United States Environmental Protection Agency
Region X
POLLUTION REPORT

Date: Wednesday, November 3, 2004
From: Daniel Heister

Subject: Completion of Spill Emergency Response Actions
Cow Creek Train Derailment
Cow Creek, Riddle, OR
Latitude: 42.8772000
Longitude: -123.5658000

POLREP No.:	3	**Site #:**	FPN E05001
Reporting Period:	10/30/04-11/1/04	**D.O. #:**	
Start Date:		**Response Authority:**	OPA
Mob Date:	8/27/2004	**Response Type:**	
Demob Date:		**NPL Status:**	
Completion Date:	11/1/2004	**Incident Category:**	Removal Action
CERCLIS ID #:		**Contract #**	
RCRIS ID #:		**Reimbursable Account #**	
FPN#			

Site Description

On Tuesday, October 26, at approximately 1615 hours, a catastrophic failure occurred on the Central Oregon & Pacific Rail Line (CO&P) along Cow Creek, near Riddle, Oregon. As a result of the failure of the line, two diesel fuel tanks were ruptured on two separate locomotives (with a total capacity of 8,000 gallons). The cause of the incident is under investigation. The fuel released from the tanks was absorbed by the aggregate (porous) base rail bed and discharged into Cow Creek, approximately 50 feet lower in elevation and adjacent to the line. The rail line mobilized a cleanup contractor to the site that evening. The remaining fuel in the second locomotive was pumped into the unharmed tank of the first locomotive and into five 55-gallon drums. Most of the fuel from the third locomotive was released before the cleanup contractor could either plug the breach or pump it to another tank. Initial estimates by CO&P for fuel released from the tanks ranged from 1,800 gallons to 3,500 gallons.

Current Activities

Analytical results are received from the first 2 days of sampling (including the Riddle Water Supply intake). The water supply appears to contain low levels of PAHs that are below health-based benchmarks established by the state of Oregon. No other contaminants related to the site were detected in the Riddle Water intake water samples.

The rerailment contractor for CO&P, Hulcher Services, completed removal of the 10 derailed cars and three engines by the early evening on Saturday, 10/30/2004. Much of the lumber product that was separated from the railcars during the derailment remains on the steep embankment between the rail line and Cow Creek. It will be removed by another contractor at a future date. The lumber, estimated by rail officials to be enough to construct several homes, may be sold back to a woodmill for reprocessing.

Excavation activities commenced the evening of Saturday, October 30, and continued the following morning. The activites followed the IC-approved Soil Remediation Plan which lists Soil Removal/Treatment and Soil Flushing as its main objectives.

An area encompassing both of the diesel release sites (approximately 50 feet apart) was marked off on the rail line. Rail and rail ties had already been removed from most of this area during rerailment activities since the line was destoyed at this section of the track. The entire excavation site measures 71 feet in length (north-south along the rail line), 13 feet in width (east-west) from the upslope of the hill to the downslope, and approximately 1.5 feet deep where bedrock is encountered. The width of excavation was limited by the presence of a fiber optic transmission line buried near the downslope on rail right of way. Excavated diesel contaminated soil and rock filled two "air dump" open top railcars for a total volume of approximately 100 cubic yards. Two solid samples were collected by the RP consultant for analysis of the excavated material to document contaminant concentrations and determine proper treatment/disposal. The excavated material will be stored on CO&P property until the disposition of the

waste is assured. The consultant (BB&A) has also collected 11 soil confirmation samples from the base and side of the excavation to estimate the amount of diesel remaining in the spill area(s). Based on field observations, it appears that some diesel remains in the spill area but no pooled product is observed. The bedrock appears to be heavily fractured causing the fuel to drain readily from the spill site.

The soil flushing component commenced the afternoon of Sunday, October 31, 2004. The objective of the flushing is to mobilize the fuel held up in the rock crevices beyond the soil excavation zone and to mobilize fuel adhering to substrate materials. The controlled flushing is deemed a reasonable objective as it is to occur while sufficient booming and personnel are present to capture released diesel at the toe of the bank and will expedite the removal of residual fuel may be mobilized by natural rain events over a longer period of time. Several boom locations manned by personnel are situated at the base of the spill site and further downstream to collect fuel which may be introduced by the flushing.

On Sunday, October 31, the water was released from a tank car at an initial rate of approximately 30 gallons per minute (gpm) and increased gradually to 100 gpm. Within 20 minutes of the introduction of water to the spill site, personnel at the toe of the bank indicated an increase in diesel odor (but no fluid) possibly indicating the displacement of vapors by the water. Within 1 hour of the release of water at the spill site, water and fuel began to emerge from the fractures at the base of the slope. Personnel were able to capture the fluid with sorbent pads and boom with minimal release to downstream boom locations. Fluid release subsided at the toe of the bank within a few hours of the initial release. Approximately 15,000 gallons of water were introduced to the spill zone during this soil flushing activity. Water samples were collected downstream of the spill site during the flushing activity to determine the impact of the activity on Cow Creek.

The IC decided to conduct a second soil flushing activity the morning of November 1, 2004. Approximately 19,000 gallons of water were introduced to the spill site at a flow rate of approximately 200 to 250 gpm for the second round of soil flushing. Within 30 minutes, water and diesel began to emerge at the base of the slope at the southern end of the spill site. Crews and regulatory personnel indicated that the majority of the liquid released from the downslope was water and sorbent pads and boom were readily available to capture the free product with minimal release to Cow Creek. Again, downstream water samples were collected by EPA and the RP consultant. Samples are analyzed for NWTPH-Dx and PAHs.

Planned Removal Actions

The RP cleanup contractor will continue to monitor and maintain hard boom (sea curtain) and sorbent boom and pads at the spill site and two locations downstream. The downstream boom locations include a triple-boom situated across a slow moving stretch of the creek approximately 1.5 miles downstream and at the Riddle water intake, approximately 16 miles downstream of the spill site.

Water sampling will continue through Tuesday 11/02/2004 at approximately 10 downstream locations to monitor the levels of dissolved PAHs and diesel in the river. Analytical data thus far has indicated low levels of PAHs persist in the downstream water samples with sporadic detections of diesel in slow moving stretches of the creek. Upstream samples have not contained detectable levels of PAHs or diesel.

Next Steps

A monitoring and maintenance plan will need to be approved by the state. A draft plan was introduced to the IC on November 1, 2004. The draft plan lists 5 locations for water sampling including: upstream of the spill site; immediately downstream of the site; approximately 900 meters downstream of the site (which has been sampled throughout the response); immediately upstream of the Riddle water intake; and the Riddle raw water (prior to chlorination). A SCAT survey will coincide with the water sampling. The samples will be analyzed for PAHs and will be collected once a week for the next 3 weeks and once a month for the next 3 months. Water samples collection may also occur during a significant rain event, a release from an upstream resevoir, a sheen traceable to the spill site, and/or a noticeable change in the Riddle water supply. The draft plan states that these events may coincide and/or replace the regimented sampling events if they fall within the stated time frame.

Boom tending will involve the removal and replacement of sorbents as well as ensuring that boom at the spill site is adjusted to encompass any releases observed during water level fluctuations in the creek. Boom will be removed from downstream locations but will be cleaned and staged at one downstream location for rapid deployment. The daily maintenance will continue through November 8, 2004, with bi-weekly maintenance happening there after, unless there is a major rain event occurs.

Key Issues

The RP must be ready to re-deploy appropriate resources if a significant increase of diesel is observed

emanating from the spill site.

All analytical data (including future event sampling) not presently available should be provided to state and federal authorities.

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