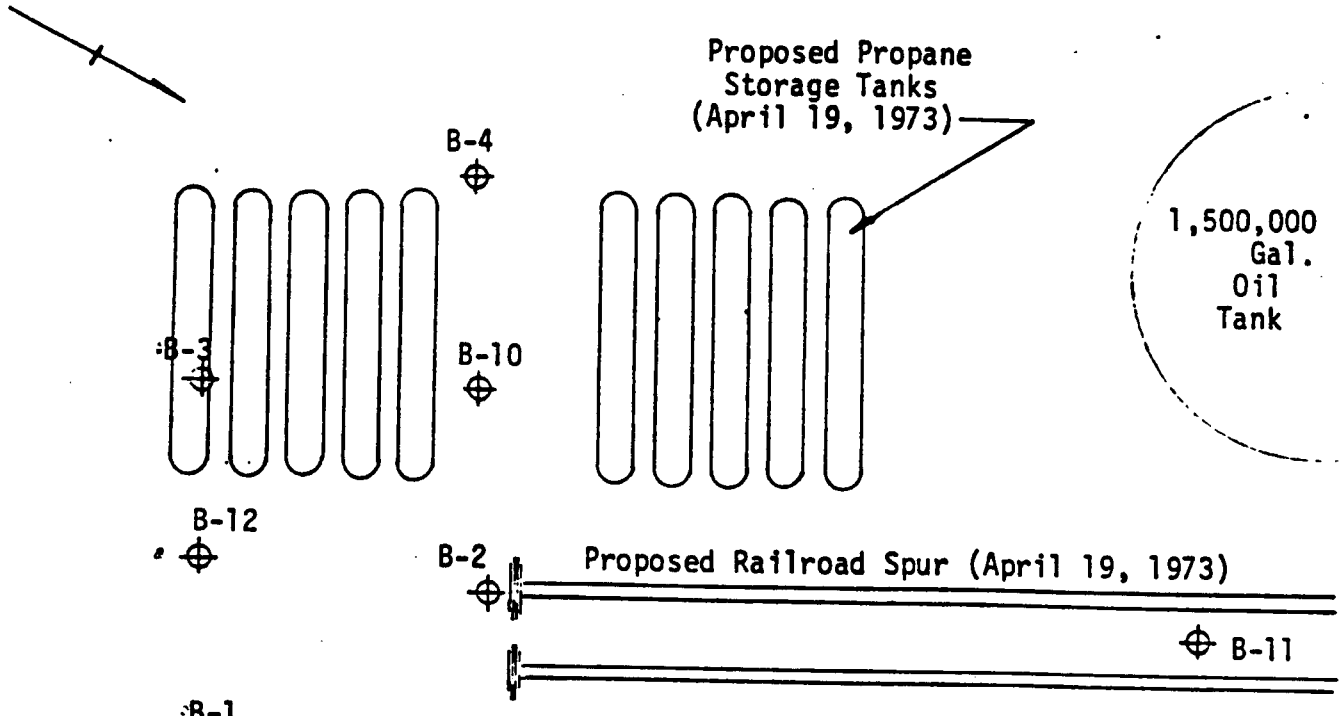


Improvements to Dike
Erie Street Plant

SKETCH PROFILE

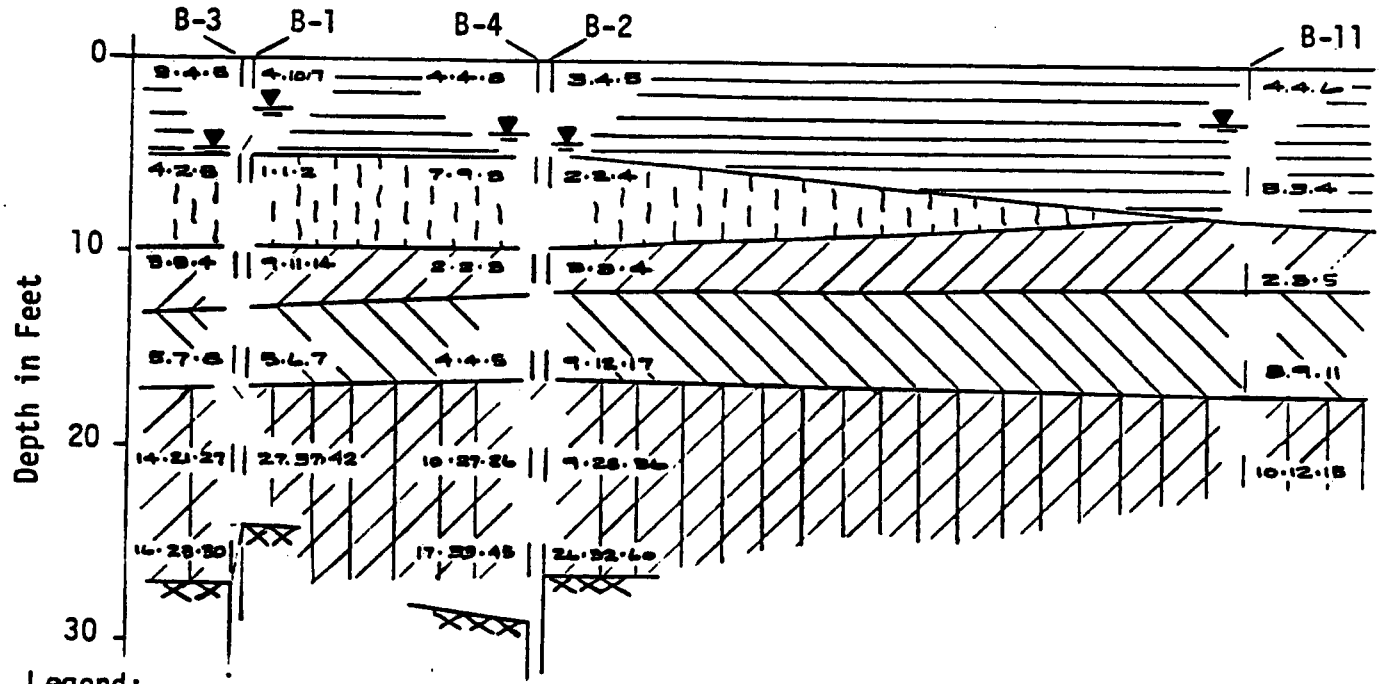
Log of Test Pits

Geo-Tech Associates
Consulting Engineers



PLAN

Scale: 1" = 60'



GENERALIZED SOIL PROFILE

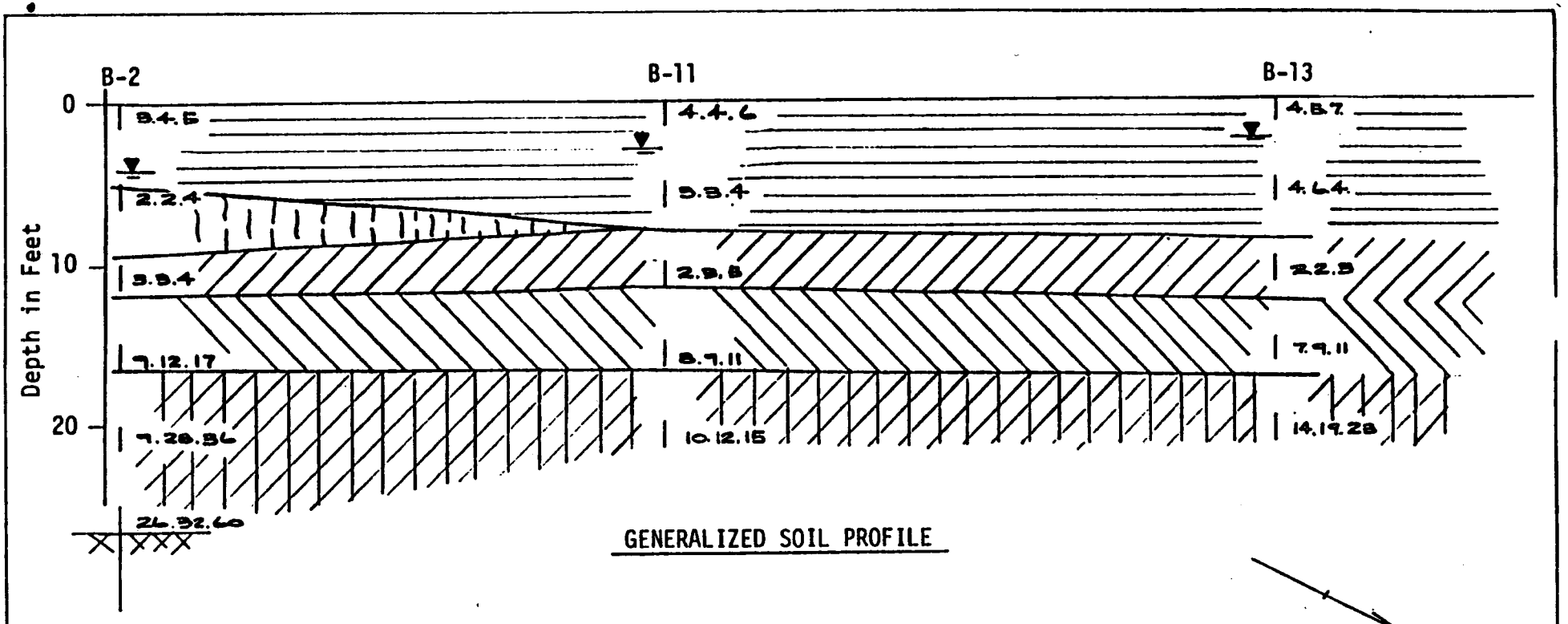
Legend:

- Miscellaneous FILL
- PEAT & ORGANIC SILT
- Gray Silty CLAY
- Red medium to fine SAND
- Red-Brown TILL
- Bedrock

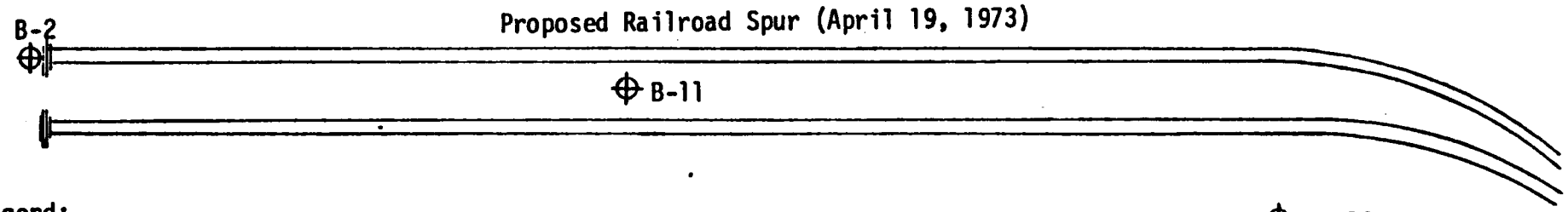
Elizabethtown Gas Company Erie Street Plant Elizabeth, N. J.
BORING PLAN AND PROFILE PROPANE TANKS (APRIL 19, 1973)
Geo-Tech Associates Fanwood, N. J.

SITE
WETLANDS
NEWARK INTERNATIONAL AIRPORT
ELIZABETH
LINDEN
ROSELLE PARK
ROSELLE
BAYONNE
STATEN ISLAND
Shooters Island
Prall's Island
Island of Meadows
CARTERET
SCALE 1:24 000
CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
NUS CORPORATION
TITLE: FOUR MILE VICINITY MAP
SITE : PERK CHEMICAL CO., INC. ELIZABETH, N.J.
DATE : 11/13/90
TDD : 02-9007-15
QUAD : ELIZABETH, N.J.-N.Y.
FIGURE NUMBER:
SCALE: 1 "= 2000 '

REFERENCE NO. 14

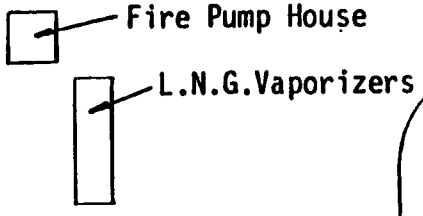


GENERALIZED SOIL PROFILE



Legend:

- Miscellaneous FILL
- PEAT & ORGANIC SILT
- Gray Silty CLAY
- Red medium to fine SAND
- Red-Brown TILL
- Bedrock



PLAN
Scale: 1" = 60'

B-13

Elizabethtown Gas Company
Erie Street Plant
Elizabeth, N. J.

