



Approved: May 9, 2024

Preliminary Report HMD24LR001

*This information is preliminary and subject to change.*

# BNSF Railway Derailment and Hazardous Materials Release

Manuelito, New Mexico  
April 26, 2024

On April 26, 2024, about 12:37 p.m. local time, westbound BNSF Railway (BNSF) mixed-freight train H-BELPHX1-25 derailed 35 railcars at milepost 178.6 on the Southwest Division near Manuelito, New Mexico. (See figure.) The derailed equipment included six tank cars containing propane—a type of liquefied petroleum gas (LPG) and hazardous material transported under pressure.<sup>1</sup> Four of these tank cars were breached and released their contents, which ignited. A fifth LPG tank car was exposed to the fire and released vapor through its pressure relief device.<sup>2</sup> The local fire department ordered a 2-mile evacuation; 52 people were evacuated, and Interstate 40 was closed in both directions. The local fire department chose to allow the LPG tank cars to burn overnight, and the fires were extinguished on April 27. The evacuation and road closure were lifted on April 28. No injuries were reported. Visibility conditions at the time of the derailment were daylight and clear; weather conditions were 61°F with a 20-mph wind and no precipitation.

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<sup>1</sup> The LPG was shipped as UN1075, liquefied petroleum gas (propane), a Division 2.1 flammable gas. See Title 49 *Code of Federal Regulations (CFR)* Part 173.115 for the regulatory definition of a Division 2.1 flammable gas.

<sup>2</sup> *Pressure relief devices* are spring-loaded valves designed to open if the pressure in a tank rises above a design threshold.



**Figure.** Aerial view of the derailment. (Courtesy of McKinley County Office of Emergency Management.)

Train movements near the derailment site were authorized by signal indications with an overlaid positive train control system and were coordinated by the BNSF Network Operations Center in Fort Worth, Texas.<sup>3</sup> The maximum authorized speed near the derailment site was 70 mph; the train was traveling about 53 mph at the time of the derailment.<sup>4</sup>

Train H-BELPHX1-25 consisted of 3 head-end locomotives, 97 railcars, and 1 distributed power unit (an additional locomotive) at the rear of the train. It was crewed by a conductor and an engineer. The train originated in Belen, New Mexico, on April 26, 2024, and was destined for Phoenix, Arizona. The derailed LPG tank cars that released material were U.S. Department of Transportation Specification 112J340W (a type of pressure tank car commonly known as a DOT-112).<sup>5</sup> They were

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<sup>3</sup> A *positive train control system* enforces speed limits and prevents a train from passing through a signal that requires it to stop. Federal requirements for positive train control systems are established in 49 *CFR* 236.1005.

<sup>4</sup> Authorized speeds were set by timetable.

<sup>5</sup> The DOT-112 specification is established in 49 *CFR* Part 179.

equipped with ceramic fiber thermal protection blankets, tank jackets, and full head shields.<sup>6</sup> Each derailed tank car was carrying about 30,000 gallons of LPG.

The National Transportation Safety Board (NTSB) sent investigators to the scene to support the Federal Railroad Administration's (FRA) investigation. The FRA is leading the investigation of the derailment and will determine its probable cause; the NTSB will focus only on the performance of the DOT-112 tank cars and emergency response actions. While on scene, the NTSB examined the track and derailed tank cars. The NTSB will continue to assist the FRA in the examination of the tank car parts recovered from the derailment scene, including top fittings assemblies, pressure relief devices, and samples of shell material and thermal protection blanket. The NTSB's future investigative activity will focus on recovered physical evidence, analysis of factors affecting tank car performance, and the emergency response to the hazardous materials release and fire.

Because the FRA rather than the NTSB is collecting information from organizations involved in the derailment investigation, the NTSB did not establish parties.<sup>7</sup>

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<sup>6</sup> (a) A *thermal protection blanket* is a protective wrap or coating meant to slow the movement of heat into a tank car and improve its survivability during a fire. (b) *Jackets* hold thermal protection material in place. (c) *Head shields* are tank car features designed to protect the tank head from punctures.

<sup>7</sup> *Parties* to NTSB investigations are defined in 49 *CFR* 831.11.