



# TRAIN DERAILMENT EMERGENCY RESPONSE

CHICAGO CENTRAL & PACIFIC (CC&P)  
RAILROAD LINE  
MILE POST 80.1  
ROCKFORD, WINNEBAGO COUNTY, ILLINOIS

Presented by:

U.S. Environmental Protection Agency (U.S. EPA)

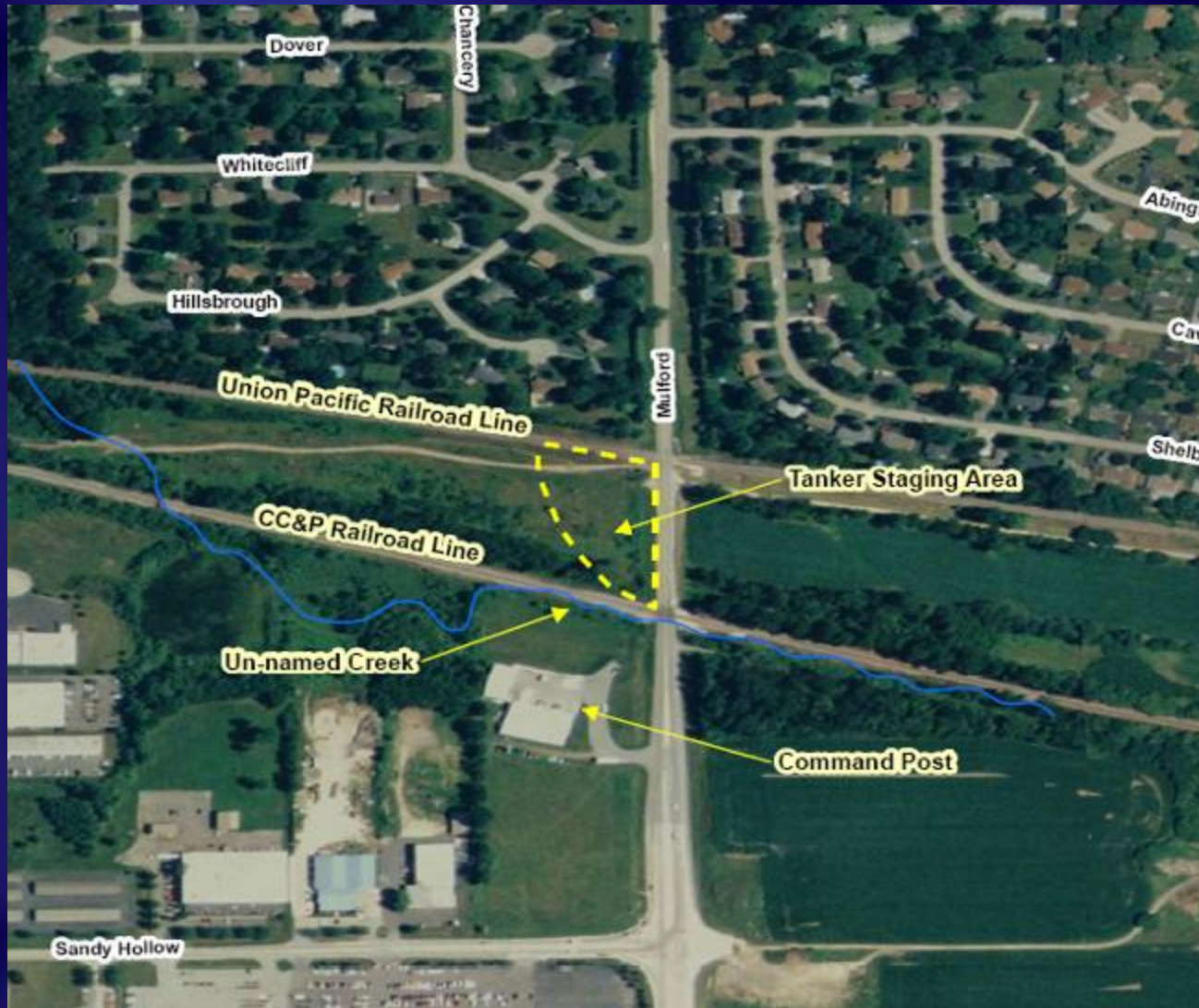


# DERAILMENT SITE LOCATION





# DERAILMENT SITE FEATURES





# DERAILMENT DETAILS

- On June 20, 2009, approximately 17 denatured ethanol tank cars were involved in a derailment and many were involved in a subsequent fire.
  - The Rockford area received 3 inches of rain that apparently caused a washout of the CC&P Railroad Line tracks.
  - The derailment caused one fatality, and six people went to the hospital with burns resulting from the fire.
  - Tank cars carried ethanol denatured with 5% gasoline.
  - The Rockford Fire Department, Hazardous Material (HAZMAT) Team, and Winnebago County Emergency Government responded and established a Unified Command, decided to allow the fire to burn and the alcohol to be consumed in the fire.
  - Residential neighborhoods near the Site immediately were evacuated. The evacuation order was downgraded to a voluntary evacuation, and all residents returned home.



# DERAILMENT DETAILS (CONTINUED)

## 1 dead, 6 hurt in Illinois train derailment

- Story Highlights
- **NEW:** Woman dead after train derails, erupts into flames in Rockford, Illinois
- Several cars of the train were carrying ethanol, authorities say
- Explosion forced evacuation of nearly 600 homes

(CNN) -- One person died and six were injured when a cargo train derailed, causing an explosion and massive fire in Illinois, a fire chief said Saturday.

Crews were still fighting the blaze at midday, but expected to have it fully contained in the afternoon, said Rockford Fire Chief Derek Bergsten.

"It's under control and we're taking every precaution not to harm firefighters or residents," Bergsten said, adding that federal and state environmental officials were on scene monitoring air and soil samples.

The fatality was a woman, said Winnebago County Coroner Sue Fiduccia. The cause of death had not been determined because Fiduccia was unable to get close enough to examine the body.

Bergsten said six people were injured, and all train workers were accounted for.

The train was carrying chemicals that burned for hours, forcing the evacuation of about 600 homes in the town about 50 miles (80 kilometers) northwest of Chicago, authorities said.