BORING PLAN AND PROFILE
Railroad Spur (April 19, 1973)

Geo-Tech Associates
Fanwood, N. J.

REFERENCE NO. 13

GERAGHTY & MILLER SPECIAL REPORT

The New Jersey Ground-Water Situation

by David W. Miller

August, 1979 Live Telecon note - 02-8803-32-SI

GERAGHTY & MILLER, INC.
Groundwater
Consultants

HACKENSACK, NEW JERSEY
7 Atlantic Street
Hackensack, New Jersey 07601
(201) 646-1400

SYOSSET, NEW YORK
North Shore Atrium
6800 Jericho Turnpike
Syosset, New York 11791

The Aquifer Systems

For a general discussion of ground-water conditions in New Jersey, the state can be divided into three broad geographic areas based on the distinctive rock types that occur in each (Figure 1). The Coastal Plain physiographic province is the largest area, and encompasses more than 5,000 square miles in the southern portion of the state. The geology of the Coastal Plain is characterized by a southeasterly dipping and thickening sequence of unconsolidated sediments.

The Triassic Lowlands are underlain by thousands of feet of red shale, with some sandstone, siltstone, conglomerate, basalt and diabase. The geologic formations in the Highlands region consist of hard crystalline rocks such as the Precambrian gneisses and quartzites; carbonates, such as the Kittatinny limestone; and relatively dense sandstones, conglomerates and shales, such as the Martinsburg.

Bedrock in both the Triassic Lowlands and the Highlands is overlain by unconsolidated deposits of glacial origin. In places, these surficial deposits are thick and permeable, and are commonly in direct hydraulic connection with the underlying bedrock and adjacent streams, rivers, and lakes.

THE TRIASSIC LOWLANDS AND THE HIGHLANDS REGION OF NORTHERN NEW JERSEY

The geology and hydrology of northern New Jersey are considerably more complex than the Coastal Plain region. To simplify, it has been divided into two broad areas, the Triassic Lowlands and the Highlands Region (Figure 1). Unlike the Coastal Plain, where the aquifers consist of extensive beds of unconsolidated deposits, the primary water-bearing units in northern New Jersey are sedimentary and crystalline rocks (Figure 11). These vary considerably in their ability to yield water, depending on rock type and location. Both regions are also heavily dependent upon unconsolidated glacial deposits for water supply and where these occur in buried, eroded rock channels and are thick and permeable, the glacial sediments represent the most important source of ground water in both the Triassic Lowlands and the Highlands. Figure 12 shows the general major deposits of glacial origin that may have some ground-water potential.

Geology and Hydrology

Triassic Sediments: The Triassic Lowlands are almost entirely underlain by sedimentary Brunswick Shale. Although its primary permeability is low, appreciable amounts of water are found in joints and fractures. However, unless a significant number of these joints and fractures are penetrated by a well, yields can be relatively small. The direction of highest permeability and of the greatest movement of water in response to pumping tends to parallel the strike of the beds, generally southwest to northeast.

Glacial Sediments: Unconsolidated deposits overlying rock in northern New Jersey consist generally of till, clay, or stratified drift. These deposits are thickest in the valleys and thin or absent in upland areas. Permeable sands and gravels contained within the valley fill sediments that are suitable for ground-water development range in thickness from 50 to several hundred feet. Individual beds that can support high capacity wells are not extensive, and lithology may change radically over as little as 100 feet within the same valley. Well yields commonly reported for the glacial sediments represent successful wells located from a program of test drilling and pumping.

Although the rock aquifers have been mapped in some detail throughout both the Triassic Lowlands and the Highlands Region, the areal extent of important glacial aquifers is relatively unknown except in some of the more heavily developed areas of eastern Morris and western Essex Counties, Union County, the Ramapo River subbasin, and the Rockaway River subbasin (Figure 12).

Public supply and industrial wells tapping the more permeable stratified drift are almost uniformly capable of producing several hundred thousand gpd to more than one mgd. For example, yields of wells completed in Union County in 50 to 200 feet of sand and gravel sediments in Kenilworth-Newark Valley, Summit Valley, Union Valley, and Rahway Valley, average approximately 400 gpm. Wells in Essex and Morris Counties tapping glacial sands and gravels adjacent to the Passaic River and its tributaries produce one to 1.5 mgd. Total pumpage from the system of buried valleys in this latter area is about 20 mgd, with the highest yields from formations receiving recharge from adjacent streams.

Somerset County: Surface- and ground-water resources are both utilized to meet constantly increasing requirements. Surface supplies are primarily obtained from the Nesmanic, Raritan, and North Branch Rivers in the west, the Millstone River in the southeast, and the Raritan River in central Somerset. A County Planning Board study has estimated that surface water will eventually supply 80 percent of the county's total public water system demands. Supplies for areas removed from major population centers will continue to be provided by ground-water.

The maximum potential yield of the aquifers in Somerset County has not been quantified. However, there have been no major supply or quality problems reported and additional ground-water development appears feasible.

Sussex County: An inventory of the major public utility systems in Sussex County indicates that 14 percent use surface water, 67 percent rely on wells, and the remaining 19 percent use both. Surface systems, predominant in and around the larger towns and boroughs, draw much of their supply from the Delaware, Paulins Kill, and Wallkill Rivers. Rural areas generally depend upon domestic wells.

An evaluation of industrial and public supply pumpage, which is scattered throughout the south-southeastern portion of Sussex County, and the area's general recharge patterns indicates that the consolidated rock aquifers are not being utilized to their maximum potential.

Union County: Public supply from ground-water sources is derived principally from the Triassic shales. The only pumpage from unconsolidated

sediments is in the southern and extreme northern parts of the county.

Analysis of regional recharge indicates that there may be serious problems of overpumping. Union County is almost entirely sewered, and virtually all usage is consumptive. Specific case histories of water-level declines do not exist in the literature, and the water-level monitoring system in the county cannot identify problems if they do exist. However, present pumpage appears to exceed maximum potential yield.

Warren County: Surface supplies are primarily obtained from the Paulins Kill River in north central Warren and the Musconetcong and Delaware Rivers which form the southeastern and northwestern boundaries of the county. In rural areas, where surface water has not been developed, domestic wells are the principal source of supply.

Ground-Water Quality

The water in the sedimentary rock aquifers of the Triassic Lowlands generally ranges from slightly acidic to slightly alkaline (pH 6.3 to 8.5). The quality is quite variable and is generally much more mineralized than in most of the other aquifers. Total dissolved solids generally range from about 100 mg/L (milligrams per liter) to over 500 mg/L. In most instances, water in the rock aquifer is less mineralized in the recharge areas at higher altitudes and more mineralized in discharge areas at low altitudes. This is apparently a function of the distance and travel time of the ground water through mineralized formation materials. The degree of mineralization often becomes greater with increasing depth. Ground water is moder-

mineralized water is found in stratified drift underlain by Precambrian rocks than in stratified drift underlain by shales and sandstones of the Triassic Lowlands. Where there is pumpage from deposits associated with streams, the water induced from the stream significantly affects the quality of ground water pumped from wells.

Salt-water encroachment has been noted in the Triassic shales of the Newark area where heavy industrial pumpage lowered water levels more than 100 feet. Data on the current status of this problem are not readily available. Saline water is also encountered in some unconsolidated deposits adjacent to estuaries.

Summary

Ground water serves as a major municipal, industrial, and domestic source in northern New Jersey. Where surface-water sources are being used to their capacity, even greater dependence will be placed on ground water. However, there are a number of significant constraints on continued development of ground water. In counties such as Bergen, Essex, southern Passaic, Union, and eastern Morris, heavy pumpage of the Brunswick shale and the stratified drift deposits together with consumptive use, has overstressed aquifers on a local basis and limited the availability of new ground-water supplies. In addition, the high degree of urbanization has eliminated many potential sites for new wells and has reduced recharge to the aquifer. In many cases, the large-scale development of particular aquifer areas has undoubtedly resulted in substantial impacts on surface-water sources. Some potential for developing new supplies does exist, but

Figure 1 - PRINCIPAL GEOLOGIC REGIONS

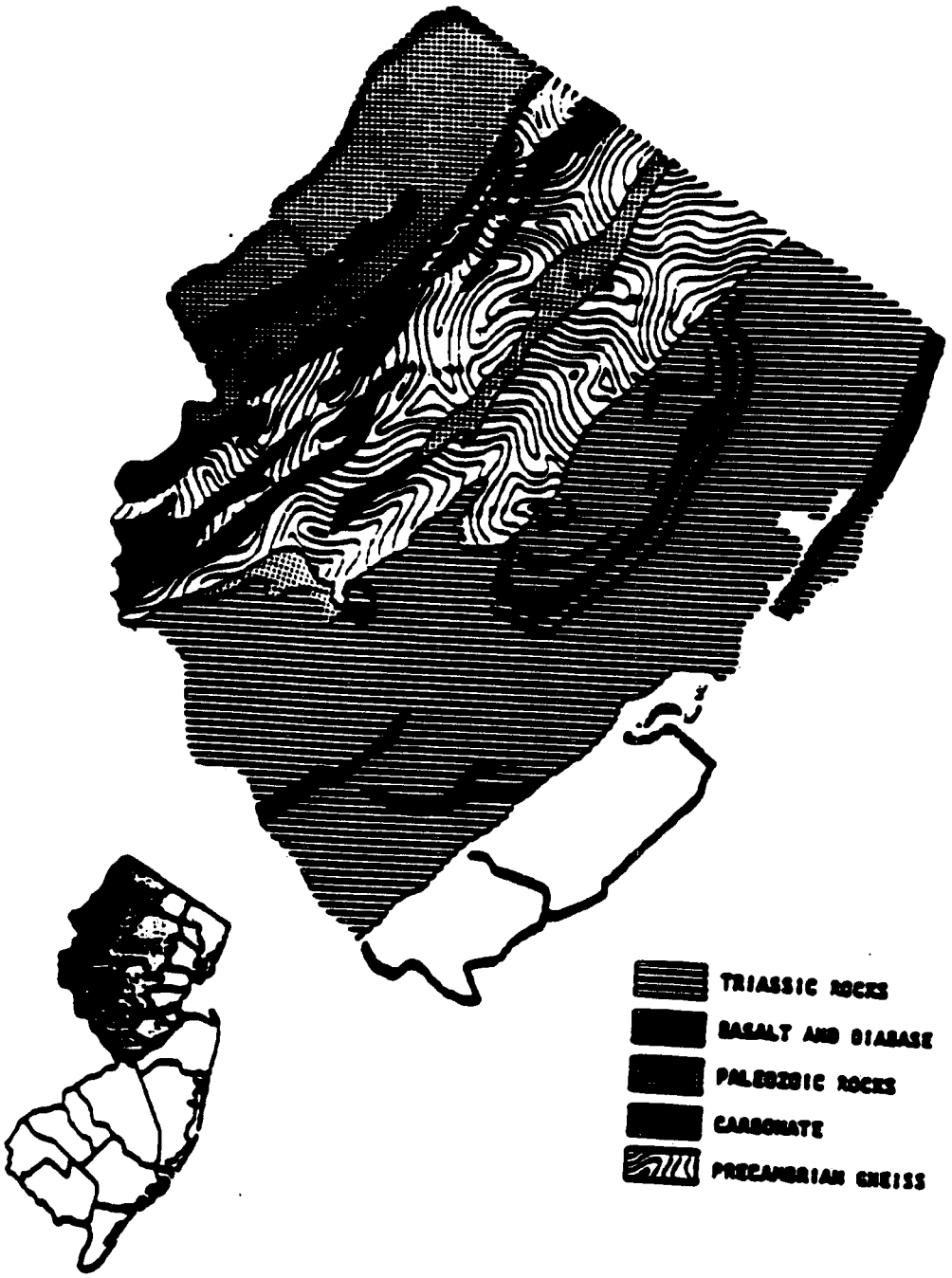
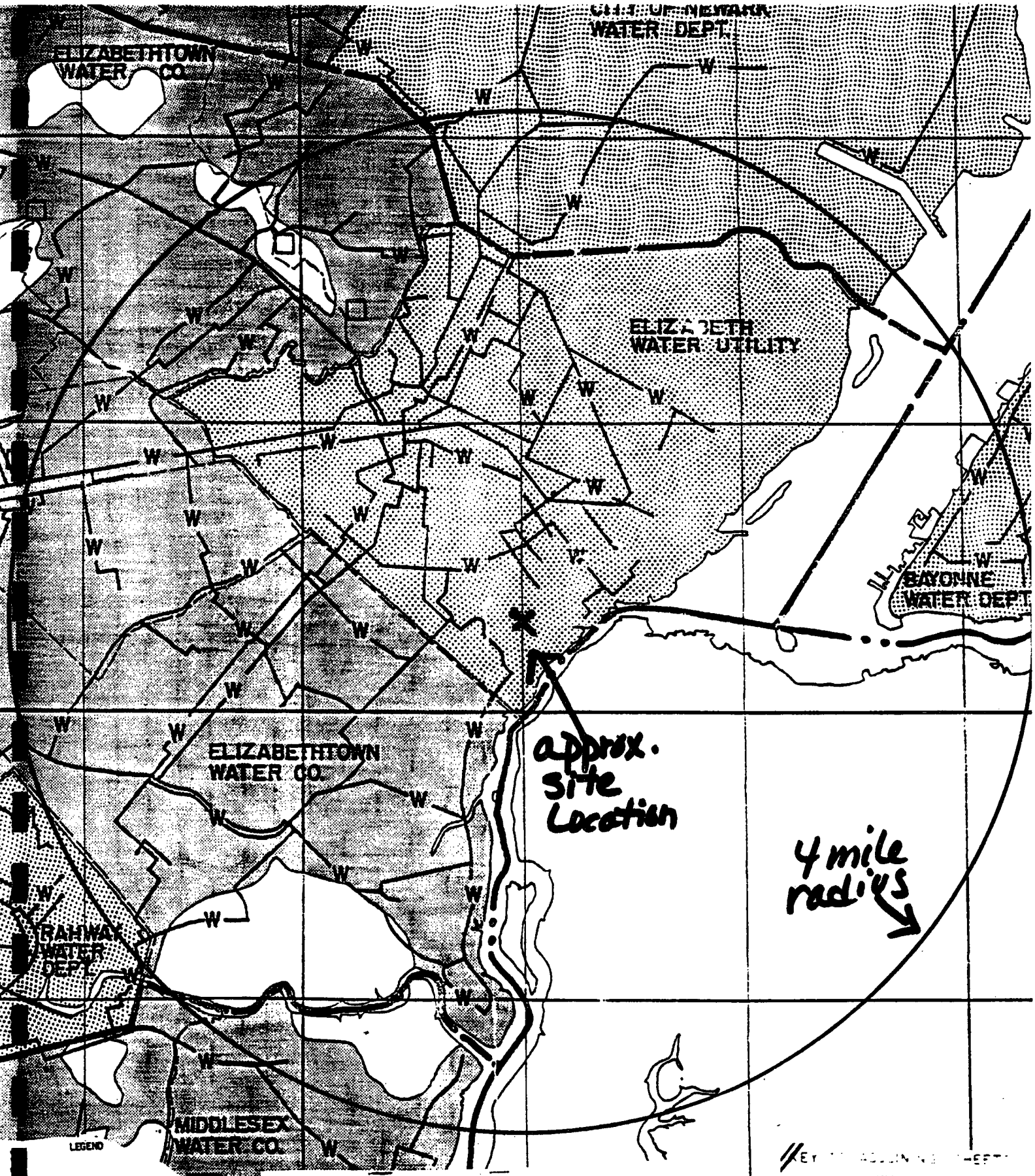


