

**United States Environmental Protection Agency  
Region X  
POLLUTION REPORT**

**Date:** Thursday, November 16, 2006

**From:** Jeffry Rodin

**To:** Jeff Fowlow, Ecology & Environment, Inc. Steven Merritt, Ecology & Environment, Inc.

**Subject:** Continuing Clean-up of Diesel Contamination  
PSE Crystal Mountain Diesel Spill  
Crystal Mountain, WA  
Latitude: 46.9430000  
Longitude: -121.4740000

<b>POLREP No.:</b>	4	<b>Site #:</b>	Z0BR
<b>Reporting Period:</b>	11/13/2006-11/16/2006	<b>D.O. #:</b>	
<b>Start Date:</b>	11/4/2006	<b>Response Authority:</b>	OPA
<b>Mob Date:</b>	11/4/2006	<b>Response Type:</b>	Emergency
<b>Demob Date:</b>	11/30/2006	<b>NPL Status:</b>	Non NPL
<b>Completion Date:</b>	11/30/2006	<b>Incident Category:</b>	Removal Action
<b>CERCLIS ID #:</b>		<b>Contract #</b>	
<b>RCRIS ID #:</b>		<b>Reimbursable Account #</b>	
<b>FPN#</b>	E07001		

**Site Description**

On November 3rd, 2006, a Puget Sound Energy (PSE) generator above ground storage tank (AST) was overfilled when automatic shutoff valves failed. The storage tank is filled by three 12,000 gallon underground storage tanks (UST's). It is estimated that 18,000 gallons of diesel fuel spilled onto the generator pad and drained downhill into a drainage ditch which flows under Crystal Mountain Drive to Silver Creek and the diesel fuel spilled down an access road close to ¼ of a mile in distance. The fuel spilled at a rate of approximately 18 gallons per minute.

Temporary containment measures were implemented in an attempt to minimize fuel moving offsite towards Silver Creek. Containment measures include a series of trenches, use of absorbent materials, and construction of an underflow dam with PVC pipes and earth. Additional interceptor trenches have been excavated to collect product seeping down gradient of the generator site.

**Current Activities**

Monday, November 13th, 2006

- The main focus remains locating released diesel and conducting removal actions where contamination is found. To this end, a total of 3 boreholes were installed today with one borehole having been converted to a monitoring well (bringing the total to seven). The monitoring well was drilled to a depth of 25 feet below ground surface (bgs) while the soil borings encountered refusal at 10-12 feet bgs. A total of 5 soil samples were collected for analysis.
- Ground penetrating radar ((GPR) a suitcase size unit pulled on a "sled") was used to help characterize the soil and geologic formations.
- A total of ten bags of oil-absorbent pads were recovered from site.
- Three hundred linear feet of excavation was completed along the Power Line Access Road.
- Seven trucks with a total of 241.36 tons of contaminated soil was removed and sent offsite for disposal.
- A total of 3 drinking water samples were collected and submitted to lab for NWTPH-Dx analysis (Northwest Total Petroleum Hydrocarbons-Diesel).
- A total of 9 surface water samples were collected by and submitted to lab for NWTPH-Dx analysis.

Tuesday, November, 14th, 2006

- GPR was used to help characterize the soil and geologic formations. The GPR's focus is along the creek where the borings and trench will be installed.
- Drinking water samples from wells around the lower end of Silver Creek (near State Route 410) are continuing to be collected on a daily basis. All drinking water sample results received so far have been

"non-detect" for petroleum and petroleum constituents (benzene, toluene, xylene).

