United States Environmental Protection Agency
Region VI
POLLUTION REPORT

Date: Thursday, July 1, 2004
From: Richard Franklin

Subject: BNSF Overbrook Train Derailment
BNSF Overbrook Train Derailment
BNSF Rail Mile Marker 443, Overbrook, OK
Latitude: 34.0705800
Longitude: -97.1424600

POLREP No.:	1	**Site #:**	NRC726707
Reporting Period:		**D.O. #:**	
Start Date:	6/30/2004	**Response Authority:**	CERCLA
Mob Date:	6/30/2004	**Response Type:**	Emergency
Demob Date:		**NPL Status:**	
Completion Date:		**Incident Category:**	
CERCLIS ID #:		**Contract #**	
RCRIS ID #:			

Site Description

On May 3, 2004, the National Response Center (NRC) notified EPA Region 6 (EPA) of a Burlington Northern Santa Fe (BNSF) train derailment in a semi-rural area south of Ardmore, Love County, Oklahoma. According to BNSF representatives, the 119-car train was traveling south from Kansas to Temple, Texas, when a load of steel I-beams on a railcar became unstable and dislodged a single I-beam off the car. The I-beam was believed to then fall between the cars, puncturing the end of a tank car of anhydrous dimethylamine (DMA) and further causing the derailment. The punctured car then blew out and caught fire at the puncture site, causing a gash about 2 feet in diameter. A large plume of smoke from the fire was reported, but local rains helped to knock down much of the plume by 0730 hours. There were no other cars of hazardous materials on the train, and all other derailed cars were either empty or carried goods such as paper and lumber. The site is located on the southern edge of Ardmore, in the small community of Overbrook. A creek immediately adjacent to the site flows south to Hickory creek, which flow to Lake Texoma. Heavy rains during the night and morning had swollen the creek and other nearby waterways, causing minor flooding in the area and hampering clean up efforts.

The Greenville/Overbrook Volunteer Fire Department (GOFD) responded immediately to the incident, and began to secure the scene and evacuate nearby residents at 0230 hours. Approximately 100 residents were evacuated over a two mile radius. BNSF also mobilized its hazmat team and multiple contractors immediately to the site. OSC Franklin and the EPA Superfund Technical Assessment and Response Team (START) mobilized to the site to assist with air monitoring and to conduct on-scene monitoring. Other agencies responding to the incident included the Oklahoma Department of Environmental Quality (ODEQ), Federal Railroad Administration (FRA), Federal Bureau of Investigation (FBI), and Love County Emergency Management. Due to reports of a plume from the derailment threatening to cross into Texas, representatives from the Texas Commission on Environmental Quality (TCEQ) also responded.

Current Activities

Upon arrival, OSC Franklin and START met with BNSF, TCEQ, and Love County representatives, and toured the site. Due to heavy rains much of the morning, air monitoring efforts were highly restricted, but once the plume abated, air monitoring by BNSF showed no detectable levels of DMA or any of its combustion products in residential areas or even within a 150 foot radius from the tanker car. The evacuation was ended at approximately 0730 hours and residents were allowed to return to their homes. The tank car was pulled away from the rest of the derailment and isolated a few hundred yards away in a grassy, open pasture. Although the tank car continued to burn with a 2-foot diameter ball of flame at the puncture site, no other part of the tank was punctured and no other leaks or liquid product escaped. Also, the flame appeared to burn very cleanly, with little or no visible smoke. Initially, a decision was made to allow the fire to continue to burn, and not attempt any offloading or other mitigating efforts. As a precautionary measure, BNSF contractors built a dam to catch any liquid product if it escaped, but heavy rains and resulting water flow destroyed the dam.

Late in the morning, hazardous materials specialists from DuPont arrived and examined the tank car. Afterward, a unified decision was made by BNSF, EPA, GOFD, and hazmat specialists to continue to allow the car to burn off DMA vapors. A propane burner was also set up near the puncture to keep the flame going and not allow any oxygen into the tank, which could then have allowed explosive atmospheres inside the tank. BNSF and START contractors conducted continuous air monitoring during the day around the tank car, but no DMA or its combustion products were detected. The nearby creek was also checked multiple times for any indication of a pH change (an indicator of product loss into the waterway), but all pH readings were normal.

During the night, BNSF continued to monitor the tank car for any change, and they also conducted routine air monitoring. At approximately 0130 hours on July 1, BNSF re-opened to rail line to train traffic.

Next Steps

BNSF will continue to allow the tank car to off-gas and burn until a flame cannot be supported. Once the fire is out, BNSF will fill the tank with water, thereby reducing any fire or explosion threat, and then will offload all water and DMA product to tanker trucks for disposal. EPA and START will continue to monitor BNSF's actions and coordinate with other agencies.

Key Issues

The initial threat to nearby residents from explosion, fire, and initial plume of contaminants in the air was the main concern. However, no residents were reported to have been injured or sick from the plume. Product run-off from a potential tank failure was initially a concern, but this did not occur.

response.epa.gov/bnsfoverbrooktrainderailment