Figure 11 - BEDROCK GEOLOGY IN NORTHERN NEW JERSEY

Figure 12 - POTENTIAL UNCONSOLIDATED AQUIFERS IN NORTHERN NEW JERSEY

REFERENCE NO. 15



STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DAVID A. BARDIN, COMMISSIONER

GEORGE HALASI-KUN, TOPOGRAPHIC ENGINEER
JOHN G. KREMPER, CARTOGRAPHER

SOURCES

1. MIDDLESEX COUNTY PLANNING BOARD, COMPREHENSIVE WATER PLAN PHASE ONE; APPENDIX: COMPREHENSIVE WATER PLAN PHASE ONE; COMPREHENSIVE WATER PLAN PHASES TWO AND THREE; RECOMMENDED WATER AND SEWER SYSTEMS: PLANS AND PROGRAMS; 1968, 1969, 1970, 1971 CONSECUTIVELY.

2. UNION COUNTY MASTER PLAN PROGRAM, SUMMARY - SEWER AND WATER PLAN, 1971.

3. PASSAIC COUNTY WATER STUDY, 1969.

4. MORRIS COUNTY MASTER PLAN WATER SUPPLY ELEMENT, 1971.

5. INFORMATION SUPPLIED BY ESSEX COUNTY DEPARTMENT OF PLANNING.

6. HUDSON COUNTY MASTER PLAN ON LAND USE - SEWAGE AND WATER, 1963.

7. BERGEN COUNTY COMPREHENSIVE PLAN WATER FACILITIES, FINAL REPORT, 1970.

8. INFORMATION SUPPLIED BY BUREAU OF POTABLE WATER.

REFERENCE NO. 16

GSC-TR8645

GRAPHICAL EXPOSURE MODELING SYSTEM

(GEMS)

USER'S GUIDE

VOLUME 2. MODELING

Prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF PESTICIDES AND TOXIC SUBSTANCES
EXPOSURE EVALUATION DIVISION
Task No. 3-2
Contract No. 68023970
Project Officer: Russell Kinerson
Task Manager: Loren Hall

Prepared by:

GENERAL SCIENCES CORPORATION
8401 Corporate Drive
Landover, Maryland 20785

Submitted: December 1, 1986

> I

PERK CHEM CO. INC.
LATITUDE 40:38:41 LONGITUDE 74:11:46 1980 POPULATION

KM	0-1/4 mile 0.00-.400	1/4-1/2 mile .400-.810	1/2-1 mile .810-1.60	1-2 mile 1.60-3.20	2-3 mile 3.20-4.80	3-4 mile 4.80-6.40	SECTOR TOTALS
S 1	865	3282	21248	42153	86788	120393	27472[illegible]
RING TOTALS	865	3282	21248	42153	86788	120393	27472[illegible]

> I

PERK CHEM CO. INC.
LATITUDE 40:38:41 LONGITUDE 74:11:46 1980 HOUSING

KM	0.00-.400	.400-.810	.810-1.60	1.60-3.20	3.20-4.80	4.80-6.40	SECTOR TOTALS
S 1	301	1077	6804	14804	32603	42202	9779[illegible]
RING TOTALS	301	1077	6804	14804	32603	42202	9779[illegible]

REFERENCE NO. 17

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, NEW YORK 10278

MAR 14 1991

Rich Feinberg
NUS Corporation
1090 King Georges Post Road
Suite 1103
Edison, NJ 08837

Dear Mr. Feinberg:

As discussed on March 12, 1991, the status of New Jersey's Wellhead Protection Plan is as follows:

New Jersey has not yet submitted a final Wellhead Protection Plan for EPA approval. The document is currently in draft form and is being circulated for public comment. EPA expects that a final plan will be submitted by this summer.

If you need further assistance, you may contact me at 212-264-4124.

Sincerely,

Maureen Krudner

Maureen Krudner, Geologist
Ground Water Management Section

REFERENCE NO. 18

MITRE

26 May 1988
W52-219

Ms. Lucy Sibold
U.S. Environmental Protection Agency
401 M Street, S.W.
Room 2636, Mail Code WH-548A
Washington, D.C. 20460

Dear Ms. Sibold:

Enclosed is a copy of the draft revised HRS net precipitation values for 3,345 weather stations where data were available. The data are presented by state code, station name, latitude, longitude, and net precipitation in inches. A list of state codes is also enclosed.

The net precipitation values are provided to assist the Phase II - Field Testing efforts. It is suggested that the value from the nearest weather station in a similar geographic setting be used as the net precipitation value for a site.

If there are any questions regarding this material, please contact Dave Egan at (703) 883-7866.

Sincerely,

Andrew M. Platt
Group Leader
Hazardous Waste Systems

AMP:DEE/hme

Enclosures

cc: Scott Parrish

The MITRE Corporation
Civil Systems Division
7525 Colshire Drive, McLean, Virginia 22102-3481
Telephone (703) 883-6000/Telex 248923

OBS	STATE	NAME		LATNUM	LONNUM	NETPREC
1761	26	ELKO WSO	R	40.50	115.47	3.9823
1762	26	WINNEMUCCA WSO	//R	40.54	117.48	2.5945
1763	26	WELLS		41.07	114.58	3.8866
1764	26	CONTACT		41.47	114.45	2.8738
1765	26	OWYHEE		41.57	116.06	5.9976
1766	27	NASHUA 2 NNW		42.47	71.29	23.7651
1767	27	PETERBORO 2 S		42.51	71.57	23.6732
1768	27	KEENE		42.55	72.17	19.8050
1769	27	MASSABESIC LAKE		42.59	71.24	19.8753
1770	27	SURRY MOUNTAIN DAM	R	43.00	72.19	18.5269
1771	27	DURHAM		43.08	70.56	23.9858
1772	27	CONCORD WSO	R	43.12	71.30	18.2330
1773	27	BLACKWATER DAM	R	43.19	71.43	22.5086
1774	27	LAKEPORT		43.33	71.28	21.8009
1775	27	LEBANON FAA AIRPORT		43.38	72.19	16.6971
1776	27	HANOVER		43.42	72.17	17.8320
1777	27	WOODSTOCK		43.59	71.41	24.1205
1778	27	PINKHAM NOTCH		44.16	71.15	37.6073
1779	27	MT. WASHINGTON WSO		44.16	71.18	76.0940
1780	27	BETHLEHEM		44.17	71.41	17.3621
1781	27	FIRST CONN LAKE		45.05	71.17	24.1798
1782	28	CAPE MAY 1 NW		38.57	74.56	17.9246
1783	28	BELLEPLAIN ST FOREST		39.15	74.52	19.8232
1784	28	MILLVILLE FAA AIRPORT		39.22	75.04	19.0414
1785	28	ATLANTIC CITY MARINA		39.23	74.26	17.0983
1786	28	ATLANTIC CITY WSO		39.27	74.34	19.0678
1787	28	SHILOH		39.28	75.18	16.6988
1788	28	HAMMONTON 2 NNE		39.39	74.48	19.6846
1789	28	GLASSBORO		39.42	75.07	19.9029
1790	28	INDIAN MILLS 2 W		39.48	74.47	20.4249
1791	28	PEMBERTON 3 E		39.58	74.38	20.0246
1792	28	MOORESTOWN		39.58	74.58	19.2450
1793	28	TRENTON WSO	R	40.13	74.46	17.6355
1794	28	FREEHOLD		40.16	74.15	21.6099
1795	28	HIGHTSTOWN 1 N		40.17	74.31	19.9454
1796	28	LONG BRANCH 2 S		40.19	74.01	22.6468
1797	28	LAMBERTVILLE		40.22	74.57	19.6500
1798	28	NEW BRUNSWICK		40.29	74.26	20.7743
1799	28	FLEMINGTON 1 NE		40.31	74.51	22.6137
1800	28	PLAINFIELD		40.36	74.24	23.1843
1801	28	SOMERVILLE 3 NW		40.36	74.38	20.7771
1802	28	NEWARK WSO	R	40.42	74.10	18.7257
1803	28	JERSEY CITY		40.44	74.03	20.3230
1804	28	CANOE BROOK		40.45	74.21	24.3936
1805	28	LONG VALLEY		40.47	74.47	26.5163
1806	28	ESSEX FELLS SERV BLDG		40.50	74.17	24.1529
1807	28	MORRIS PLAINS 1 W		40.50	74.30	25.4324
1808	28	BELVIDERE		40.50	75.05	21.1412
1809	28	LITTLE FALLS		40.53	74.14	24.5383
1810	28	BOONTON 1 SE		40.54	74.24	24.0122
1811	28	CHARLOTTEBURG		41.02	74.26	27.3932
1812	28	NEWTON		41.03	74.45	20.6676
1813	28	SUSSEX 1 SE		41.12	74.36	21.7773
1814	29	COLUMBUS		31.50	107.39	0.2019
1815	29	JAL		32.07	103.12	0.0000