Officers were called to the scene near Rockford about 8:30 p.m. Friday, a city police spokeswoman said. The derailment involved automobiles, but it was unclear whether they were on the tracks, she said.

Three motorists who were stopped at a train crossing were burned, one severely, Bergsten said.

One of the victims, who tried to run from the blaze, suffered second-degree burns on his hand while trying to shield his neck from flames, according to Bergsten.

At least 14 cars of the 114-car train caught fire after the derailment, officials said.

The rest of the Canadian National Railway train -- including 70 cars carrying ethanol, a colorless, highly flammable liquid -- was disconnected and moved away from the blaze, Bergsten said.

CNN's Greg Morrison and Shawn Nottingham contributed to this report.

[All About Illinois](#)

**Find this article at:**

<http://www.cnn.com/2009/US/06/20/illinois.train.derailment>



# DERAILMENT DETAILS (CONTINUED)

- Canadian National (CN), the potentially responsible party (PRP), contracted several companies to aid in the emergency response (ER) activities at the Site.
  - The Center for Toxicology and Environmental Health (CTEH) conducted air monitoring and multi-media sampling activities at the Site and in the surrounding community.
  - ES EnviroScience, Inc., conducted an assessment of the Rock and Kishwaukee Rivers.
  - ARCADIS conducted soil boring activities at the Site.
  - Midwest Environmental, Inc. (Midwest), conducted cleanup activities at the derailment Site, including product removal, tank car removal, and vegetation removal and restoration.



# DERAILMENT PHOTOGRAPHS





# ER ACTIVITIES

- ER activities were conducted from June 21 through July 2, 2009.
- CN submitted an “Updated Assessment and Sampling Work Plan” dated June 22, 2009, to U.S. EPA and Illinois Environmental Protection Agency (IEPA) personnel that.
  - Outlined specific sampling methodologies and analyses to assess potential surface and well water impacts from the derailment and
  - Specifically stated that the primary contaminants of concern were the components of the gasoline used as the denaturant in the ethanol, which included
    - Benzene, toluene, ethylbenzene, xylenes (BTEX), and
    - Total petroleum hydrocarbons (TPH)- gasoline range organics (GRO).





