## FIRE AND EXPLOSION WORK SHEET

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

## DIRECT CONTACT WORK SHEET

| | Rating Factor | Assigned Value (Circle One) | Multi-plier | Score | Max. Score | Ref. (Section) |
|---|---|---|---|---|---|---|
| 1 | Observed Incident | 0 45 | 1 | | 45 | 8.1 |
| | If line 1 is 45, proceed to line 4<br>If line 1 is 0, proceed to line 2 | | | | | |
| 2 | Accessibility | 0 1 2 3 | 1 | | 3 | 8.2 |
| 3 | Containment | 0 15 | 1 | | 15 | 8.3 |
| 4 | Waste Characteristics Toxicity | 0 1 2 3 | 5 | | 15 | 8.4 |
| 5 | Targets | | | | | 8.5 |
| | Population Within a 1-Mile Radius | 0 1 2 3 4 5 | 4 | | 20 | |
| | Distance to a Critical Habitat | 0 1 2 3 | 4 | | 12 | |
| | Total Targets Score | | | | 32 | |
| 6 | If line 1 is 45, multiply 1 x 4 x 5<br>If line 1 is 0, multiply 2 x 3 x 4 x 5 | | | | 21,600 | |
| 7 | Divide line 6 by 21,600 and multiply by 100 $S_{DC}$ = | | | | | |

June 28, 1982

DOCUMENTATION RECORDS
FOR
HAZARD RANKING SYSTEM

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

FACILITY NAME: E. I. DU PONT DE NEMOURS & Company
POMPTON LAKES WORKS

LOCATION: CANNONBALL ROAD, POMPTON LAKES, N.J.

The E.I. du Pont de Nemours plant at Pompton Lakes, N.J. manufactures lead azide an explosive contained in detonators and blasting caps which are used primarily in the mining industry. It also produces, fills and assembles cartridges, shells and wire for blasting caps. A stream (Acid Brook) runs the length of the property, receiving various discharges from the plant. Waste discharges are as follows: (1) Waste cap shooting pond - waste caps are detonated under water in an unlined pond about 30 feet in diameter and 10 feet deep. Discharge onto the ground is approximately 700 gpd. (2) Air scrubbers - powder scrubbed from the powder drying operation drops at the bottom of the scrubber with settling compartments. Water continuously wets the bottom and absorbs the powders. Discharge onto the ground from these units is approximately 700 gpd. (3) Washings from aluminum pans used in drying (explosive) powders are filtered and the filtrate are being discharge onto the ground at a rate of 800 gpd. (4) Process wastes from shell & wire manufacturing areas are being discharged in 4 unlined lagoons which are connected in series. Wastewaters contain borax soap, animal derived lubricants, copper, aluminum, grease & oil and chemical solvents.

In addition, 8 disposal sites around the plant were used to bury wastes. Du Pont stopped using these landfills by 1963. Its disposal sites has an average dimensions of 100' x 100'. DuPont representative is not sure what type of waste was disposed in these landfills.

## GROUND WATER ROUTE

### 1 OBSERVED RELEASE

Contaminants detected (5 maximum):

- W Chloroform
- W Benzene
- ? Tetrachloroethylene
- - Trichloroethylene
- - Trichlorobenzene

From : NJDEP Well Sampling of Feb & Mar 1982

DuPont Well Sampling Results of March 1982.

Rationale for attributing the contaminants to the facility:

Results of Monitoring Well Sampling analysis. (copies attached.) From DWR, Region I Files.

* * *

### 2 ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifers(s) of concern:

N/A

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

N/A

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

N/A

## Net Precipitation

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

NA

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

NA

Net precipitation (subtract the above figures):

NA

## Permeability of Unsaturated Zone

Soil type in unsaturated zone:

NA

Permeability associated with soil type:

NA

## Physical State

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

Liquid and solids. (As per letter dated 4/16/80 from Mr. Cuthbert, Sr. Engr. of DuPont Pompton Lakes Works).

* * *

3 · CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

N/A

Method with highest score:

N/A

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

- Chloroform
- Benzene
- Trichlorobenzene

} From well sampling results. Copies attached.

Compound with highest score:

Chloroform & Trichlorobenzene (3 x 3) = 18

Hazardous Waste Quantity

Source: RCRA TSD Facility Inspection Checklist 4-3-81 by Al Farmer NJDEP

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

Tin Electroplating waste 20 drums/yr x 3 yrs accumulation on site = 60 drums.

Explosive waste : 15 lbs/day x 5 days/wk x 25 wks/yr = 1875 lbs.

