DCA13MR002
Conrail - Shared Assets
Derailment/Hazardous Material Release
Paulsboro, New Jersey
November 30, 2012

# Hazardous Materials

# Group Factual Report

# ATTACHMENT 27 – NOAA

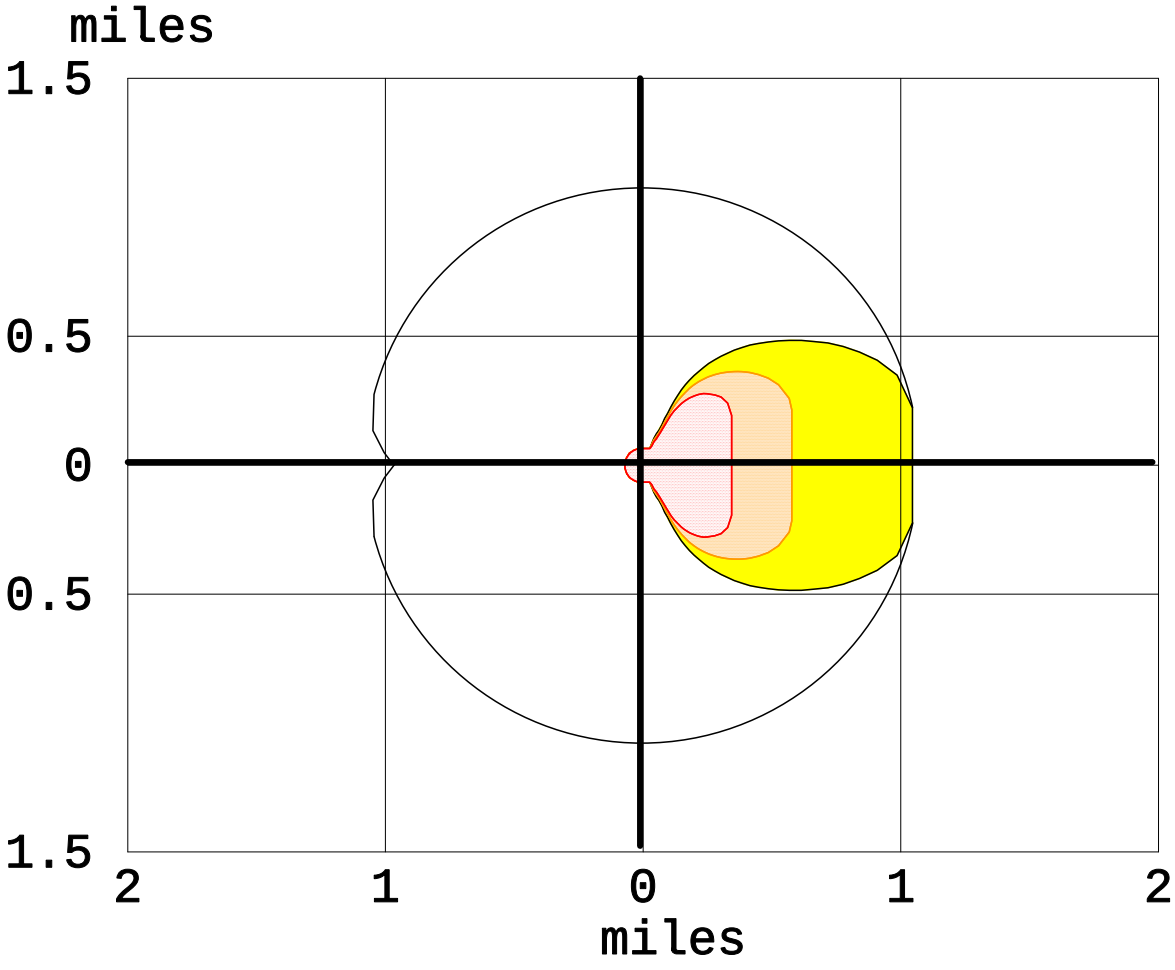
# DISPERSION MODELING-2

Time: December 3, 2012 1200 hours EST (user specified)

Chemical Name: VINYL CHLORIDE
Carcinogenic risk - see CAMEO Chemicals

Wind: 3 miles/hour from w at 3 meters

THREAT ZONE:
Model Run: Heavy Gas
Red : 615 yards --- (4800 ppm = AEGL-3 [60 min])
Orange: 1023 yards --- (1200 ppm = AEGL-2 [60 min])
Yellow: 1.1 miles --- (250 ppm = AEGL-1 [60 min])




greater than 4800 ppm (AEGL-3 [60 min])
greater than 1200 ppm (AEGL-2 [60 min])
greater than 250 ppm (AEGL-1 [60 min])
Confidence Lines

## Source Strength (Evaporation Rate)

ALOHA® 5.4.2

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Time: December 3, 2012  1200 hours EST (user specified)