OBS	STATE	NAME		LATNUM	LONNUM	NETPREC
1871	29	LOS ALAMOS		35.52	106.19	3.4323
1872	29	AMISTAD 1 SSW		35.54	103.10	0.4029
1873	29	ROY		35.57	104.12	0.8208
1874	29	WOLF CANYON		35.58	106.46	7.9176
1875	29	CUBA		36.02	106.58	3.3220
1876	29	CHACO CANYON NAT MON		36.02	107.54	1.6283
1877	29	PASAMONTE		36.18	103.44	0.6540
1878	29	SPRINGER		36.23	104.36	0.9134
1879	29	CLAYTON WSO	R	36.27	103.09	0.4587
1880	29	CIMARRON		36.31	104.55	0.9582
1881	29	EAGLE NEST		36.33	105.16	3.4400
1882	29	GRENVILLE		36.36	103.37	0.7293
1883	29	EL VADO DAM		36.36	106.44	4.2724
1884	29	BLOOMFIELD 3 SE		36.40	107.58	1.6665
1885	29	RED RIVER		36.42	105.24	6.5349
1886	29	FRUITLAND 2 E		36.44	108.21	1.7307
1887	29	DES MOINES		36.45	103.50	1.4617
1888	29	CERRO 4 NE		36.49	105.35	2.5022
1889	29	AZTEC RUINS NAT MON		36.50	108.00	2.5060
1890	29	CHAMA		36.55	106.35	7.9954
1891	29	LAKE MALOYA		36.59	104.22	6.5991
1892	30	NY WESTERLEIGH STAT IS		40.36	74.10	21.6651
1893	30	NEW YORK JFK INTL AP		40.39	73.47	19.0931
1894	30	MINEOLA	R	40.44	73.38	21.4240
1895	30	NEW YORK LA GUARDIA WSO		40.46	73.54	19.3035
1896	30	NEW YORK CNTRL PK WSO		40.47	73.58	20.3698
1897	30	PATCHOGUE 2 N		40.48	73.01	23.7759
1898	30	BRIDGEHAMPTON		40.57	72.18	25.0065
1899	30	RIVERHEAD RESEARCH		40.58	72.43	23.0994
1900	30	SETAUKET		40.58	73.06	22.4342
1901	30	SCARSDALE		40.59	73.48	23.5676
1902	30	DOBBS FERRY		41.01	73.52	25.7776
1903	30	WEST POINT		41.23	73.58	25.3622
1904	30	PORT JERVIS		41.23	74.41	20.2989
1905	30	CARMEL 1 SW		41.25	73.42	23.9528
1906	30	GLENHAM		41.31	73.56	20.2757
1907	30	POUGHKEEPSIE FAA AP		41.38	73.53	18.7671
1908	30	MOHONK LAKE		41.46	74.09	24.9201
1909	30	LIBERTY		41.48	74.45	27.4126
1910	30	MILLBROOK		41.51	73.37	18.9681
1911	30	ELMIRA		42.06	76.49	13.5705
1912	30	ALLEGANY STATE PARK		42.06	78.45	22.0001
1913	30	SPENCER 3 W		42.12	76.34	17.6526
1914	30	BINGHAMTON WSO	R	42.13	75.59	16.8007
1915	30	ALFRED		42.15	77.48	16.5521
1916	30	LITTLE VALLEY		42.15	78.48	27.7659
1917	30	WESTFIELD 3 SW		42.17	79.37	20.7292
1918	30	BAINBRIDGE		42.18	75.29	19.2523
1919	30	ANGELICA		42.18	78.01	14.2349
1920	30	FRANKLINVILLE		42.21	78.27	19.6155
1921	30	FREDONIA		42.25	79.18	17.2706
1922	30	ITHACA CORNELL UNIV.	//	42.27	76.27	14.9113
1923	30	ALCOVE DAM		42.28	73.56	18.7429
1924	30	NORWICH 1 NE		42.32	75.30	20.0825
1925	30	DANSVILLE		42.34	77.42	11.5336

OBS	STATE	NAME		LATNUM	LONNUM	NETPREC
1926	30	CORTLAND		42.36	76.11	20.7838
1927	30	PENN YAN 2 SW		42.39	77.05	12.5077
1928	30	COOPERSTOWN		42.42	74.55	18.8574
1929	30	MOUNT MORRIS 2 W		42.44	77.54	10.4639
1930	30	ALBANY WSO	R	42.45	73.48	15.9544
1931	30	GRAFTON		42.47	73.28	22.0022
1932	30	HEMLOCK		42.47	77.37	11.9324
1933	30	CHERRY VALLEY 2 NNE		42.49	74.44	20.2273
1934	30	CANANDAIGUA 3 S		42.51	77.17	12.7669
1935	30	GENEVA RESEARCH FARM		42.53	77.02	13.9284
1936	30	BUFFALO WSO	//R	42.56	78.44	17.7174
1937	30	BATAVIA		43.00	78.11	13.6542
1938	30	GLOVERSVILLE		43.02	74.21	21.0367
1939	30	LITTLE FALLS CITY RES		43.04	74.52	20.7002
1940	30	SYRACUSE WSO	R	43.07	76.07	17.6763
1941	30	ROCHESTER WSO	//R	43.07	77.40	13.6956
1942	30	UTICA FAA AP		43.09	75.23	22.2934
1943	30	SALEM		43.10	73.19	18.9243
1944	30	LOCKPORT 2 NE		43.11	78.39	16.1722
1945	30	SODUS CENTER	//	43.12	77.01	16.8156
1946	30	BROCKPORT 2 NW		43.15	77.58	11.2999
1947	30	GLENS FALLS FAA AP		43.21	73.37	16.5423
1948	30	BOONVILLE 2 SSW		43.27	75.21	36.1207
1949	30	OSWEGO EAST	//	43.28	76.30	20.3430
1950	30	WHITEHALL		43.33	73.24	16.8594
1951	30	INDIAN LAKE 2 SW		43.45	74.17	21.2865
1952	30	LOWVILLE		43.48	75.30	20.7264
1953	30	STILLWATER RESERVOIR		43.53	75.02	25.4735
1954	30	WATERTOWN		43.58	75.52	20.9289
1955	30	WANAKENA RANGER SCHOOL	//	44.09	74.54	21.7079
1956	30	ELIZABETHTOWN		44.13	73.35	15.8559
1957	30	TUPPER LAKE SUNMOUNT		44.14	74.26	18.9485
1958	30	LAKE PLACID CLUB		44.17	73.59	19.0324
1959	30	GOUVERNEUR		44.20	75.29	18.7478
1960	30	PERU 2 WSW		44.34	73.34	11.4853
1961	30	CANTON 4 SE		44.34	75.07	16.1006
1962	30	DANNEMORA		44.43	73.43	13.9140
1963	30	OGDENSBURG 3 NE		44.44	75.27	14.0445
1964	30	CHASM FALLS		44.45	74.13	19.9423
1965	30	LAWRENCEVILLE		44.45	74.39	13.3298
1966	30	CHAZY		44.53	73.26	14.3031
1967	30	MASSENA FAA AP		44.56	74.51	15.1585
1968	31	SOUTHPORT 5 N		34.00	78.01	20.0467
1969	31	WILMINGTON WSO	R	34.16	77.54	17.0337
1970	31	WILLARD 4 SW		34.39	78.02	18.0505
1971	31	LUMBERTON 6 NW		34.42	79.04	14.5491
1972	31	MOREHEAD CITY 2 WNW		34.44	76.44	17.6482
1973	31	SLOAN 3 S		34.47	77.49	20.0112
1974	31	LAURINBURG		34.47	79.27	15.5062
1975	31	HAYSVILLE 6 SW		34.50	77.18	22.4726
1976	31	HAMLET		34.54	79.42	17.2670
1977	31	WADESBORO		34.57	80.04	16.8853
1978	31	MONROE 4 SE		34.58	80.30	17.2467
1979	31	HIGHLANDS 2 S		35.01	83.12	54.9816
1980	31	COWEETA EXP STATION		35.02	83.26	45.1349

REFERENCE NO. 19

0001C
02-9004-37

NUS CORPORATION AND SUBSIDIARIES **TELECON NOTE**

CONTROL NO.:	DATE:	TIME:
02-9004-37	5-10-90	1340

DISTRIBUTION:

ELIZABETH COAL GAS SITE #1

BETWEEN:	OF:	PHONE:
Arlene Potts	ELIZABETHTOWN WATER COMPANY	(201) 654-1234

AND: RICHARD SETTINO (NUS)

DISCUSSION:

I asked Ms. Potts where Elizabethtown Water Company gets its water. She told me that ~~all~~ they receive their water from the Raritan River. I also ~~also~~ asked where the intakes were located. She told me they are located in Bridgewater.

ACTION ITEMS:

NUS 067 REVISED 0685

REFERENCE NO. 20

NUS CORPORATION

02-8912-06

TELECON NOTE

CONTROL NO:	DATE:	TIME:
02-8912-06	2/14/90	1415

DISTRIBUTION:

REICHHOLD CHEMICAL INC.

BETWEEN:	OF:	PHONE:
RICHARD A. SADOWSKI	ELIZABETHTOWN WATER CO.	(201) 654-1254

AND:

W. J. FOSS

DISCUSSION: (NUS)

I asked Mr Sadowski if there any ~~potable w~~ groundwater wells in service within a 3-mile radius of Reichhold Chemical Inc. He informed that any wells located within 3 miles are out of service and are not being used. I inquired about the existence of any surface water intakes. He said there are none that exist.

ACTION ITEMS:

NUS 067 REVISED 0581

REFERENCE NO. 21

NUS CORPORATION

0013-C
02-8912

TELECON NO:

CONTROL NO:	DATE:	TIME:
02-8912-06	2/14/90	1430

DISTRIBUTION:

REICHHOLD CHEMICAL, INC.

BETWEEN:	OF:	PHONE:
JOHN MORAN	CITY OF ELIZABETH WATER UTILITY	(201) 820-4265

AND:

W.J. FOSS

DISCUSSION: (NUS)

I asked if there were any ground-water wells used as a potable water supply. Ms. Moran informed there are no wells used for a potable water supply. They buy water from Elizabethtown Water Co. and the City of Newark Water Department. I also asked about any surface water intakes under their ~~jurisdiction~~ management. She said there are no surface intakes under their management.

ACTION ITEMS:

NUS 087 REVISED 0391

REFERENCE NO. 22

0002C
02-9004-37

NUS CORPORATION AND SUBSIDIARIES — **TELECON NOTE**

CONTROL NO.:	DATE:	TIME:
02-9004-37	5/1/90	1510

DISTRIBUTION:

ELIZABETH COAL GAS SITE #1

BETWEEN:	OF:	PHONE:
LISA BALBOA	CITY OF ELIZABETH WATER DEPARTMENT	(201) 820-4120

AND: RICHARD SETTINO (NUS)

DISCUSSION:

I asked Ms. Balboa where Elizabeth gets its water for public supply. She told me that Elizabeth buys its water from the Elizabethtown Water Company and the Newark Water Company.

ACTION ITEMS:

NUS 067 REVISED 0685

REFERENCE NO. 23

NUS CORPORATION AND SUBSIDIARIES

TELECON NOTE

CONTROL NO.:	DATE:	TIME:
02-9004-37	5-22-90	0925

DISTRIBUTION:

Elizabeth Coal Gas Site #1

BETWEEN:	OF:	PHONE:
RAY ZWARYCZ	CITY OF ELIZABETH PUBLIC WORKS DEPT. ENGINEERING DEPT.	(201) 820-4270

AND:

RICHARD SETTINO

DISCUSSION: (NUS)

I asked Ms. Zwaryczy for Storm Drain information in Elizabeth. He told me that the storm drains in the area do not drain to surface water. Elizabeth has combined sanitary and storm sewers. He said storm water would run off to various catch basins which would send the water to the Pump Station which would then pump it to the Joint Meeting where it would be treated.

