

US EPA ARCHIVE DOCUMENT

U.S. ENVIRONMENTAL PROTECTION AGENCY  
POLLUTION/SITUATION REPORT  
BNSF Galena Derailment - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Region V

**Subject:** POLREP #5  
Progress  
BNSF Galena Derailment  
E15510  
Galena, IL  
Latitude: 42.3744730 Longitude: -90.4443060

**To:** Russell Engelke, US F&WS  
Kip Willis, DOT Field Ops Central Region  
Mark Razny, US DOT PHMSA Hazmat  
Captain Laura Petreikis, Illinois DNR

**From:** Jaime Brown, OSC

**Date:** 3/12/2015

**Reporting Period:** 3/10/2015 - 3/11/2015

1. Introduction

1.1 Background

<b>Site Number:</b>	E15510	<b>Contract Number:</b>	
<b>D.O. Number:</b>		<b>Action Memo Date:</b>	
<b>Response Authority:</b>	OPA	<b>Response Type:</b>	Emergency
<b>Response Lead:</b>	PRP	<b>Incident Category:</b>	Removal Action
<b>NPL Status:</b>	Non NPL	<b>Operable Unit:</b>	
<b>Mobilization Date:</b>	3/5/2015	<b>Start Date:</b>	3/5/2015
<b>Demob Date:</b>		<b>Completion Date:</b>	
<b>CERCLIS ID:</b>		<b>RCRIS ID:</b>	
<b>ERNS No.:</b>		<b>State Notification:</b>	
<b>FPN#:</b>	E15510	<b>Reimbursable Account #:</b>	Z5PL

1.1.1 Incident Category

Emergency Response

1.1.2 Site Description

On 1:24 pm CST on March 5, 2015, a BNSF Railway unit train carrying crude oil derailed near the city of Galena, Illinois. At 2:52 pm CST, BNSF Railway reported a release of crude oil to the ground from a unit train consisting of 105 cars in NRC Report #1109741 (see 'documents' section of website).

The Site consists of 21 derailed oil tanker cars. Several of the derailed tanker cars erupted in flames and

exploded or ruptured, releasing oil onto the underlying track ballast, adjoining embankments, and a seasonal wetland (currently dry) immediately adjacent to the both the Galena and Mississippi Rivers. The fire was fully extinguished on 3/8/2015.

#### **1.1.2.1 Location**

The derailment took place at railroad Mile Post 171.6, approximately 3 miles south of Galena, Jo Daviess County, Illinois. The area is a rural, sparsely populated, and adjacent to the Galena and Mississippi Rivers. There is no roadway access to the derailment site, and a nearby bike path was used to gain access to the Site.

#### **1.1.2.2 Description of Threat**

Extensive smoke resulting from the subsequent fire posed a potential threat to human health, specifically to nearby residents. During the fire and explosions resulting from the derailment, the Galena Fire Department offered voluntary evacuation of 7 residences located within 1 mile of the derailment site. Oil released from the tankers that was not consumed in the subsequent fire was released from tanker cars to the ballast, adjacent embankments, and a low-lying seasonal wetland adjacent to Harris Slough, located at the confluence of the Galena and Mississippi Rivers. Crude oil released from the ruptured tanker cars was released into a wetland area adjacent to the rail right-of-way and posed a further threat of release to the Mississippi and Galena Rivers. There are concerns over seasonal high water inundating the impacted area and carrying contamination off site. There is also a wildlife refuge adjacent to the Site.

#### **1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results**

A preliminary Site inspection was conducted by OSC Mendoza the morning of March 6, 2015. Since a total of 21 tanker cars had derailed, it was initially determined that there was a potential release of approximately 630,000 gallons of crude oil to the environment, as each car contained approximately 30,000 gallons. The actual amounts either spilled or combusted is yet to be estimated or determined by the responsible party. However, it was visually confirmed that spilled crude oil impacted a seasonal wetland, ballast and adjacent embankments to the tracks. At the present time, it is assumed that majority of the crude oil was consumed in the subsequent fire, as firefighters were unable to access the derailment site with sufficient equipment or water source to combat the blaze. However, spilled crude oil was observed coating the surrounding area and pooled alongside the some of the derailed tanker cars.

The Waybill, SDS, and Bill of Lading for the unit train were provided by BNSF Railway (see 'documents' section of website). These documents indicated that the crude oil contained in the tanker cars had originated in the Bakken formation, located in the upper midwest/northwest United States.