Chemical Name: VINYL CHLORIDE
  Carcinogenic risk - see CAMEO Chemicals

SOURCE STRENGTH:
  Leak from hole in horizontal cylindrical tank
  Flammable chemical escaping from tank (not burning)
  Tank Diameter: 9 feet                    Tank Length: 63 feet
  Tank Volume: 29,981 gallons
  Tank contains liquid                     Internal Temperature: -7° F
  Chemical Mass in Tank: 16.6 tons         Tank is 13% full
  Circular Opening Diameter: 12 inches
  Opening is 0 feet from tank bottom
  Ground Type: Water                       Water Temperature: 50° F
  Max Puddle Diameter: Unknown
  Release Duration: 7 minutes
  Max Average Sustained Release Rate: 10,500 pounds/min
     (averaged over a minute or more)
  Total Amount Released: 33,200 pounds
  Note: The chemical escaped as a liquid and formed an evaporating puddle.
  The puddle spread to a diameter of 61 yards.
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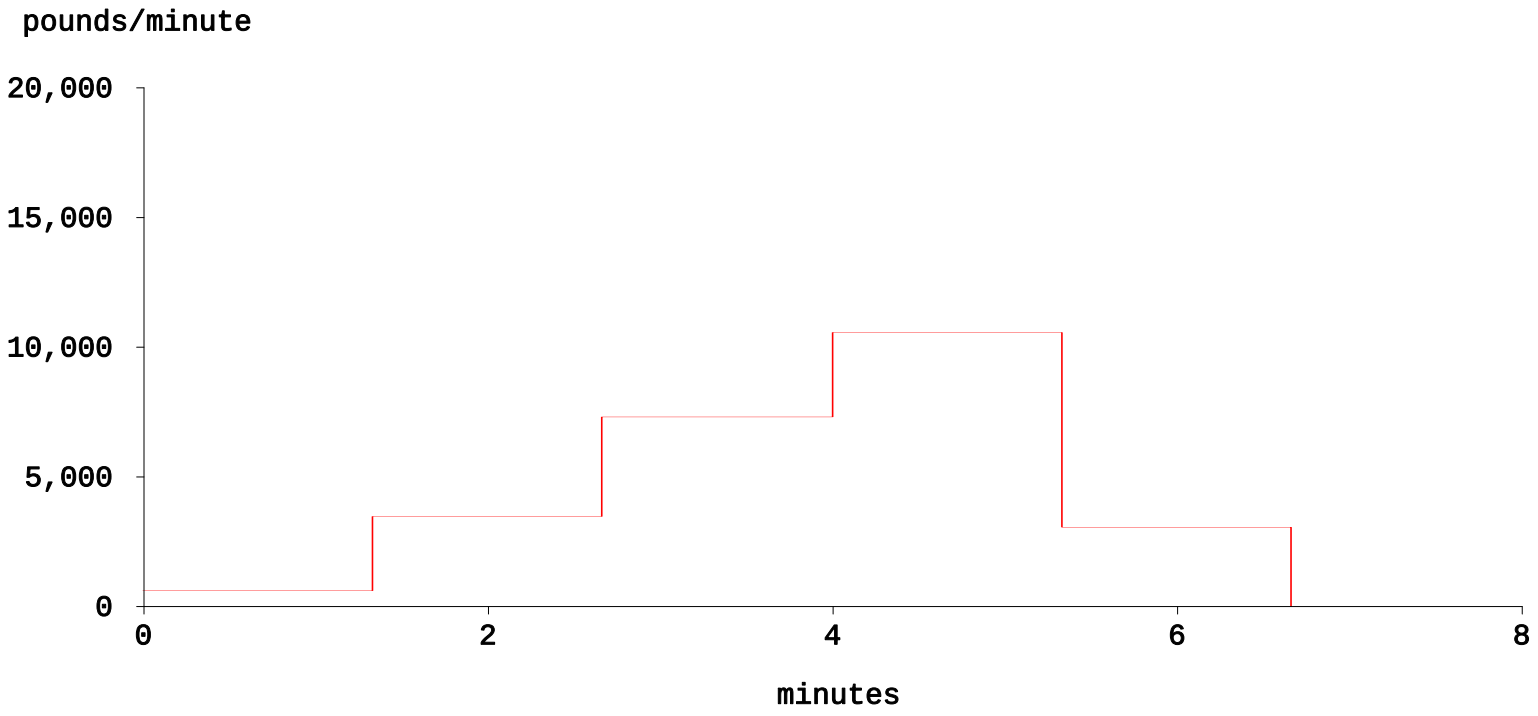

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 SITE DATA:
   Location: PHILADELPHIA, PENNSYLVANIA
   Building Air Exchanges Per Hour: 0.42 (unsheltered single storied)
   Time: December 3, 2012  1200 hours EST (user specified)

 CHEMICAL DATA:
   Chemical Name: VINYL CHLORIDE          Molecular Weight: 62.50 g/mol
   AEGL-1 (60 min): 250 ppm   AEGL-2 (60 min): 1200 ppm   AEGL-3 (60 min): 4800
ppm
   LEL: 36000 ppm     UEL: 330000 ppm
   Carcinogenic risk - see CAMEO Chemicals
   Ambient Boiling Point: 7.0° F
   Vapor Pressure at Ambient Temperature: greater than 1 atm
   Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

 ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
   Wind: 3 miles/hour from w at 3 meters
   Ground Roughness: open country         Cloud Cover: 5 tenths
   Air Temperature: 50° F                 Stability Class: B
   No Inversion Height                    Relative Humidity: 50%

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