Power house waste oil (possibly PCB) . . . . . = 30 drums

Iron drawing waste (labeled recovery) . . . . . = 53 " /

Hazardous Waste Solid (dated 11/80) . . . . . = 70 " /

Basis of estimating and/or computing waste quantity:

Kerosene & 1,1,1 - Trichloroethane . . . . . = 11 " /

Fiber drums of Waste asbestos . . . . . = 52 " /

Total Waste = 276 drums + 1875 lbs.

RCRA inspection report. Files available at the Bu. of Hazardous Waste, 32 East Hanover, N.J. (609) 984-7874.

* * *

5 TARGETS

Ground Water Use

Use(s) of aquifer(s) of concern within a 3-mile radius of the facility:
Drinking water, from stratified drift (aquifer).

Distance to Nearest Well

Location of nearest well drawing from aquifer of concern or occupied building not served by a public water supply: MUNICIPAL WELLS
* POMPTON LAKES WELL NO. 3 - approximately 1 mile & 1900 ft. away from the site. Located at Willard St., Pompton Lakes.
POMPTON LAKES WELL NO.'s 2 & 1 - approximately 2 3/4 mi from the site, located at Lincoln Ave. & Riverdale Blvd.

Distance to above well or building:
As above. (Information derived from "Location Plan", Pompton Lakes Water Supply Lines, Pompton Lakes Borough of Municipal Utilities Authority.)
Available at DWR Reg. I - Enforcement Element office.

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

Identified water-supply well(s) drawing from aquifer(s) of concern within a 3-mile radius and populations served by each:
POMPTON LAKES WATER-SUPPLY WELLS (3) SERVING 11,640 population. (As per Alfred Lockwood, Chairman Pompton Lakes MUA report of DEC. 31, 1980, herein attached.)

Computation of land area irrigated by supply well(s) drawing from aquifer(s) of concern within a 3-mile radius, and conversion to population (1.5 people per acre):
NONE.

Total population served by ground water within a 3-mile radius:
POMPTON LAKES Population of 11,640. (See above.)

*Well #3 may be cut off from direct groundwater flow by Lake Inez; however, all wells are interconnected and full population figures were used in scoring.

## SURFACE WATER ROUTE

### 1 OBSERVED RELEASE

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

Copper

Rationale for attributing the contaminants to the facility:

Bioassay test results of January 23, 1979 & May 21, 1981 conducted by the Biological /Technical Support Unit, Bureau of Water Quality Planning and Management, NJDEP. (Results attached.)

* * *

### 2 ROUTE CHARACTERISTICS

Facility Slope and Intervening Terrain

Average slope of facility in percent:

15 to 35 % Rock Outcrop - Rockaway complex

Source: Soil Survey of Passaic County, New Jersey, U.S. Departments of Agriculture Soil Conservation Service, N.J. Agricultural Expt. Sta. & Cook College Rutgers University, 1975.

Name/description of nearest downslope surface water:

Acid Brook - Tributary to Pompton Lakes. Topographical Map : Wanaque & Pompton Plains Quads

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

15 % - Site inspection conducted by DWR. 7/2/80.
- "Soil Survey of Passaic County....."

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

NO.

Is the facility completely surrounded by areas of higher elevation?
Yes. Some buildings are in higher elevation.

1-Year 24-Hour Rainfall in Inches

2.5 inches Figure 8 From Draft of "Uncontrolled Hazardous Waste Site Ranking System" June 10, 1982

Distance to Nearest Downslope Surface Water

Acid Brook runs within the plant's ground. Du Pont discharges its process waste water from lead-azide treatment system into this brook.

Physical State of Waste

Liquid & Solid wastes.

* * *

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:
Unlined lagoons.

Method with highest score:
Unlined blasting pond. ~~Contents~~ High in lead.

[Dec. 12, 1979 sampling by Du Pont submitted to NJDEP on Feb. 22, 1982]. File at Newark Office. Region I, Enforcement, DWR, NJDEP.

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated
Chloroform
Trichlorobenzene
Benzene
Lead
Copper
Compound with highest score:
Chloroform
Trichlorobenzene

Hazardous Waste Quantity

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

Liquid Hazardous Waste = 153,300 gals. (discharge to: to surface water)
" " (precipitates) 3,500 "
Liquid Chemical Waste = 75,000 gals. (on-site lagoon)

Plus several waste drums in on-site landfill.

Basis of estimating and/or computing waste quantity:

Report from DuPont Pompton Lakes to SWA of NJDEP dated April 16, 1980, for the period from January 1 - March 31, 1980.

* * *

5 TARGETS

Surface Water Use

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

Recreation - fishing.

As per Mrs. Henderson of Pompton Lakes. Municipal Clerk office : (201) 835-0143.