## **2. Current Activities**

### **2.1 Operations Section**

#### **2. Current Activities**

##### **2.1 Operations Section**

###### **2.1.1 Narrative**

The initial response was coordinated by the State of Illinois Incident Management Team (IMT), which developed Incident Action Plans (IAPs) to lead response actions for 3/6/2015 to 3/8/2015. This phase involved protection of nearby residents and firefighting operations. Containment boom was deployed in the adjoining waterway and an earthen berm was constructed around the derailed tanker cars and the river to contain run-off of crude oil or oil/water mixture. The voluntary evacuation was lifted and fires fully extinguished on 3/8/2015.

The State-led IMT transitioned to a Unified Command (UC) on 3/9/2015 under the formal leadership of incident commanders from U.S. EPA Region 5, Illinois EPA, City of Galena Fire Department, and BNSF Railway. The IMT develops an Incident Action Plan (IAP) daily which guide all response activities during specified operational periods. Incident Status Summaries are also being developed to summarize the current status of operations. An aerial photo is also being taken daily. All IAPs, Sitrep, and aerial photos can be found in the 'documents' section of the website.

Access was established to the Site for heavy equipment pursuant to an emergency permit issued pursuant to Section 404 of the Clean Water Act by USACE. Wrecked cars were pulled apart, uprighted, and are being either re-railed or cut up and removed from the right-of-way by contractors to BNSF Railway. Crude oil product either remaining in the tanker cars or spilled onto the ground was pumped into large temporary storage tanks. Contaminated soils were excavated from the underlying ballast/sub-base, and temporary railroad track was re-constructed so that rail operations could resume. The response is currently focused on removing damaged tank cars from the area and delineating the extent of contamination to determine cleanup approaches.

### **2.1.2 Response Actions to Date**

The USCG Marine Safety Unit (MSU Quad Cities) was the first Federal official on scene, arriving on 3/5/2015 to oversee installation of a containment boom at the confluence of the Galena & Mississippi Rivers. EPA OSCs Brown & Mendoza, arrived shortly thereafter with START contractors. OSCs Faryan, Ruesch & Benning arrived at the Site on 3/6/2015 with EPA IMT members Whelan and Leon. Responding OSCs immediately established contact and coordinated with the Galena Fire Department Chief serving as Incident Commander.

Air monitoring was initially being conducted to protect public health by BNSF contractor CTEH. After obtaining IC approval, EPA OSCs directed START to provide additional support to air monitoring operations. The air monitoring plan was approved by OSC Brown. START oversaw air monitoring and collected air samples at selected locations for VOC analysis. In addition, real-time air monitoring readings were taken for VOCs & particulate. All data collected during air monitoring resulted in readings either non-detectable or below health based standards for VOCs or particulate matter. Continuous air monitoring was reduced on 3/9/2015 as fires had been extinguished.

USCG MSU-Quad Cities demobilized on 3/6/2015. BNSF successfully un-coupled and removed approximately 84 tank cars from the Site containing crude oil, thus removing the risk of release. As there was a potential for additional fires/explosion, EPA requested plume modeling support from IMAAC to determine in advance potential evacuation zones. No additional fires/explosions took place as anticipated the night of 3/6/2015. EPA inspected the containment boom and earthen berm structures and requested enhancements, including the deployment of additional oil containment and absorbent boom. To date, no crude oil or visible sheen has been observed in either the Galena or Mississippi Rivers. EPA, IEPA, and CTEH collected samples to verify either the presence or lack thereof in both rivers.

EPA collected oil samples for fingerprinting purposes to be analyzed by USCG. EPA & IEPA reviewed, approved and is overseeing implementation of environmental sampling & monitoring plans, which include surface water in the rivers and impacted soils in the railroad right-of-way. EPA facilitated the transition from the State-led IMT to a Unified Command on 3/8/2015. Construction of temporary rail to facilitate resumption of track operations was completed and trains began passing through the area on 3/9/15.

OSCs Mendoza & Ruesch along with EPA IMT members Whelan & Leon demobilized on 3/10/2015.

