

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Mosier Oil Train Derailment - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region X

Subject: POLREP #3
Update & Current Status
Mosier Oil Train Derailment
E16006
Mosier, OR
Latitude: 45.6848810 Longitude: -121.4022350

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From: Richard Franklin, On Scene Coordinator

Date: 9/5/2016

Reporting Period: 6/4/2016 to 9/05/2016

1. Introduction

1.1 Background

Site Number:	E16006	Contract Number:	
D.O. Number:		Action Memo Date:	
Response Authority:	OPA	Response Type:	Emergency
Response Lead:	EPA	Incident Category:	Removal Action
NPL Status:		Operable Unit:	
Mobilization Date:	6/3/2016	Start Date:	6/3/2016
Demob Date:	6/10/2016	Completion Date:	
CERCLIS ID:		RCRIS ID:	
ERNS No.:		State Notification:	OERS 2016-1305
FPN#:	E16006	Reimbursable Account #:	2016 HR 10NAXHR303D91 Z0EM

1.1.1 Incident Category

Emergency response to a discharge, as well as a substantial threat of discharge of oil to navigable waters of the U.S. and adjoining shorelines.

1.1.2 Site Description

On June 3, 2016, at approximately 12:15 PM, a 96-car Union Pacific unit train of Bakken crude oil derailed within the small town of Mosier, Oregon, adjacent to U.S. Historic Highway 30, Highway I-84, and the Columbia River. The train was made up of two cushion cars and 94 tank cars fully loaded with Bakken crude oil. As a result of the derailment, an evacuation of approximately 149 residents from a nearby neighborhood was initiated by local law enforcement, and U.S. Highway 30 and Interstate-84 were shut down.

The derailment took place along a main east-west Union Pacific rail line near the crossing of Rock Creek, a tributary to the Columbia River. This area is home to a significant fishery, hosting federally listed endangered fish including several species of salmon and winter steelhead. During this incident, sockeye salmon were migrating through this stretch of the Columbia River. This part of the Columbia River has known tribal cultural and other historical resources, and is home to world class surf-boarding and recreational tourism. Population of the town of Mosier is approximately 435 residents.

1.1.2.1 Location

The derailment occurred in the town of Mosier, Wasco County, Oregon on the Union Pacific Railroad (UPRR) main line at UPRR milepost 68.5. The derailment and fire were approximately 130 yards south of I-84 near Exit 69, and approximately 200 feet east of Rock Creek. Rock Creek is a tributary of, and approximately 1/10th of a mile south of the Columbia River. The site is approximately 35 miles upriver and east of the Bonneville Dam, the furthest downstream hydroelectric dam on the Columbia River.

1.1.2.2 Description of Threat

Sixteen railcars of Bakken crude oil derailed. Four of those cars breached, discharging crude oil onto the ground, across U.S. Hwy 30 into a wooded area, and through a damaged sewage line into the city's wastewater treatment plant (WWTP). Three cars caught fire and created an additional wildland fire which affected 1.3 acres. The derailment and resulting oil spill and fire immediately threatened a nearby residential area, and temporarily shut down U.S. Highway 30 and I-84. Further, discharged oil not only threatened to flow overland into Rock Creek and the Columbia River, but it discharged directly into the Columbia River via an outfall line from the WWTP. On 6/4/2016, at 2:05 AM, the fire was extinguished by Union Pacific and National Response Corporation firefighters, who were supported by local and regional fire/hazmat teams.

After the fire was extinguished, it was determined that the railcars had ripped off the top of a sewage manhole, allowing thousands of gallons of crude oil to enter an incoming sewage line and collect in the WWTP. The WWTP inadvertently acted as a collection and containment system for a large portion of the discharged oil.

The volume in each of the railcars was estimated at approximately 28,000 gallons. Recent calculations have shown that the total volume of oil lost from the railcars was 47,000 gallons, including 13,000 gallons in the adjacent WWTP and piping, 16,000 gallons burned up and/or vaporized in air; and 18,000 gallons discharged onto the ground and in soil. Approximately two million gallons of water were utilized to put out the fire, which then threatened to float and carry oil to Rock Creek. However, after the fire was put out, no oil was observed to have entered Rock Creek. It is estimated that less than 5 gallons of oil were discharged into the river.

A wetland adjacent to the derailment, Rock Creek, and the Columbia River was also threatened by the discharge of oil from the railcars, however, no oil was observed in the wetland. Threats of discharge in the Columbia River from groundwater are believed to be low at the current time.