ACTION ITEMS:

NUS 087 REVISED 0685

REFERENCE NO. 24

NUS CORPORATION AND SUBSIDIARIES — TELECON NOTE

CONTROL NO.: 02-9003-12

DATE: 5-4-90

TIME: 0950

DISTRIBUTION: U.S. Gypsum Plant
561 Richmond Terrace
Staten Island

BETWEEN: Receptionist

OF: New York City Water Department

PHONE: (212) 566-5850

AND: Angie Perez (NUS)

DISCUSSION:

I called to confirm reference information about Staten Island being on municipal water coming from Upstate New York Reservoirs. The receptionist confirmed that fact. Then I asked if there are any wells drinking, industrial etc. She said I would have to speak to the director Mr. Doftman who wasn't there. When I asked her name she refused to give it to me

Ang Perez
5/4/90

ACTION ITEMS:

REFERENCE NO. 25

0008 C
02-9004-37

NUS CORPORATION AND SUBSIDIARIES — **TELECON NOTE**

CONTROL NO.:	DATE:	TIME:
02-9004-37	5-10-90	1410

DISTRIBUTION:

ELIZABETH COAL GAS SITE #1

BETWEEN:	OF:	PHONE:
JOHN TARASUK	CITY OF NEWARK WATER DEPARTMENT	(201) 256-4965

AND: RICHARD SETTINO (NUS)

DISCUSSION:

I asked ~~the~~ Mr. Tarasuk where the Water Dept. got its water from. He told me that the Dept. was in charge of the Pequanock Water Shed. They possessed 5 reservoirs which supply approximately 60 million gallons of water per day to Newark and surrounding communities.

ACTION ITEMS:

NUS 067 REVISED 0685

REFERENCE NO. 26

NUS CORPORATION AND SUBSIDIARIES — **TELECON NOTE**

CONTROL NO.:	DATE:	TIME:
02-9007-15	11/14/90	915

DISTRIBUTION:
Perk Chem Co Inc

BETWEEN:	OF:	PHONE:
Ed Tencza	Bayonne Water Dept	(201) 858-6172

AND:
J BROWN (NUS)

DISCUSSION:
I asked Mr. Tencza where the water dept. got its water supply from. He said all their water comes from Wanaque, NJ

J Brown

ACTION ITEMS:

NUS 067 REVISED 0685

REFERENCE NO. 27

NUS CORPORATION AND SUBSIDIARIES — **TELECON NOTE**

CONTROL NO.:	DATE:	TIME:
02-9007-15	11/19/90	930

DISTRIBUTION:
Perk Chem Co Inc

BETWEEN:	OF:	PHONE:
	SOUTH AMBOY WATER DEPT	(201) 727-1926

AND:
J BROWN (NUS)

DISCUSSION:
I asked about the water supply and was told they get their supply from Perth Amboy Water Dept

J Brown

ACTION ITEMS:

NUS 067 REVISED 0685

REFERENCE NO. 28

NUS CORPORATION AND SUBSIDIARIES — **TELECON NOTE**

CONTROL NO.:	DATE:	TIME:
02-9007-15	10/19/90	945

DISTRIBUTION:

Perk Chemlo Inc

BETWEEN:	OF:	PHONE:
Steven	Middlesex Water Co	201/634 1700

AND: J BROWN (NUS)

DISCUSSION:

I Asked where they get their water supply and if there are surface water intakes. Wells in Piscataway & Surface water intakes from Delaware Raritan Canal. He also said Raritan Canal was used for ~~swim~~ fishing.

ACTION ITEMS:

J Brown

NUS 067 REVISED 0685

REFERENCE NO. 29

NUS CORPORATION AND SUBSIDIARIES — **TELECON NOTE**

CONTROL NO..	DATE.	TIME:
02-9004-38	5-7-90	0948

DISTRIBUTION

Elizabeth Coal Gas Site #2

BETWEEN.	OF:	PHONE.
Pat Iacono	Certified Processing Corp.	(201) 923-5200

AND.

RICHARD SETTINO (NUS)

DISCUSSION:

I asked Mr. Iacono about the usage of the three wells located on the property. He told me that all three wells are used to supply cooling water only and are not used as a potable source.

ACTION ITEMS:

REFERENCE NO. 30

0014-C
02-8912-06

NUS CORPORATION

TELECON NOTE

CONTROL NO:	DATE:	TIME:
02-8912-06	3/9/90	0950

DISTRIBUTION:

REICHHOLD CHEMICAL INC.

BETWEEN:	OF:	PHONE:
~~S~~ JONHAILA	HAYWARD INDUSTRIES	( ) 351-5420

AND:

W.J. FUSS

DISCUSSION: (NUS)

Mr Haila informed me that there are two groundwater wells located on the property of Hayward Industries. Water is ~~pu~~ pumped from the ground and is used ~~to~~ for cooling purposes. The water is then pumped back into the ground in the vicinity of the wells to recharge the wells. This water is not used as a potable water supply.

ACTION ITEMS:

NUS 067 REVISED 0581

REFERENCE NO. 31

NUS CORPORATION AND SUBSIDIARIES

TELECON NOTE

CONTROL NO.: 02-9004-38

DATE: 5-7-90

TIME: 0945

DISTRIBUTION

Elizabeth Coal Gas Site #2

BETWEEN: Tony Martin

OF: Secur-Image Technologies, Inc.

PHONE: (201) 352-1944

AND: RICHARD SETTINO

DISCUSSION: (NUS)

I asked Mr. Martin about the well located on the property. He said the well was previously for industrial use but has since been capped.

ACTION ITEMS:

REFERENCE NO. 32

NUS CORPORATION AND SUBSIDIARIES — **TELECON NOTE**

CONTROL NO.:	DATE:	TIME:
02-9007-15	11-15-90	2:35

DISTRIBUTION:

Peck Chem Co Inc

BETWEEN:	OF:	PHONE:
Mrs McKenna	Engineering Dept City Hall of Edgewater	(201) 820-4270

AND: J Brown (NUS)

DISCUSSION:

Q question Mrs McKenna about the floodplain of the area - its in a 100 yr floodplain and zone A-4

ACTION ITEMS:

J Brown

NUS 067 REVISED 0685

REFERENCE NO. 33

NUS CORPORATION AND SUBSIDIARIES — **TELECON NOTE**

CONTROL NO.:	DATE:	TIME:
02900715	11/19/90	1125

DISTRIBUTION:

Perk Chem. Co Inc.

BETWEEN:	OF:	PHONE:
Bob Soldwedel	Division of Fish, Game & Wildlife	609 292 9642

AND: J BROWN (NUS)

DISCUSSION:

I asked Mr Soldwedel if the following areas were used as fisheries:
Elizabeth River - not used as a fishery
Arthur Kill - not used as a fishery
Raritan River } both have fisheries
Raritan Bay }

ACTION ITEMS:

J Brown

NUS 067 REVISED 0685

REFERENCE NO. 34

NUS CORPORATION — **TELECON NOTE**

CONTROL NO:	DATE:	TIME:
02-9101-09	2/5/91	1513

DISTRIBUTION:

Kearny Drum Dump #1

BETWEEN:	OF:	PHONE:
Joseph Pane Senior Supervisor	Fish+Wildlife Section Region 2 Dept of Env Conservation LIC, NY	(718) 482-4922

AND: John V Rickhoff (NUS)

DISCUSSION:

Mr Pane related to me that Pralls Island, Shooters Island, and Island of Meadows are classified by the state of New York as 'significant habitat' for nesting by colonial birds. These birds utilize the trees and shrubbery for their nests. He listed herons (great blue heron), egrets, cormorants, and gulls as typical inhabitants found on each islands.

ACTION ITEMS:

REFERENCE NO. 35

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Fish and Wildlife Enhancement
927 North Main Street (Bldg. D1)
Pleasantville, New Jersey 08232

Tel: 609-646-9310
FAX: 609-646-0352

IN REPLY REFER TO:

SP-91/525

February 1, 1991

Josephine Brown
NUS Corporation
1090 King Georges Post Road
Suite 1103
Edison, New Jersey 08837

Dear Ms. Brown:

This letter is in response to your January 4, 1991, request to the U.S. Fish and Wildlife Service (Service) for information on the presence of federally listed and proposed endangered and threatened species and wetlands within the study area of the proposed hazardous waste site in Elizabeth, Union County, New Jersey.

This response is provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) to ensure the protection of endangered and threatened species and is intended to assist your assessments, investigations and planning being conducted pursuant to Section 104(a) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (42 U.S.C. 9601 et seq.) (Superfund Amendments and Reauthorization Act). These comments do not represent any position the U.S. Department of the Interior may adopt concerning possible injury to natural resources under the Department's trusteeship.

Except for occasional transient species, no federally listed or proposed threatened or endangered flora or fauna are known to exist within the study area. Enclosed is a summary of federally listed and candidate species in New Jersey for your information (see enclosure 1). Candidate species are those species under consideration by the Service for possible inclusion on the List of Endangered and Threatened Wildlife and Plants. Although these species receive no substantive or procedural protection under the Endangered Species Act, the Service encourages federal agencies and other planners to consider candidate species in the project planning process. The New Jersey Natural Heritage Program provides the most up-to-date data source for candidate species in the State, as well as maintaining information on State listed species, and may be contacted at the following address:

Mr. Thomas Breden
Natural Heritage Program
Division of Parks and Forestry
CN 404
Trenton, New Jersey 08625
(609/984-0097)

Should the Natural Heritage Program data search reveal the presence of any candidate species on the site, the Service should be contacted to ensure that these species are not adversely affected by project activities.

Further information on State listed species may be obtained from the following office:

Ms. JoAnn Frier-Murza
Endangered and Nongame Species Program
Division of Fish, Game and Wildlife
CN 400
Trenton, New Jersey 08625
(609/292-9101)

In regard to potential wetland impacts, we have reviewed the Service's National Wetlands Inventory (NWI) map for the Elizabeth, New Jersey topographic quadrangle, which shows wetlands adjacent to the project area. The specific extent of these wetlands can only be determined by on-site inspection. Wetlands provide habitat for a variety of migratory and resident species of fish and wildlife. Thus, the Service discourages activities in and affecting the Nation's wetlands that would unnecessarily damage, degrade or destroy these habitat values. Without detailed project information, we are unable to provide a more extensive review of the project proposal at this time. Project activities in wetlands may require federal and State permits from the U.S. Army Corps of Engineers pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344 et seq.) and the New Jersey Department of Environmental Protection pursuant to the Freshwater Wetlands Protection Act (N.J.S.A. 13:9B-1 et seq.). The Department of Environmental Protection, through the Freshwater Wetlands Protection Act, can provide a letter of interpretation, which determines if wetlands are present on the site or verifies the delineation of a wetland boundary line. Thus, if work is proposed in wetlands, the following offices should be contacted to determine permit compliance:

Regulatory Branch
U.S. Army Corps of Engineers
26 Federal Plaza
New York, New York 10278-0090
(212/264-9053)

Division of Coastal Resources
Department of Environmental Protection
CN 401
Trenton, New Jersey 08625-0401
(609/984-0853)

The information you requested concerning the extent of tidal influence within the Elizabeth River can be acquired from the NWI map for the Elizabeth, New Jersey topographic quadrangle. Within the NWI classification system, the Elizabeth River is classified as a riverine system. The riverine system is

further broken down into subsystems, with a tidal subsystem depicted as R1OW on the NWI map. The point where a riverine system changes from a tidal to a lower perennial (R2OW) subsystem is marked by a line on the map perpendicular to the flow of the river (see enclosure 2). This point should be the limit of tidal influence.

Information contained in this letter and additional information obtained from the aforementioned sources represents the public interest for fish and wildlife resources and should warrant full consideration in the project planning process. The Service requests that no part of this letter be taken out of context and if reproduced, the letter should appear in its entirety.

Please contact Dana Peters of my staff should you have any questions or require further assistance.

Sincerely,

Clifford G. Day

Clifford G. Day
Supervisor

Enclosures

Enclosure #1

revised 5/90

FEDERALLY ENDANGERED AND THREATENED SPECIES IN NEW JERSEY

An **ENDANGERED SPECIES** is any species which is in danger of extinction throughout all or a significant portion of its range.