START performed oversight of the installation of 17 soil borings along the footprint of a proposed sheet pile wall designed to contain contamination and prevent inundation from the Mississippi River. Eight borings were installed to a depth of 12' bgs. Remaining borings were installed to a depth of 5–7.5' bgs using a hand auger. Samples were screened in 2–2.5' intervals with a PID for the presence of VOCs. Elevated levels of VOCs were observed in one boring. An additional boring was installed south of the contaminated boring in an attempt to delineate contamination. Samples were collected from the top 2–2.5' of each boring for laboratory analysis. START also conducted oversight of groundwater monitoring by BNSF contractors.

OSCs and START contractors continue to work with BNSF to finalize and implement the following work plans:

- 1) Water quality monitoring in the Mississippi & Galena Rivers (amended)
- 2) Assessment of soils and groundwater (ongoing)
- 3) Installation of sheet piling to restrict anticipated high water in the impacted area (pending)

Water levels in the Mississippi River have dropped 3-4" though turbidity has increased due to the drastic reduction in ice cover from increasing ambient air temperatures.

The IAP is now covering a 48 hr operations period. The IAP for OP #8 (0830 3/12/2015 - 0830 03/14/2015) is currently being implemented. Work shifts are no longer taking place all night.

Current Incident Objectives

- Safety of residents & responders
- Protect environment and control runoff
- Stabilize site
- Monitor environmental conditions/impacts
- Facilitate investigations & product sampling/recovery
- Restore derailment site
- Ensure safe & effective track operations
- Clarify tank status

There have been no injuries or wildlife impacts reported to date. All operations data is being reported in a daily Sitrep and ICS 209 Incident Status Report (see 'documents' section of website).

**2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)**

BNSF Railway accepted the responsibility for the release. OSC Brown issued a Notice of Federal Interest to BNSF Railway on 3/6/2015. BNSF Railway is cooperating with EPA and other Agencies and is participating on the Unified Command for the IMT responding the incident.

**2.1.4 Progress Metrics**

<i><b>Waste Stream</b></i>	<i><b>Medium</b></i>	<i><b>Quantity</b></i>	<i><b>Manifest #</b></i>	<i><b>Treatment</b></i>	<i><b>Disposal</b></i>
Crude oil	liquid	217,625 gal	staged	TBD	TBD
Oil/Water mixture	liquid	7,790 gal	staged	TBD	TBD
Contaminated soils	solid	TBD	staged	TBD	TBD
Tanker cars	solid	12	staged		

**2.2 Planning Section**

**2.2 Planning Section**

**2.2.1 Anticipated Activities**

- The following activities are anticipated during OP #8 & #9:1) BNSF will complete cleaning & scrapping operations on remaining tanker cars stage on site;
- 2) EPA will continue to participate on the IMT (current positions occupied include Incident Commander and Deputy Operations Section Chief) and daily planning cycle to develop the IAP for OP #9;
  - 3) EPA will continue to provide tactical advice;
  - 4) USCG Strike Team will continue to assist in implementation and oversight of the HASP;
  - 5) EPA will continue oversight to ensure protection of public health & the environment in coordination

with Federal, State, and local agencies;

6) BNSF will continue containment/monitoring of the release with EPA & other agency oversight; and

7) Plans for environmental remediation will be discussed and prepared.

#### **2.2.1.1 Planned Response Activities**

See Section 2.2.1

#### **2.2.1.2 Next Steps**

The Planning Section of the IMT will develop an IAP for OP #9. Sitreps will continue to be issued and updated documents will be posted to the website.

#### **2.2.2 Issues**

NOAA assisted with acquiring models from the River Forecasting System which predict seasonal river rise due to snow melt. BNSF is working to protect the impacted area from inundation.

### **2.3 Logistics Section**

#### **2.3 Logistics Section**

The EPA Mobile Command Post (MCP) was deployed on 3/6/2015 and remains on scene to support response staff. Sampling and other response equipment are being provided by EPA and START contractors.

### **2.4 Finance Section**

#### **2.4 Finance Section**

##### **2.4.1 Narrative**

The approved cost ceiling for overall response under FPN #E15510 remains at \$250,000.

The cost ceiling for a TDD to the START contractor is currently \$46,400. The EPA Mobile Command Post was deployed by ERRS contractor under an existing Task Order. Approximately \$30,000 was set aside for the USCG Strike Team.

