4.3.10 F 6/86

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AIR PRODUCTS

12 June 1986

TO: P. L. T. Brian
J. M. Norwood

Please find attached reduced copies of the SAFER SYSTEM dispersion analysis on an illustration of an Escambia 34,000 lbs. of VCM released over 4 minutes. I gave the original computer printout, when I received it, to Gene Lee for comparison to his more rigorous dispersion analysis.

Two cases with conservative wind speed conditions of 1 and 3 mph were illustrated. Both show concentrations of VCM greater than 100 ppm at the plant's fenceline which exceeds the TLV (TWA-8 hrs.) of 1 ppm and the TLV (STEL-15 minutes) of 5 ppm.

Gene plans to review his calculations compared to the SAFER illustrations.

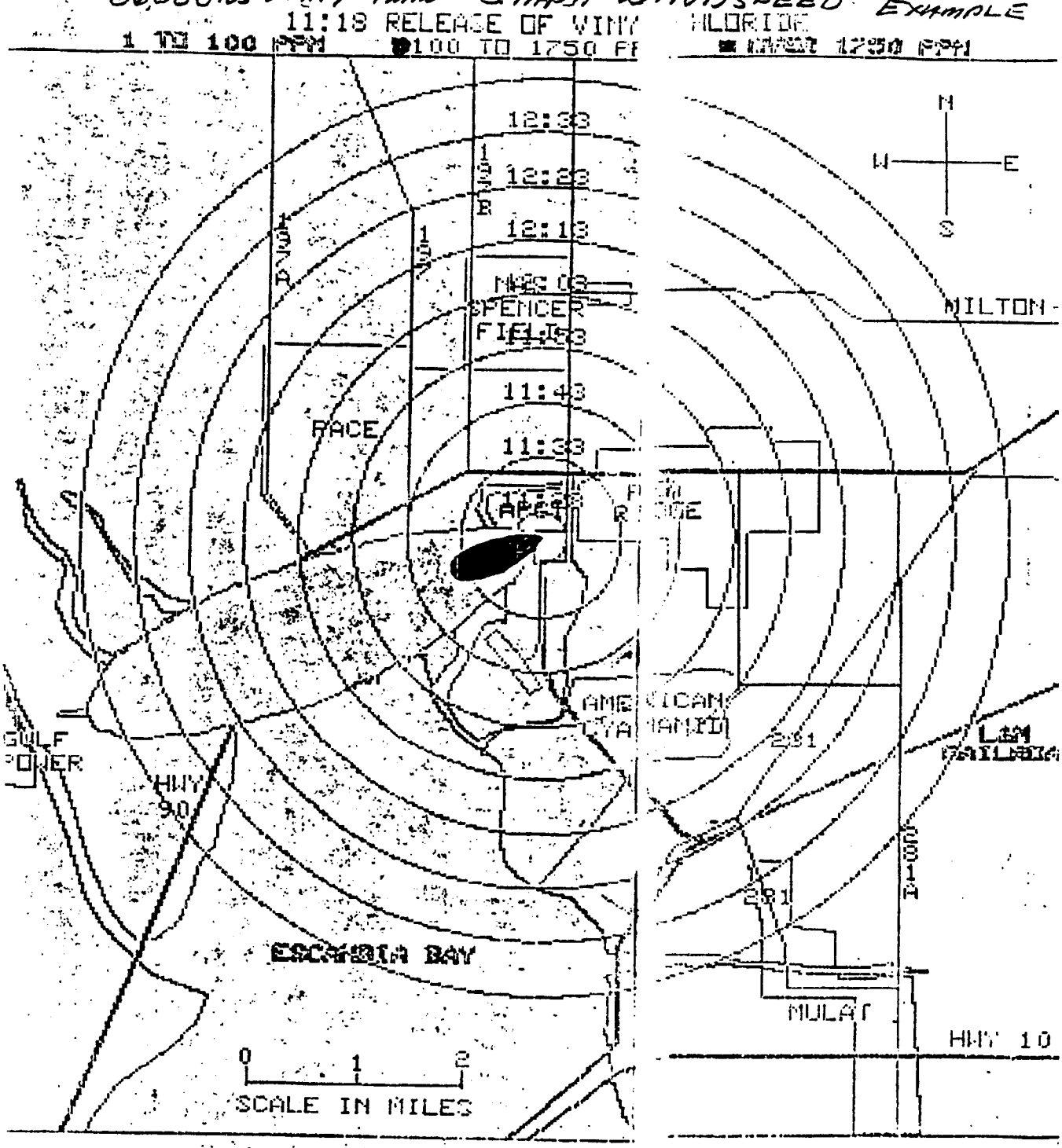
A. J. Diglio