A **THREATENED SPECIES** is any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

FISHES

Sturgeon, shortnose*	Acipenser brevirostrum	E

REPTILES

Turtle, Atl. Ridley*	Lepidochelys kempii	E
Turtle, green*	Chelonia mydas	T
Turtle, hawksbill*	Eretmochelys imbricata	E
Turtle, leatherback*	Dermochelys coriacea	E
Turtle, loggerhead*	Caretta caretta	T

BIRDS

Eagle, bald	Haliaeetus leucocephalus	E
Falcon, Am. peregrine	Falco peregrinus anatum	E
Falcon, Artic peregrine	Falco peregrinus tundrius	T
Plover, piping	Charadrius melodus	T
Tern, roseate	Sterna dougallii dougallii	E

MAMMALS

Whale, blue*	Balaenoptera musculus	E
Whale, finback*	Balaenoptera physalus	E
Whale, humpback*	Megaptera novaeangliae	E
Whale, right*	Balaena glacialis	E
Whale, sei*	Balaenoptera borealis	E
Whale, sperm*	Physeter catodon	E

PLANTS

Pogonia, small whorled	Isotria medeoloides	E
Swamp pink	Helonias bullata	T
Orchid, eastern prairie fringed	Platanthera leucophaea	T+

MUSSELS

Dwarf wedge mussel	Alasmodonta heterodon	E+

E: endangered species
T: threatened species
+: presumed extirpated

* Except for sea turtle nesting habitat, principal responsibility for these species is vested with the National Marine Fisheries Service.

(note: for complete listing of Endangered and Threatened Wildlife and Plants refer to 50 CFR 17.11 and 17.12, January 1, 1989)

revised 9/90

CANDIDATE SPECIES IN NEW JERSEY

CANDIDATE SPECIES are species which appear to warrant consideration for addition to the List of Endangered and Threatened Wildlife. Although these species receive no substantive or procedural protection under the Endangered Species Act, the Service encourages federal agencies and other planners to give consideration to these species in the environmental planning process.

VERTEBRATES

Turtle, bog	Clemmys muhlenbergi	2
Terrapin, northern diamondback	Malaclemys terrapin terrapin	2
Snake, northern pine	Pituophis melanoleucas melanoleucas	2
Shrike, migrant loggerhead	Lanius ludovicianus migrans	2
Bat, eastern small-footed	Myotis subulatus leibii	2
Rabbit, New England cottontail	Sylvilagus transitionalis	2
Shrew, long-tailed	Sorex dispar	2
Shrew, Tuckahoe masked	Sorex cinereus nigriculus	2
Woodrat, eastern	Neotoma floridana magister	2

INVERTEBRATES

Beetle, northeastern beach tiger	Cicindela dorsalis dorsalis	PE
Beetle, cobblestone tiger	Cicindela marginipennis	2
Butterfly, Mitchell satyr	Neonympha mitchelli	2
Butterfly, regal fritillary	Speyeria idalia	2
Butterfly, tawny crescent	Phyciodes batesi	2
Dragonfly, banded bog skimmer	Williamsonia lintneri	2
Moth, Albarufan dagger	Acronicta albarufa	2
Moth, Bucholz' dart	Agrotis bucholzi	2
Moth, Daecke's pyralid	Crambus daeckeellus	2*
Moth, Hebard's noctuid	Erythroecia hebardi	2
Moth, Lemmer's noctuid	Lithophane lemmeri	2
Moth, precious underwing	Catocala pretiosa	2

PLANTS

Beaked-rush, Knieskern's	Rhynchospora knieskernii	PT
Blazingstar	Liatris borealis	2
Bog asphodel	Narthecium americanum	1
Boneset, Pine Barrens	Eupatorium resinosum	2
Bulrush, Long's	Scirpus longii	2
Butternut	Juglans cinerea	2

Chaffseed	Schwalbea americana	1
Foxglove, false	Agalinis auriculata	2
Joint-vetch, sensitive	Aeschynomene virginica	2
Lobelia, Boykin's	Lobelia boykinii	2
Meadowbeauty, awned	Rhexia aristosa	2
Micranthemum, Nuttall's	Micranthemum micranthemoides	1*
Morning-glory, Pickering's	Stylisma pickeringii var. pickeringii	2
Panic grass, Hirst's	Panicum hirstii	2
Pigweed, sea-beach	Amaranthus pumilus	2
Pondweed	Potamogeton confervoides	2
Rush, New Jersey	Juncus caesariensis	2
Sedge, variable	Carex polymorpha	2
Spring beauty	Claytonia sp.	2
Spurge, Darlington's	Euphorbia purpurea	2
Tick-trefoil, ground-spreading	Desmodium humifusum	2
Verbena	Verbena riparia	2?

STATUS

1: Taxa for which the Service currently has substantial information to support the appropriateness of proposing to list the species as threatened or endangered. Development and publication of proposed rules on these species is anticipated.

2: Taxa for which information now in possession of the Service indicates that proposing to list the species as threatened or endangered is possibly appropriate, but for which conclusive data are not available to support proposed rules at this time.

PE: proposed endangered species

PT: proposed threatened species

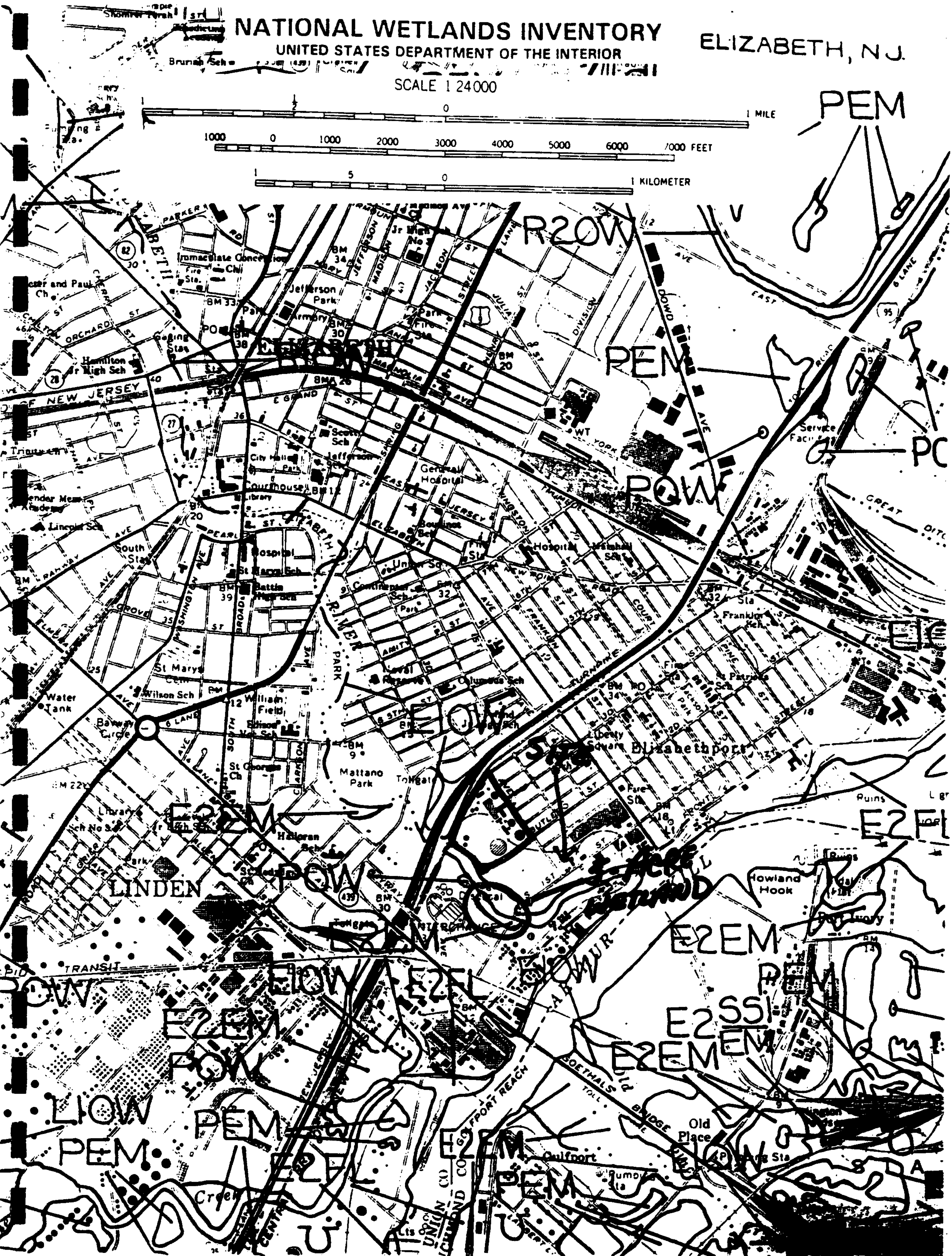
* indicates those species for which there have been no authenticated records in New Jersey since 1963; some of these are possibly extinct, but further research is needed to determine their status with any confidence.

? indicates those species for which occurrence in New Jersey is questionable.

(Note: for complete listing of taxa under review refer to Federal Register Vol. 54, No. 4, January 6, 1989 (Animal) and Vol. 55., No. 35, February 21, 1990 (Plants)).

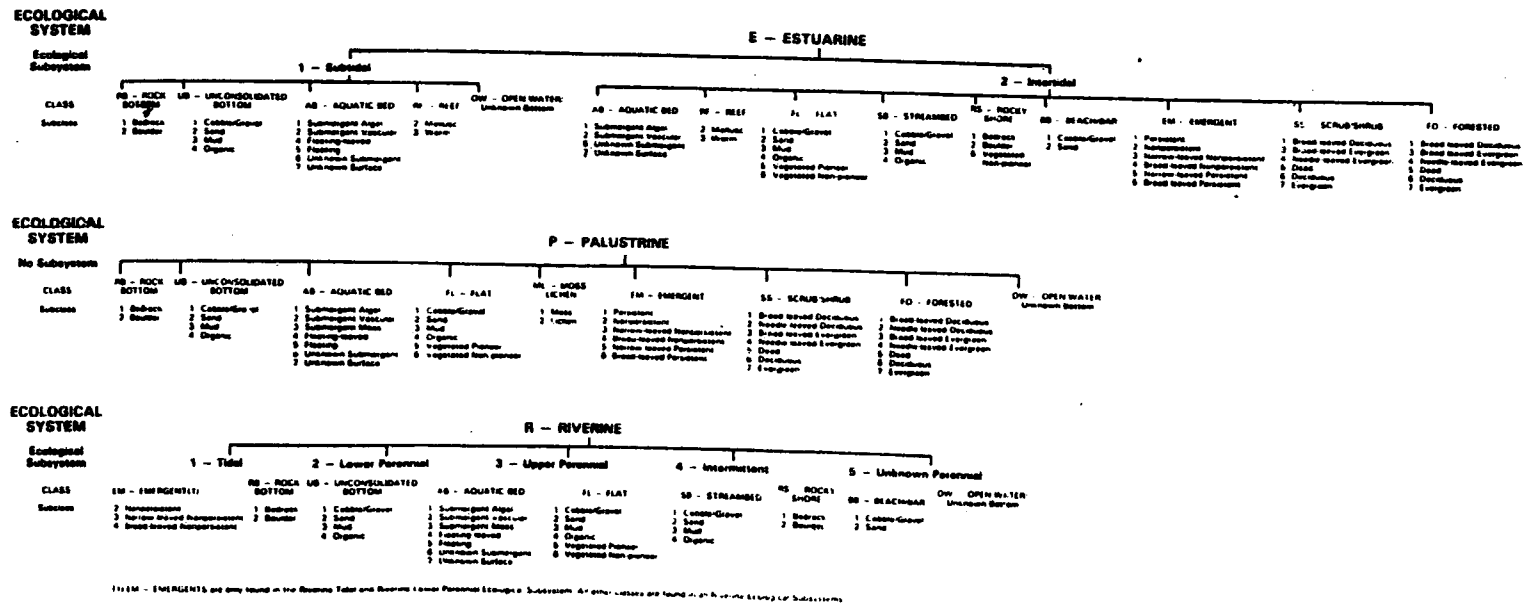
Enclosure #2
PEM
R2OW
PFOI
POW
L1OW
R1OW
E1OW
H I L L S I D E
U N I O N
Weequahic
Golf Course
Oheb Sholem Cem
Dayton St Sch
Evergreen Cemetery
Hillside High Sch
Hillside Ave Sch
Abram Morris Sch
Saybrook Sch
Playground
Christ Ch
Fire Sta
NEWARK STATE COLLEGE
St Catherines Sch
Wilson Park
Temple Shomrei Torah
Benedictine Academy
Robert Morris Sch
Brurian Sch
Crane Sq
Pingry Sch
Pumping Sta
Masonic Temple
Evangel Ch
Butler Sch
Madison Ave Ch
Jr High Sch No 3
Immaculate Conception Ch
SS Peter and Paul Ch
Jefferson Park
Armory
Blessed Sacrament Ch
Monroe-Madison Sch
Eaton Mem Home
Rosemont Mem Pk (Cem)
Bethel Mem Pk (Cem)
Mt Olivet Cem
Kellogg Park
Hamilton Jr High Sch
CENTRAL RAILROAD OF NEW JERSEY
Elmora
Trinity Ch
City Hall
Courthouse
Library
Scott Sch
Jefferson Sch
General Hospital
Boudinot Sch
Lincoln Sch
Carteret Park
South Sta
Hospital
St Marys Sch
Battin High Sch
Union Sq
Continental Sch
Naval Reserve
Columbus Sch
St Marys Cem
Wilson Sch
Water Tank
Bayway Circle
William Field
Edison Voc Sch
St Georges Ch
Mattano Park
Tollgate
Halloran Sch
WARINANCO PARK
St Marks Park
LINDEN
ELIZABETH
PENN CENTRAL
BROAD ST
NORTH AVE
MORRIS AVE
ELMORA AVE
WESTFIELD AVE
RAHWAY AVE
NEWARK AVE
ELIZABETH RIVER