### **2.5 Other Command Staff**

#### **2.5 Other Command Staff**

##### **2.5.1 Safety Officer**

USCG Atlantic Strike Team members continue on Site conducting oversight and supporting the designated IMT Safety Officer during both day and night shifts. Strike Team members assisted in establishing a site-wide Health & Safety Plan as well as review individual contractor HASPs and various job safety analyses. Safety briefings are held each day at the beginning of operational briefings for all field supervisors and IMT personnel.

There have been no accidents or injuries reported on Site to date.

##### **2.5.2 Liaison Officer**

EPA Region 5 Congressional Liaison Ronna Beckmann continues to keep local elected officials up to date on Site activities during conference calls. There continues to be a high level of interest by local, state and federal elected officials. Elected officials and EPA Region 5 Regional Administrator Susan Hedman visited the Site on 3/9/2015 to receive an executive briefing and tour the Site.

##### **2.5.3 Information Officer**

EPA Region 5 Community Involvement Coordinator Heriberto Leon demobilized from the Site on

3/10/2015. However, EPA continues to respond to all press inquiries and requests for interviews and information related to the incident. A press availability session was held on 3/9/2015 after the executive briefing and Site tour by elected officials and EPA Regional Administrator Susan Hedman.

EPA established a website for the incident (see link in Section 6.2) and continues to post daily updates.

### 3. Participating Entities

#### 3. Participating Entities

##### 3.1 Unified Command

A UC was established on 3/8/2015 and currently consists of Incident Commanders from the following agencies:

US EPA Region 5  
Illinois EPA  
Jo Daviess County EMA  
BNSF Railway

##### 3.2 Cooperating Agencies

###### Local

City of Galena Fire Department  
City of Galena Police Department  
Jo Daviess County Sheriff's Office  
Jo Daviess County Emergency Management Agency  
Mutual Aid Box Alarm System (MABAS)  
American Red Cross

###### State

Illinois Department of Natural Resources (IDNR)  
Illinois Environmental Protection Agency (IEPA)  
Illinois Emergency Management Agency (IEMA)  
Illinois Incident Management Team (IL IMT)  
Illinois State Police (ISP)  
Illinois Law Enforcement Alarm System (MABAS)  
Illinois State Incident Response Center (IL SIRC)  
Iowa Department of Natural Resources (IA DNR)

###### Federal

U.S. EPA Region 7  
U.S. Coast Guard MSU Quad Cities (USCG MSU)  
U.S. Coast Guard Atlantic Strike Team (USCG)  
U.S. DOT Federal Railroad Administration (FRA)  
U.S. DOT Pipeline & Hazardous Materials Safety Administration (PHMSA)  
U.S. Fish & Wildlife Service (F&WS)  
Occupational Health & Safety Administration (OSHA)  
Interagency Modeling and Atmospheric Assessment Center (IMAAC)  
National Oceanic and Atmospheric Administration (NOAA)  
U.S. Army Corps of Engineers (USACE)

### 4. Personnel On Site

#### 4. Personnel On Site



FEDERAL: 14  
STATE: 2  
LOCAL: 1  
BNSF: 4  
CONTRACTORS: 130

TOTAL (estimated): 151

## 5. Definition of Terms

### 5. Definition of Terms

bgs below ground surface  
BNSF Burlington Northern Santa Fe  
CTEH Center for Toxicology and Environmental Health LLC  
ERRS Emergency and Rapid Response Services  
FPN Federal Project Number  
HASP Health & Safety Plan  
IC Incident Commander  
ICS Incident Command System  
IMT Incident Management Team  
MCP Mobile Command Post  
NRC National Response Center  
OP Operational Period  
OSC On-Scene Coordinator  
POLREP Pollution Report  
SDS Safety Data Sheet  
Sitrep Situation Report  
START Superfund Technology Assessment and Response Team  
TDD Technical Direction Document  
UC Unified Command  
VOC Volatile Organic Compound

## 6. Additional sources of information

### 6. Additional sources of information

#### 6.1 Internet location of additional information/report

IAPs, aerial photographs, photographs, data and other supporting technical information can be found at:

<http://www.epaosc.org/bnsfgalenaspill>

A general website for updates to the public can be found at:

<http://www2.epa.gov/il/galena-train-derailment>

#### 6.2 Reporting Schedule

The next POLREP will be issued March 13.

## 7. Situational Reference Materials

### 7. Situational Reference Materials

See Section 6.1.