AJD:pbr

Attachment: Reduced copies of SAFER SYSTEM Dispersion Analysis

AP00024813

36,000 lbs VCM / 4 min 3 MPH WINDSPEED EXAMPLE

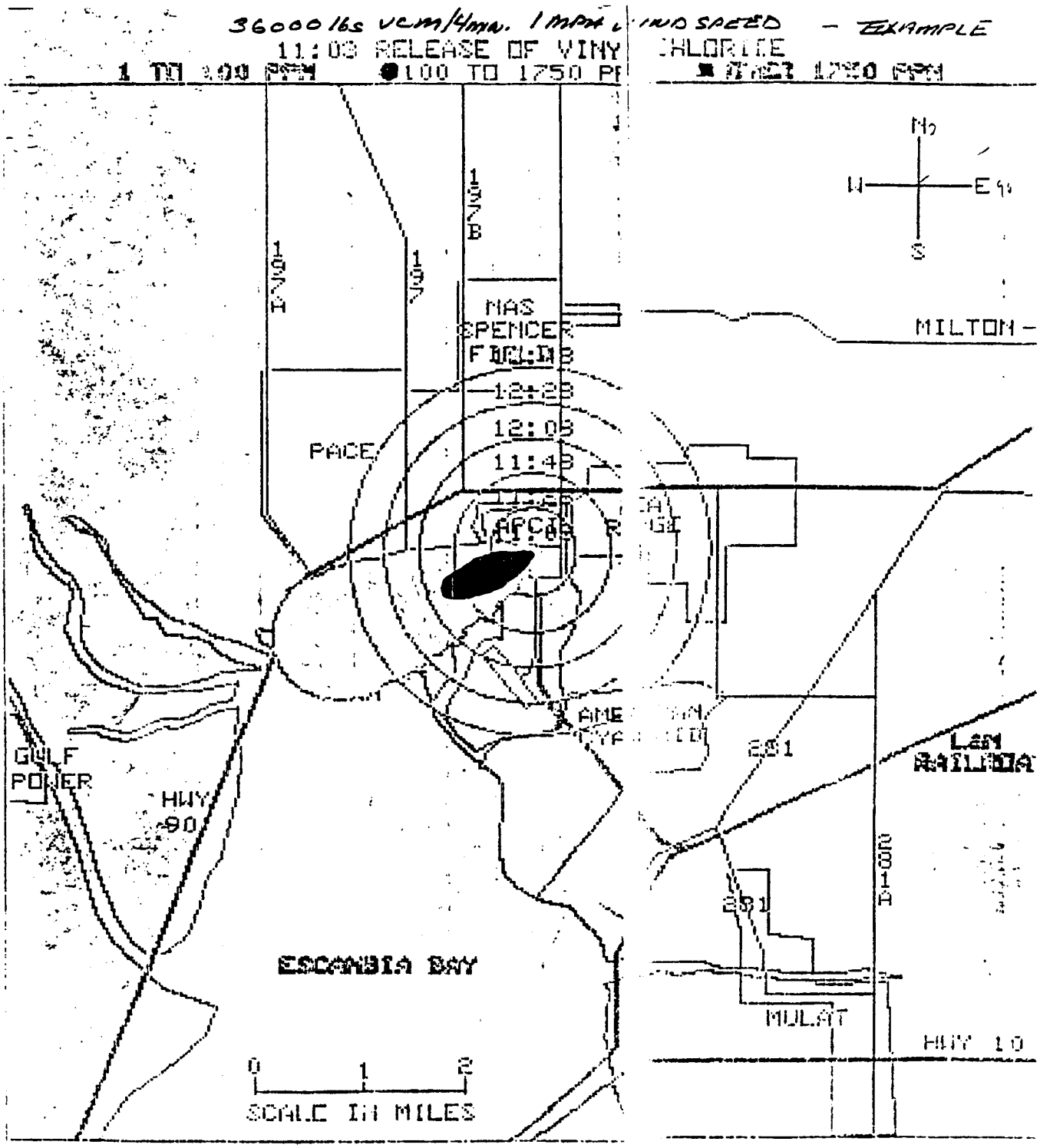



| | |
|---|---|
| WEST BOUNDRY | 11:28 |
| PACE | 11:28 |
| FLORIDATOWN | 11:38 |
| US HWY 90 | 11:58 |

SAFER SYSTEM
JUNE 2, 1986

| | |
|---|---|
| TIME | 11:20 |
| AIR TEMP | 75 |
| WIND SPEED | 3 |
| WIND DIR | 68 |
| STABILITY | 2 |

AP00024814




| | |
|---|---|
| WEST BOUNDRY | 11:23 |
| PACE | 11:23 |
| PACE | 11:33 |
| FLORIDATOWN | 12:03 |
| US HWY 90 | 12:58 |

SAFER SYSTEM
JUNE 2, 1986

| | |
|---|---|
| TIME | 11:06 |
| AIR TEMP | 75 |
| WIND SPEED | 1 |
| WIND DIR | 68 |
| STABILITY | 2 |

AP00024815

SAFER SYSTEM
EXAMPLE - VCM
CHEMICAL RELEASE ACCIDENT REPORT

Printed out 6/02/86 at 11:19 a.m.