REFERENCE NO. 36


NATIONAL WETLANDS INVENTORY
UNITED STATES DEPARTMENT OF THE INTERIOR
ELIZABETH, N.J.
SCALE 1 24000
1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 KILOMETER
PEM
R2OW
PEM
POW
E2FL
E2EM
PEM
E2SS1
E2EM
E2EM
L1OW
E2FL
POW
E2EM
POW
L1OW
PEM
PEM
E2EM
E2FL
PEM
L1OW
E1OW
E2EM
LINDEN
Elizabethport
Howland Hook
Old Place
Gulfport
Mattano Park
St Marys Cem
Bayway Circle
GOETHALS BRIDGE

WETLAND LEGEND

U – Primarily represents upland areas, but may include unclassified wetlands such as man-modified areas, non photo-identifiable areas and/or unintentional omissions.



NATIONAL WETLANDS INVENTORY

UNITED STATES DEPARTMENT OF THE INTERIOR

Other information concerning the wetland resources depicted on this document may be available. For information, contact:

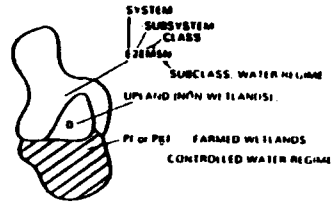
Regional Director (ARDE) Region V
U.S. Fish and Wildlife Service
1 Gateway Center, Suite 700
Newton Corner, Massachusetts 01258

SPECIAL NOTE

This document was prepared primarily by stereoscopic analysis of high altitude aerial photographs. Wetlands were identified on the photographs based on vegetation, visible hydrology, and geography in accordance with Classification of Wetlands and Deep Water Habitats of the United States (An Operational Draft). Cowardin, et al, 1977. The aerial photographs typically reflect conditions during the specific year and season when they were taken. In addition, there is a margin of error inherent in the use of the aerial photographs. Thus, a detailed on the ground and historical analysis of a single site may result in a revision of the wetland boundaries established through photographic interpretation. In addition, some small wetlands and those obscured by dense forest cover may not be included on the document.

Federal, State and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, State, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, State or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

SYMBOLOGY EXAMPLE



NOTES TO THE USER

- Wetlands which have been field examined are indicated on the map by an asterisk (*).
- Dominance type (either vegetative or substrate material) can be added to the map by the interpreted user.
- Additions or corrections to the wetlands information displayed on this map are solicited. Please forward such information to the address indicated.

AERIAL PHOTOGRAPHY

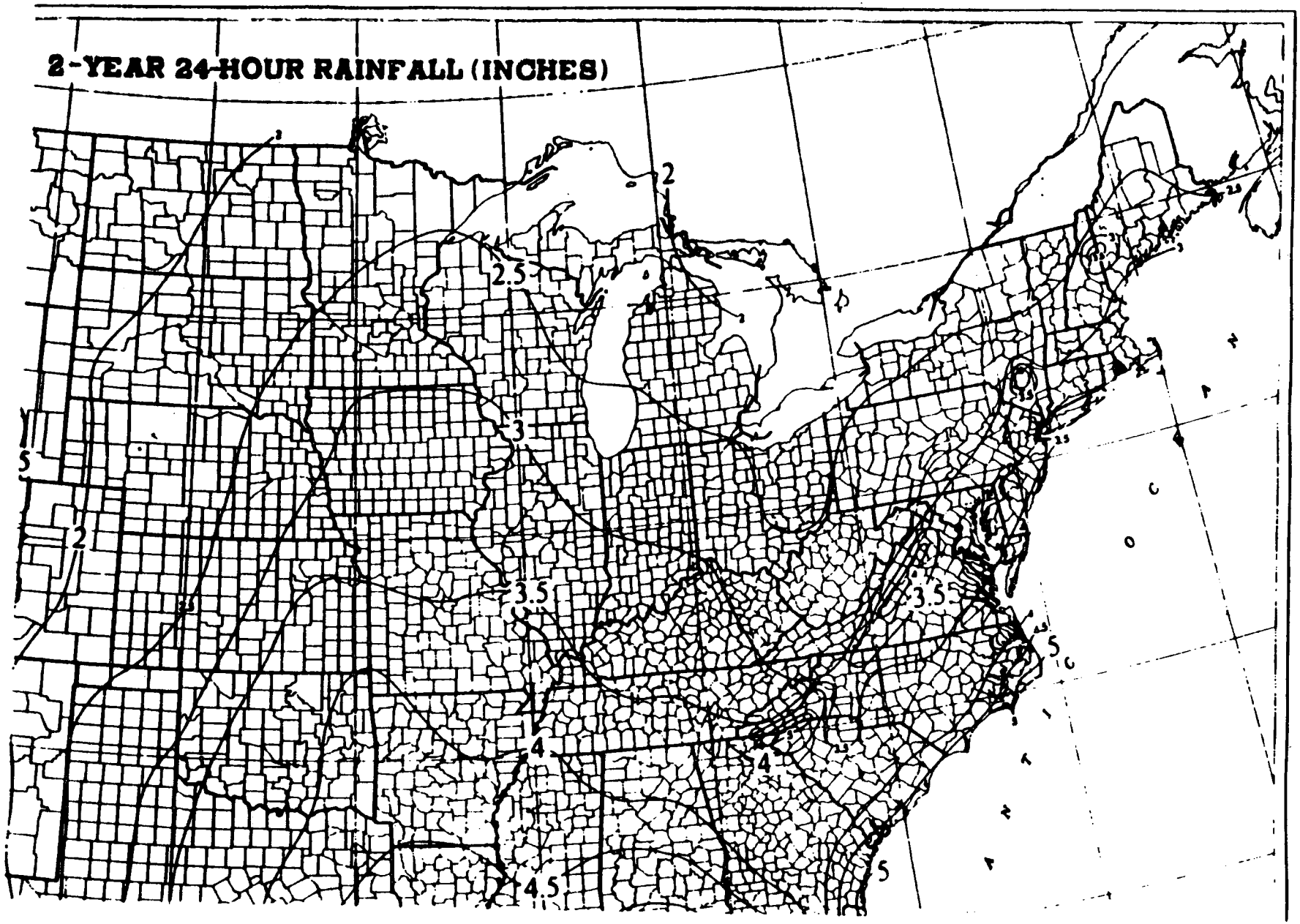
DATE	10 / 29 / 76
SCALE	1:80000
TYPE	B-W
DATE	/ /
SCALE	
TYPE	
DATE	/ /
SCALE	
TYPE	

U.S. DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE

Prepared by Office of Biological Services for the National Wetlands Inventory

REFERENCE NO. 37


2-YEAR 24-HOUR RAINFALL (INCHES)
2
2.5
3
3.5
4
4.5
5

REFERENCE NO. 38

REGION: 02

EPA ID	SITE/ALIAS NAME STREET CITY COUNTY NAME	STATE COUNTY	ZIP CODE	ALIAS SEQ. #	NAME SOURCE	FED FAC
NJD002200046	PERK CHEM CO INC				EPA	N
	217 SOUTH FIRST ST					
	ELIZABETH	NJ	07206			
	UNION	039				
	PERK CHEM CO INC			01		
	UNION	NJ				
NJD004088381	PERMACEL					D
	US ROUTE NO. 1					
	NORTH BRUNSWICK	NJ	08903			
	MIDDLESEX	023				
	PERMACEL			01		
	MIDDLESEX	NJ				
NJD000818765	PERMACEL					D
	FORD AVENUE					
	MILLTOWN	NJ	08850			
	MIDDLESEX	023				
	PERMACEL			01		
	MIDDLESEX	NJ				
NJD097408678	PERMUTIT R & D CENTER					D
	567 RIDGE ROAD					
	MONMOUTH JUNCTION	NJ	08852			
	MIDDLESEX	023				
	PERMUTIT R & D CENTER			01		
	MIDDLESEX	NJ				
NJD071456107	PERONA BROS. TIRE FIRE				EPA	N
	ROUTE 30 (WHITE HORSE PIKE)					
	ELWOOD	NJ	08217			
	ATLANTIC	001				

REFERENCE NO. 39

CONGRESSIONAL DISTRICTS

DISTRICT ONE: **Part of Burlington County** (Maple Shade Twp., Palmyra Borough, Riverton Borough) **Part of Camden County** (Audubon Park Borough, Barrington Borough, Belleair Borough, Berlin Borough, Berlin Twp., Brooklawn Borough, Camden City, Chesilhurst Borough, Clementon Borough, Collingswood Borough, Gibbsboro Borough, Gloucester City, Gloucester Twp., Haddon Twp., Haddonfield Borough, Laurel Springs Borough, Lawnside Borough, Lindenwold Borough, Magnolia Borough, Mount Ephraim Borough, Oaklyn Borough, Pennsauken Twp., Pine Hill Borough, Pine Valley Borough, Runnemede Borough, Somerdale Borough, Stratford Borough, Tavistock Borough, Winslow Twp. and Woodlynne Borough) and **Part of Gloucester County** (Clayton Borough, Deptford Twp., East Greenwich Twp., Greenwich Twp., Harrison Twp., Logan Twp., Monroe Twp., National Park Borough, Paulsboro Borough, Swedesboro Borough, Washington Twp., Wenonah Borough, West Deptford Twp., Westville Borough, Woodbury City, Woodbury Hts. Borough and Woolwich Twp.).

DISTRICT TWO: **Atlantic County, Cape May County, Cumberland County, Salem County** and **Part of Gloucester County** (Elk Twp., Franklin Twp., Glassboro Borough, Mantua Twp., Newfield Borough, Pitman Borough and South Harrison Twp.).

DISTRICT THREE: **Part Of Monmouth County** (Allenhurst Borough, Asbury Park City, Atlantic Highlands, Borough, Avon-by-the-Sea Borough, Belmar Borough, Bradley Beach Borough, Deal Borough, Eatontown Borough, Fair Haven Borough, Harlet Twp., Highlands Borough, Interlaken Borough, Keansburg Borough, Keyport Borough, Little Silver Borough, Loch Arbour Village, Long Branch City, Manasquan Borough, Middletown Twp., Monmouth Beach Boro, Neptune City Borough, Neptune Twp., Oceanport Borough, Ocean Twp., Red Bank Borough, Rumson Borough, Sea Bright Borough, Sea Girt Borough, Shrewsbury Borough, Shrewsbury Twp., Spring Lake Borough, Spring Lake Heights Borough, South Belmar Borough, Tinton Falls Borough, Union Beach Borough and West Long Branch Borough. and **Part of Ocean County** (Bay Head Borough, Brick Twp., Dover Twp., Island Heights Borough, Lakewood Twp., Lavallette Borough, Mantoloking Borough, Point Pleasant Beach Borough, Point Pleasant Borough, Seaside Heights Borough and South Toms River Borough).