- Samples directly from the creek (both near the spill site and at the lower end where cabins are located) are continuing to be collected on a daily basis.
- A mobile laboratory arrived on-site today to make sample analysis more efficient.
- Small amounts of diesel fuel were continuing to "seep" out of the ground near Silver Creek and were being addressed with sorbent pads (not enough fuel seeping out to warrant removal by vac truck).
- The Unified Command (Ecology, EPA/USFS, PSE) continues to coordinate closely with the Crystal Mountain Ski area as lifts are expected to open on a limited basis on Thursday. Traffic control and safety is a high priority and off-duty Pierce County Sheriff's Department deputies are being hired to station vehicles (with flashing lights) in appropriate areas to ensure adherence to posted speed limits. There are also construction zone signs and flagging personnel in the work area.
- PSE is utilizing 3 subcontracted drilling rigs to conduct exploratory soil boring and install monitoring wells. A track-mounted hollow stem auger (HSA) will be operating in the wetlands area, and a tire-mounted HSA and a sonic drilling rig will operate on Crystal Mountain Blvd. and on The Power Line Access Road. A total of 7 borings and 6 monitoring wells were installed, bringing the total number of wells installed to 14.
- An excavation of a hot spot area by a track hoe was conducted along Power Line Road. The excavation was 20' by 20' by approximately 18' deep. Soil samples were collected from the center of the excavation and field screened for diesel. The field team assessment was that the soil was heavily contaminated.
- A total of 9 loads of contaminated soil trucked off site (151.01 Tons total).
- Ten additional bags of spent oil-absorbent pads have been used today.
- A survey team continued conducting a detailed topographic survey of the site and surrounding area.

Wednesday, November 15th, 2006

- Natural Resource Trustees, consisting of representatives from USFW and WADFW along with representatives from the Muckleshoot Tribe, toured the site and discussed their concerns with impact to fish and wetland habitats.
- The excavation of a deep pit (18-feet deep and still encountering contamination) in the power line access road shows that the diesel penetrated much deeper into some areas of the road bed and will require significantly more contaminated soil to be removed from the road area than previously projected. Plans are underway to bring additional resources on-site to characterize the extent of the diesel contaminated soil and excavate and remove the contaminated soil.
- Five additional borings were drilled and five wells installing today including in the immediate vicinity of the diesel "seep" by Silver Creek. Plans have been made to install an interceptor trench at the oil "seep" area pending the diversion of surface water run-off from today's heavy rain and snow melt. The total number of wells installed is 19.
- A low-frequency ground-penetrating radar survey was conducted overnight along Crystal Mountain Blvd. which will provide geo-physical scientists on-scene with a better picture of the subsurface geological conditions in the spill area.
- Drinking water samples from wells around the lower end of Silver Creek (near State Route 410) are continuing to be collected on a daily basis.
- Daily sampling of Silver Creek near the spill site and at the lower end of the creek are also being collected daily.
- All drinking water well sample results received so far have been "non-detect" for petroleum.
- The spill response Unified Command (Ecology, EPA/USFS & PSE) continues to coordinate cleanup activities with the Crystal Mountain Ski Area. Traffic control and safety remain a high priority and measures are in place to ensure safe transit on Crystal Mountain Blvd.

Thursday, November 16th, 2006

- Crystal Mountain opened for commercial skiing. Removal operations are not affecting Crystal Mountain Blvd.
- PSE placed an interceptor trench to recover product between Crystal Mountain Boulevard and Silver Creek in the seep area.
- During excavation on the access road a natural spring was encountered in one area around 10' depth, partially filling the excavation. Plans are being made to address containment and disposal of the excess water.

- As of today 19 borings have been completed, 17 monitoring wells have been installed in those borings.
- Department of Ecology (DoE) discovered a sheen/product on a 600 ft. long sand bar located in Silver Creek downstream of the “seep”. Geo Engineers and DoE will investigate the sand bar tomorrow.
- PSE will mobilize additional office trailers tomorrow.
- Drinking water is continuing to be delivered to residences downstream of Silver Creek at the base of Crystal Mountain.
- Unified Command prepared a news release updating the clean up efforts of this emergency response.

#### **Planned Removal Actions**

- PSE will continue to recover product from the ground and maintain all spill control measures.
- PSE will continue surveying and conducting soil borings.
- PSE plans to continue daily water sampling for both drinking water and surface water.
- A haul road will be built above and parallel to the power line access road to Excavation of contaminated surface soils along the power line access road.
- A 24 hour operating plan is scheduled for Friday in anticipation of a 48 hour operating period to address the concerns of additional traffic for the crystal mountain ski area.

#### **Next Steps**

- Continuation of soil borings for contamination and site geology characterization.
- The building of haul road next to the power line access road to expedite the excavation of the contamination.

#### **Key Issues**

- Awaiting results of geophysical site investigation in hopes of identifying contaminant transportation pathway.
- PSE needs to develop a long term scope of work for the excavation around the generator site.

[response.epa.gov/PSECrystalMountainSpill](https://response.epa.gov/PSECrystalMountainSpill)