| | | |
|---|---|---|
| RELEASE INFORMATION: | Date and Time: | 6/02/86 at 11:18 a.m. |
| | Chemical Name: | Vinyl Chloride |
| | Phase: | Gas |
| | Type of Spill | Continuous |
| | Estimated Amount: | 9000.0 lbs/min. |
| | Duration of Release: | 4 min(s) |
| | Release Height: | 50.0 ft. |
| | Temperature of Chemical before Release: | 40.0 Deg. F |
| METEOROLOGICAL DATA: | Temperature: | 75.0 Deg. F |

| Minutes After Release | Wind Speed (mph) | Direction | Stability Horz. | Stability Vert. |
|---|---|---|---|---|
| 5 | 3.0 | 68. | 2. | 2. |
| 10 | 3.0 | 68. | 2. | 2. |
| 15 | 3.0 | 68. | 2. | 2. |
| 20 | 3.0 | 68. | 2. | 2. |
| 25 | 3.0 | 68. | 2. | 2. |
| 30 | 3.0 | 68. | 2. | 2. |
| 35 | 3.0 | 68. | 2. | 2. |
| 40 | 3.0 | 68. | 2. | 2. |
| 45 | 3.0 | 68. | 2. | 2. |
| 50 | 3.0 | 68. | 2. | 2. |
| 55 | 3.0 | 68. | 2. | 2. |
| 60 | 3.0 | 68. | 2. | 2. |
| 65 | 3.0 | 68. | 2. | 2. |
| 70 | 3.0 | 68. | 2. | 2. |
| 75 | 3.0 | 68. | 2. | 2. |
| 80 | 3.0 | 68. | 2. | 2. |
| 85 | 3.0 | 68. | 2. | 2. |
| 90 | 3.0 | 68. | 2. | 2. |
| 95 | 3.0 | 68. | 2. | 2. |
| 100 | 3.0 | 68. | 2. | 2. |
| 105 | 3.0 | 68. | 2. | 2. |
| 110 | 3.0 | 68. | 2. | 2. |
| 115 | 3.0 | 68. | 2. | 2. |
| 120 | 3.0 | 68. | 2. | 2. |

AP00024816

| CALCULATED IMPACT: | CHEMICAL CONCENTRATION | MAX DOWN-WIND DISTANCE |
|---|---|---|
| | 1.00 TO 100.00 PPM | 4.27 MILES |
| | 100.00 TO 1750.00 PPM | .76 MILES |
| | OVER 1750.00 PPM | .25 MILES |

11:18 a.m. - Case 1: 36,000 lbs VCM Release with 3 mph winds.

FIVE MINUTE METEOROLOGICAL AVERAGES

| DATE | TIME | WIND SPEED | WIND DIREC | TEMP | STABILITY HORIZ | STABILITY VERT |
|---|---|---|---|---|---|---|
| 06/02/86 | 11:05 | 5.62 | 11.93 | 85.54 | 1.1 | 1.6 |

| | | |
|---|---|---|
| RELEASE TIME | = | MET INPUT |
| WIND IS FROM | = | ENE 67.5 |
| WIND SPEED | = | 3 MPH |
| AIR TEMP | = | 75 F |
| STABILITY | = | UNSTABLE 2 |
| RELEASE TIME | = | TEST RUN |
| MODE | = | MANUAL INPUT |
| CHEMICAL | = | VINYL CHLORIDE |
| PHASE | = | GAS |
| TEMPERATURE | = | 140 DEG F |
| RELEASE HEIGHT | = | 50 FEET |
| RELEASE TYPE | = | CONTINUOUS |
| DURATION TIME | = | 4 MIN |
| RELEASE RATE | = | 540,000 LB/HR |
| END OF INPUT | = | PROCEED |

| PLANT LOCATION | TIME OF ARRIVAL | CONCENTRATION LEVELS OF VINYL CHLORIDE |
|---|---|---|
| West Boundry | 11:28 a.m. | 100.00 to 1750.00 PPM |

| COMMUNITY LOCATION | TIME OF ARRIVAL | CONCENTRATION LEVELS OF VINYL CHLORIDE |
|---|---|---|
| Pace | 11:28 a.m. | 100.00 to 1750.00 PPM |
| Floridatown BAPT. O | 11:38 a.m. | 1.00 to 199.00 PPM |
| US HWY 90 | 11:58 a.m. | 1.00 to 100.00 PPM |

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