DISTRICT FOUR: **Part of Burlington County** (Bordentown City, Bordentown Twp., Burlington City, Burlington Twp., Chesterfield Twp., Eastampton Twp., Fieldsboro Borough, Florence Twp., Mansfield Twp., Springfield Twp. and Westampton Twp.) **Part of Mercer County** (East Windsor Twp., Ewing Twp., Hamilton Twp., Hightstown Borough, Hopewell Borough, Hopewell Twp., Lawrence Twp., Pennington Borough, Trenton City and Washington Twp.) **Part of Middlesex County** (Jamesburg Borough, Monroe Twp. and Plainsboro Twp.) **Part of Monmouth County** (Allentown Borough, Brielle Borough, Colts Neck Twp., Englishtown Borough, Farmingdale Borough, Freehold Borough, Freehold Twp., Holmdel Twp., Howell Twp., Manalapan Twp., Marlboro Twp., Millstone Twp., Roosevelt Borough, Upper Freehold Twp. and Wall Twp.) and **Part of Ocean County** (Jackson Twp.).

DISTRICT FIVE: **Part of Bergen County** (Allendale Borough, Alpine Borough, Bergenfield Borough, Closter Borough, Cresskill Borough, Demarest Borough, Dumont Borough, Emerson Borough, Glen Rock Borough, Harrington Park Borough, Haworth Borough, Hillsdale Borough, Ho-Ho-Kus Borough, Honway Twp., Midland Park Borough, Montvale Borough, Northvale Borough, Norwood Borough, Oakland Borough, Old Tappan Borough, Oradell Borough, Paramus Borough, Park Ridge Borough, Ramsey Borough, Ridgewood Village, River Vale Twp., Rochelle Park Twp., Rockleigh Borough, Saddle River Borough, Tenafly Borough, Upper Saddle River Borough, Waldwick Borough, Washington Twp., Westwood Borough, Woodcliff Lake Borough and Wyckoff Twp.) **Part of Passaic County** (Bloomingdale Borough, Haledon Borough, Hawthorne Borough, North Haledon Borough, Ringwood Borough, Wanaque Borough and West Milford Twp.) and **Part of Sussex County** (Andover Borough, Andover Twp., Branchville Borough, Frankford Twp., Franklin Borough, Fredon Twp., Hamburg Borough, Hardyston Twp., Hopatcong Borough, Lafayette Twp., Montague Twp., Newton Town, Ogdensburg Borough, Sandyston Twp., Sparta Twp., Stanhope Borough, Sussex Borough, Vernon Twp., Walpack Twp. and Wantage Twp.).

DISTRICT SIX: **Part of Middlesex County** (Carteret Borough, Edison Twp., Highland Park Borough, Metuchen Borough, New Brunswick City, North Brunswick Twp., Old Bridge Twp., Perth Amboy City, Sayreville Borough, South Amboy City, South River Borough and Woodbridge Twp.) **Part of Monmouth County** (Aberdeen Twp. and Matawan Borough), and **Part of Union County** (Linden City, Rahway City and Roselle Borough).

DISTRICT SEVEN: **Part of Essex County** (Millburn Twp.) **Part of Middlesex County** (Dunellen Borough and Middlesex Borough), **Part of Somerset County** (Bound Brook Borough, Bridgewater Twp., Green Brook Twp., Manville Borough, North Plainfield Borough, Warren Twp. and Watchung Borough, and **Part of Union County** (Berkeley Heights Twp., Clark Twp., Cranford Twp., Elizabeth City, Fanwood Borough, Garwood Borough, Kenilworth Borough, Mountainside Borough, New Providence Borough, Plainfield City, Roselle Park Borough, Scotch Plains Twp., Springfield Twp., Summit City, Union Twp., Westfield Town and Winfield Twp.).

DISTRICT EIGHT: **Part of Bergen County** (Franklin Lakes Borough), **Part of Essex County** (Part of Belleville Town, Bloomfield Town, Glen Ridge Borough, Montclair Town and Nutley Town), **Part of Hudson County** (Riverdale Borough) and **Part of Passaic County** (Clifton City, Little Falls Twp., Passaic City, Paterson City, Pompton Lakes Borough, Prospect Park Borough, Totowa Borough, Wayne Twp. and West Paterson Borough).

DISTRICT NINE: **Part of Bergen County** (Bogota Borough, Carlstadt Borough, Cliffside Park Borough, East Rutherford Borough, Edgewater Borough, Elmwood Park Borough, Englewood City, Englewood Cliffs Borough, Fair Lawn Borough, Fairview Borough, Fort Lee Borough, Garfield City, Hackensack City, Hasbrouck Heights Borough, Leonia Borough, Little Ferry Borough, Lodi Borough, Lyndhurst Twp., Maywood Borough, Moonachie Borough, New Milford Borough, North Arlington Borough, Palisades Park Borough, Ridgefield Borough, Ridgefield Park Village, River Edge Borough, Rutherford Borough, Saddle Brook Twp., South Hackensack Twp., Teaneck Twp., Tenafly Borough, Wallington Borough and Wood-Ridge Borough) and **Part of Hudson County** (East Newark Borough, Part of Kearny Town, and Secaucus Town).

DISTRICT TEN: **Part of Essex County** (Part of Belleville Town, East Orange City, Irvington Town, Newark City and Orange City) and **Part of Union County** (Millside Township).

DISTRICT ELEVEN: **Part of Essex County** (Caldwell Borough, Cedar Grove Twp., Essex Fells Borough, Fairfield Borough, Livingston Twp., Maplewood Twp., North Caldwell Borough, Roseland Borough, South Orange Village, Verona Borough, West Caldwell Borough and West Orange Town), **Part of Morris County** (Boonton Town, Boonton Twp., Butler Borough, Chatham Borough, Chester Borough, Chester Twp., Denville Twp., Dover Town, East Hanover Twp., Florham Park Borough, Hanover Twp., Jefferson Twp., Kinnelon Borough, Lincoln Park Borough, Madison Borough, Mendham Borough, Mendham Twp., Mine Hill Twp., Montville Twp., Mountain Lakes Borough, Mount Arlington Borough, Mount Olive Twp., Netcong Borough, Parsippany-Troy Hills Twp., Pequannock Twp., Randolph Twp., Rockaway Borough, Rockaway Twp., Roxbury Twp., Victory Gardens Borough and Wharton Borough), **Part of Sussex County** (Byram Twp. and Green Twp.) and **Part of Warren County** (Allamuchy Twp., Freelinghysen Twp., Independence Twp. and Liberty Twp.).

DISTRICT TWELVE: **Hunterdon County, Part of Mercer County** (Princeton Borough, Princeton Twp. and West Windsor Twp.) **Part of Middlesex County** (Cranbury Twp., East Brunswick Twp., Helmetta Borough, Milltown Borough, Piscataway Twp., South Brunswick Twp., South Plainfield Borough and Spotswood Borough), **Part of Morris County** (Chatham Twp., Harding Twp., Morris Plains Borough, Morristown Town, Morris Twp., Passaic Twp. and Washington Twp.) **Part of Somerset County** (Bedminster Twp., Bernards Twp., Bernardsville Borough, Branchburg Twp., Far Hills Borough, Franklin Twp., Hillsborough Twp., Millstone Borough, Montgomery Twp., Peapack-Gladstone Borough, Raritan Borough, Rocky Hill Borough, Somerville Borough and South Bound Brook Borough), **Part of Sussex County** (Hampton Twp. and Stillwater Twp.) and **Part of Warren County** (Alpha Borough, Belvidere Town, Blairstown Twp., Franklin Twp., Greenwich Twp., Hackettstown Town, Hardwick Twp., Harmony Twp., Hope Twp., Knowlton Twp., Lopatcong Twp., Mansfield Twp., Oxford Twp., Pahaquarry Twp., Phillipsburg Town, Pohatcong Twp., Washington Borough, Washington Twp. and White Twp.).

DISTRICT THIRTEEN: **Part of Burlington County** (Bass River Twp., Beverly City, Cinnaminson Twp., Delanco Twp., Delran Twp., Edgewater Park Twp., Evesham Twp., Hainesport Twp., Lumberton Twp., Medford Lakes Borough, Medford Twp., Moorestown Twp., Mount Holly Twp., Mount Laurel Twp., New Hanover Twp., North Hanover Twp., Pemberton Borough, Pemberton Twp., Riverside Twp., Shamong Twp., Southampton Twp., Tabernacle Twp., Washington Twp., Willingboro Twp., Woodland Twp. and Wrightstown Borough), **Part of Camden County** (Audubon Borough, Cherry Hill Twp., Haddonfield Borough, Haddon Heights Borough, Merchantville Borough, Voorhees Twp. and Waterford Twp.) and **Part of Ocean County** (Barnegat Light Borough, Barnegat Twp., Beach Haven Borough, Beachwood Borough, Berkeley Twp., Eagleswood Twp., Harvey Cedars Borough, Lacey Twp., Lakehurst Borough, Little Egg Harbor Twp., Long Beach Twp., Manchester Twp., Ocean Gate Borough, Ocean Township, Pine Beach Borough, Plumsteed Twp., Seaside Park Borough, Ship Bottom Borough, Stafford Twp., Surf City Borough and Tuckerton Borough).

DISTRICT FOURTEEN: **Part of Hudson County** (Bayonne City, Guttenberg Town, Harrison Town, Hoboken City, Jersey City, Part of Kearny Town, North Bergen Twp., Union City, Weehawken Twp. and West New York Town).

Published by: **ELECTION DIVISION, NEW JERSEY DEPARTMENT OF STATE**
CN 304 Trenton, New Jersey 08625

January 1987

EPA

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

I. IDENTIFICATION
01 STATE: NJ
02 SITE NUMBER: D002200046

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	Perk Chemical Co., Inc, Aka Cycle Chem.
02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER	217 South First Street
03 CITY	Elizabeth
04 STATE	NJ
05 ZIP CODE	07206
06 COUNTY	Union
07 COUNTY CODE	20
08 CONG DIST	
09 COORDINATES LATITUDE	40° 38' 41'
LONGITUDE	74° 11' 46"
	Block 2 Lot 84 Acreage 2.032

10 DIRECTIONS TO SITE (Starting from nearest public road)

NJ Turnpike north to exit 13 follow signs for foute 1 & 9 north. At the traffic light make a sharp right. Follow sign for Elizabeth port, turn right onto 3rd Ave., continue to first Street, facility is on left corner of 3rd Ave. & 1st Street.

III. RESPONSIBLE PARTIES

01 OWNER (If known)	Vernal Corporation, Feldmand P & Sons
02 STREET (Business, mailing, residential)	201-207 South First Street, P.O. Box 122
03 CITY	Elizabeth
04 STATE	NJ
05 ZIP CODE	07206
06 TELEPHONE NUMBER	(201) 352-0042
07 OPERATOR (If known and different from owner)	Cycle Chem. Inc.(w/Perk Chemical Co.,Inc.)
08 STREET (Business, mailing, residential)	217 South First Street
09 CITY	Elizabeth
10 STATE	NJ
11 ZIP CODE	07206
12 TELEPHONE NUMBER	(201) 355-5800

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

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)
☒ A. RCRA 3001 DATE RECEIVED: 6 / 17 / 82 (Month Day Year) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: / / (Month Day Year) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
☒ YES DATE 5 / 6 / 86 (Month Day Year)
☐ NO

BY (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR ☐ C. STATE ☐ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: Bi-weekly inspections (Specify)

CONTRACTOR NAME(S): _____

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

03 YEARS OF OPERATION
1962 (Beginning year) to present (Ending year) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Virgin and spent hydrocarbons (no PCB's) chlorinated solvents, paint waste and solvents, halogenated still bottoms, non flammable organic liquids, waste oil , acids and alkaline solutions, and other flammable liquids, (RCRA Part B, pg 2).

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

The facility stored hazardous wastes and substances in drums and tanks since 1962. The storage area was unpaved until 1982. Environmental hazards include; potential soil and groundwater contamination from waste infiltrating soil and deteriorated pavement.

V. PRIORITY ASSESSMENT

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

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NUMBER
Boleslaw Czakor	Metro Enforcement	(201) 669-3960

04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Josheph A. DeSantis	NJDEP	DHWM/BPA	(609) 984-3018	12 / 28 / 88 (Month Day Year)

EPA FORM 2070-12 (7-81)

609-584-4280