During the incident, and due to firefighter's drawdown of the city's backup drinking water well to very low levels, the city issued a boil water notice as a precaution from any sediment or other well disturbance. There was no contamination of the city's drinking water supply from the incident, the crude oil or fire water runoff, nor was there any threat of contamination.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

Initial command at the site was comprised of the Mosier Fire District supported by 14 other local fire and Oregon State Fire Marshal regional hazmat teams (15 total), with Mosier Fire District in command as IC. A multi-agency Unified Command with federal, state and tribal agencies began forming on the initial evening of the response, and included Mosier Fire District, Union Pacific Railroad (UPRR), ODEQ, Washington Department of Ecology (Ecology), EPA, and the Yakama Nation. After the fire was extinguished, Unified Command focused its activities to returning evacuated residents to their homes, repairing and finding a work-around for city wastewater infrastructure, on-site cleanup, protection of Tribal and historical resources, monitoring activities to ensure protection of human health and the environment, and re-railing.

Local, regional and national news media and political interest was intense during the first four days following the derailment. A Joint Information Center (JIC) was established at the site early and was manned by EPA, ODEQ, Ecology, ODOT, and UPRR. Media releases occurred twice daily, and press briefings were scheduled daily. The Liaison function in UC provided several VIP tours and briefings, and set up two community meetings, on June 5 and June 9. EPA also brought in Community Involvement Coordinators to work with residents and the community.

2.1.2 Response Actions to Date

See previous Polreps for past Operations.

At first light on 6/4, a small rainbow sheen (6-8 feet in diameter) was noticed in the Columbia River at the outfall of the city's WWTP. Oil was found to be bubbling up from the outfall in what appeared to be small droplets which would sheen at the surface, and then disappear, then reappear. Once this occurred, responders set out a second set of hard and sorbent boom as a precaution. No sheen was ever observed downriver of the boom. There has been no sheen sighted since 6/4/2016. Collection and sorbent booms remained in place for several weeks to capture any additional oil release, but have since been removed.

Mid-morning of 6/4, a professional, contract Incident Management Team (IMT) arrived at the site after having been mobilized by UPRR. This IMT brought needed structure to the incident, and UC/IC began staffing up

appropriate sections and units with plug and play positions filled by UC agencies, response contractors and other tribal and state agencies.

On Sunday 6/5, oil from the breached cars was transloaded into tanker trucks. A plan was developed and approved by UC and the city of The Dalles, to build a temporary storage and transloading facility at the UPRR railyard in The Dalles in order to receive crude oil from the derailed cars. Crude oil was from the cars was transloaded into tanker trucks, then transported to the facility for storage and ultimate loading into empty railcars for transit to the original intended refinery Tacoma. All oil from the derailed cars was transferred by noon on 6/7. After the cars were emptied, they were decontaminated and trucked to a Union Pacific facility in Portland, OR for scrapping and disposal.

Also on the evening of 6/5, residents were allowed to return to their homes due to two developments. First, a community, air monitoring system was established to protect residents by setting off alarms with responders if volatile organic compounds or explosive vapors were detected. Next, a temporary bypass system was established to allow the city's wastewater to be collected and trucked to the Hood River wastewater treatment plant. This system allowed city residents to flush toilets, shower, and otherwise use home plumbing systems. Portable toilets had previously been brought in during the time that residents couldn't flush. The WWTP was cleaned and repaired by UPRR and its contractors, and was returned to service the week of June 20. The incoming sewage line to the WWTP and damaged manhole were also replaced.

The UPRR re-railing operation was completed on 6/5. UPRR requested permission from UC for trains to begin movement on the rail line, even though several of the non-breached railcars still contained crude oil. However, an assessment and site inspection of the cars, along with air monitoring around them, showed the area to be safe with no danger for fire or discharge of oil, and all members of UC agreed that train traffic could resume at a low speed. Train traffic resumed running through Mosier that evening, at a reduced speed of 10 mph. The first train rolled through town during a public meeting, which upset some residents and created a security issue that evening on the railroad with conflict between some residents and railroad employees. The Wasco County Sheriff was requested to help and diffuse the situation.

On 6/6, an additional collection of oil was discovered in the pipe leading from the wastewater treatment plant into the Columbia River. A plug was inserted into the pipe to stop any more oil discharge into the river. Oil sheen was observed in the backfill of the pipe, and oil in both locations was removed. The outfall piping was cleaned twice by responders.

On Monday, 6/6, The drinking water boil order was lifted after water tests confirmed that the water was safe to drink. Previous to water clearance, bottled water was provided to residents.

Air monitoring was conducted throughout the response by fire/hazmat teams, EPA, Ecology, and UPRR contractors, and recorded no contaminants of concern or explosive vapors beyond the operations ("hotzone") area. However, initial air monitoring at the WWTP did show elevated levels of VOCs and benzene due to the large volume of crude held there. Workers at the WWTP were required to wear respirators until levels abated.

After the initial response concluded (June 10), the lead for oversight of soil and groundwater remediation was transferred to ODEQ. UPRR and their contractors, are conducting the site assessment and remediation activities. Most of the oil-contaminated soil (2960 tons) has been excavated from the site and disposed at Wasco County landfill. Initially, four monitoring wells and two extraction wells were installed at derailment site, but after one well showed components of crude oil such as trimethylbenzene, benzene, ethylbenzene, and toluene in shallow groundwater, an additional four monitoring wells and five sparge wells were installed. ODEQ and UPRR expect to continue monitoring groundwater for at least one year.