# ER ACTIVITIES (CONTINUED)

- The following agencies were involved in ER activities:
  - U.S. EPA
  - Weston Solutions, Inc. (WESTON), Superfund Technical Assessment and Response Team (START)
  - National Transportation Safety Board (NTSB)
  - Agency for Toxic Substances and Disease Registry (ATSDR)
  - IEPA
  - Illinois Department of Natural Resources (IDNR)
  - U.S. FWS
  - Illinois Public Health Department (IDPH)
  - Winnebago County Public Health Department (WCPHD)



# ER ACTIVITIES (CONTINUED)

- CTEH collected a total of 49 surface water samples from the un-named creek, the Rock River, and the Kishwaukee River; one community well sample from 6110 Abington Drive; seven residential well samples from the neighborhoods near the Site; and nine surface soil samples from 0 to 6 inches below ground surface (bgs) from areas along the un-named creek where stressed vegetation was observed.
- IDNR and U.S. FWS collected specimens of five fish species affected by the fish kill on June 21 through 23, 2009.
- ARCADIS advanced a total of 55 soil borings, and six temporary monitoring wells throughout the Site. The borings were completed to determine if product from the tank cars contaminated Site soils or groundwater.



# ER ACTIVITIES (CONTINUED)

- A total of 1,391.54 tons of soil was hauled off site to Veolia Orchard Hills in Rockford, Illinois. The removed soil was from the tank car staging area in order to ensure that no contamination was left on site from tank car staging and product removal activities.
- A total of 57,425 gallons of denatured ethanol was hauled off site to several disposal facilities within the surrounding states.
- CTEH conducted 24-hour air monitoring throughout the Site and surrounding community from June 21 through July 2, 2009. No elevated readings of volatile organic compounds (VOCs) were observed.



# ANALYTICAL RESULTS

- STAT Analysis Corporation (STAT) of Chicago, Illinois, analyzed split water and soil samples collected by WESTON START for BTEX and TPH-GRO.
- GPL Laboratories TN, LLC, of Frederick, Maryland , analyzed fish samples collected by IDNR and U.S. FWS for VOCs, pesticides, and herbicides.



# ANALYTICAL RESULTS - SOIL AND WATER SAMPLES

- Analytical results were compared to IEPA Tiered Approach to Corrective Action Objectives (TACO) for Residential Soil and Groundwater. The Louisiana Department of Environmental Quality (LDEQ) screening criterion was used for TPH-GRO. Analytical results also were compared to U.S. EPA Region 5 Ecological Screening Levels (ESL) to assess potential impact to the ecosystem.
- Results for all water and soil samples collected by CTEH, ARCADIS, WESTON START, IDNR, and U.S. FWS were below the method detection limits or applicable screening criteria.



# ANALYTICAL RESULTS - FISH TISSUE SAMPLES

- Results for the fish tissue analyses collected by IDNR and U.S. FWS showed detections of 2-butanone, acetaldehyde, acetone, and ethanol. The table below summarizes the samples with detected results and the concentrations.

Sample ID	Date Collected	2-Butanone (µg/kg)	Acetaldehyde (µg/kg)	Acetone (µg/kg)	Ethanol (µg/kg)
DNR-WAE-1LIV	6/21/09	Not Detected	7,760	7,570	5,980
DNR-CCF-1LIV	6/21/09	Not Detected	5,520	10,200	10,200
FWS-BMB-1LIV	6/22/09	560	11,800	2,460	215,000
FWS-SNS-1LIV	6/23/09	634	42,300	Not Detected	275,000
FWS-FHC-1LIV	6/22/09	241	27,800	832	58,600



# PHOTOGRAPHS - JUNE 24, 2009





# PHOTOGRAPHS - JUNE 26, 2009







# PHOTOGRAPHS - JUNE 27, 2009





# PHOTOGRAPHS - JUNE 29, 2009





# PHOTOGRAPHS - JULY 1 AND 2, 2009