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

UPRR has been identified as the Responsible Party, and was issued a Notice of Federal Interest (NOFI) on June 7, 2016 by the FOSC.

On 6/5, a representative from the Federal Railroad Administration arrived on site, and by 6/6, a full team of FRA personnel arrived to conduct an investigation of the cause of the derailment.

2.1.4 Progress Metrics

<i>Waste Stream</i>	<i>Medium</i>	<i>Quantity</i>	<i>Manifest #</i>	<i>Treatment</i>	<i>Disposal</i>

2.2 Planning Section

2.2.1 Anticipated Activities

None

2.2.1.1 Planned Response Activities

ODEQ and UPRR will continue groundwater monitoring and bio-sparging activities for the near future and up to a year pending further groundwater sampling results.

2.2.2 Issues

Huge effects of derailment and fire on community. Emotions raw, and concern high for their continued safety as oil trains continue to move through their community and both sides of the Columbia River.

Threat of fire to the community and nearby forest.

Threat of discharge of high volumes of oil to the Columbia River and adjacent wetland.

Sockeye salmon run was occurring at time of derailment. No observable effects to salmon, other fish or wildlife.

Concern and care taken over potential tribal and historical sites. Potential Yakama Tribe cultural site at beach reported from oral history. Also tribal concern over potential threats to lamprey. Actions taken by UC to mitigate any excavation/construction work. Archeologists and cultural resource specialists utilized during response and remediation phases.

Partial evacuation of community (147) residents nearest the derailment. Most all were allowed to return by Sunday June 5.

Drinking water boil order issued due to concern over contaminated water. None was found and boil order lifted by Monday June 6.

Wastewater treatment plant rendered inoperable by the derailment, but is now fully restored and operational.

Intense media and political interests.

2.3 Logistics Section

No information available at this time.

2.4 Finance Section

2.4.1 Narrative

EPA Region 10 requested and received an increase from the initial \$200,000 project ceiling to \$500,000 from the National Pollution Funds Center for oil response and removal costs. EPA also issued five (5) Pollution Removal Funding Agreements (PRFAs) to help reimburse response costs of supporting tribal, state, and local agencies, including:

- \$70,000 to Washington Department of Ecology
- \$60,000 to Confederated Tribes and Bands of the Yakama Nation
- \$ 8,000 to U.S. Forest Service
- \$ 4,000 to Confederated Tribes of the Warm Springs
- \$ 2,500 to U.S. Geological Survey

The FPN will be kept open until through the fall 2016 to evaluate whether oil contaminants in shallow groundwater present any more potential or substantial threat to discharge into the Columbia River, adjacent wetlands, or Rock Creek.

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
PRFAs	\$144,500.00	\$0.00	\$144,500.00	100.00%
START	\$125,000.00	\$98,986.67	\$26,013.33	20.81%
Intramural Costs				
USEPA - Direct	\$192,997.65	\$54,021.82	\$138,975.83	72.01%
USEPA - InDirect	\$37,502.35	\$8,789.35	\$28,713.00	76.56%
Total Site Costs				
	\$500,000.00	\$161,797.84	\$338,202.16	67.64%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

2.5 Other Command Staff

No information available at this time.

3. Participating Entities

3.1 Unified Command

Originally consisted of Mosier Fire District, OR Department of Environmental Quality, Washington Department of Ecology, U.S. Environmental Protection Agency, Yakama Nation, and Union Pacific Railroad. However, Unified Command is no longer in effect at the site, as site activities have transitioned to soil and groundwater remediation, with the lead for these actions being ODEQ.

3.2 Cooperating Agencies

During the response, these agencies included: OR State Fire Marshal, OR Department of Transportation, OR Health Agency, OR Emergency Management, Confederated Tribes of Warm Springs, Columbia River Inter-Tribal Fish Commission, U.S. Dept. of Interior, National Marine Fisheries Service, National Oceanographic and Atmospheric Administration, US Forest Service, US Coast Guard, US Army Corps of Engineers, FEMA, Columbia River Intertribal Fish Commission, USCG National Pollution Funds Center, US Geologic Survey, Federal Railroad Administration, Pipeline and Hazardous Materials Safety Administration.

4. Personnel On Site

There are no personnel on site at the current time.

5. Definition of Terms

No information available at this time.

6. Additional sources of information

6.1 Internet location of additional information/report

EPA website for the response: <http://www.epaosc.org/mosieroiltrainderailment>

ODEQ site data is held at:

<http://www.deq.state.or.us/lq/ECSI/ecsi.htm>

Select "Search Complete ECSI Database"

Enter the site ID number where indicated. For this site, the ECSI number is **6115**. Hit Submit. On the page that appears, click on the site ID number.

6.2 Reporting Schedule

7. Situational Reference Materials

No information available at this time.