Landsburg Mine Site

WASHINGTON STATE DEPARTMENT OF ECOLOGY

Cleanup Update: Installation of Deep Monitoring Well

The Washington State Department of Ecology (Ecology) wants to update you on the status of cleanup activities at the Landsburg Mine site in Ravensdale, Washington**.** Comments are not being requested at this time**.**

Drilling and Installation of Deep Monitoring Well at Landsburg Mine Site.

Ecology has approved a work plan for the installation of a deep monitoring well *(LMW-11*) at the lowest level *(approximately 650 to 700 feet*) within the southern portion of the former mine. Fieldwork is anticipated to begin in July 2005.

This well will be used to obtain information about groundwater quality within the former mine workings. The data will also be used to determine whether wastes disposed in the trench have migrated to the deepest level of the southern end of the mine. The study to be conducted will include:

- Chemical analysis of water samples.
- Measurement of hydraulic head from the well.
- Measurement and evaluation of other chemical constituents and parameters to determine if contaminants are immobilized or diluted within the mine.
- Geologic logging.

Why install a deep well at the site?

Technical concerns have been raised about the level of risk that may exist at the site to the City of Kent Clark Springs water supply. This study will provide answers to some valid questions about potential contamination at the site such as:

- What is the nature of remaining contaminants deep in the former mine, if any are found?
- Are contaminants degrading, immobilized, or naturally reducing within the mine?
- What risks exist if contaminants are found?

In addition, Ecology will use the data obtained to:

- Evaluate the level of potential risk posed from the site.
- Clarify concerns about deep flow of potentially contaminated water from the site.
- Assess the potential for contaminants to migrate out of the mine or degrade within the mine.
- Clarify or rule out lingering technical concerns about potential threat to groundwater sources that may relate to materials disposed at the trench, and determine if this well could also serve as a sentinel well for early detection of contaminants.

Work to be done

Fieldwork will consist of four major activities:

- Geodetic Survey to locate the wellhead and the drill pad.
- Construction, drilling, well installation, and development.
- Water level measurements.
- Groundwater sampling and analysis.

June 2005

Site documents can be reviewed at the following locations:

Maple Valley Library
21844 SE 248th St., Maple Valley
(425) 432-4620

WA Department of Ecology
Northwest Regional Office
3190 160th Avenue SE
Bellevue, WA 98008
(425) 649-7190
(Call for an appointment)

For technical questions contact:

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To obtain high quality data, groundwater sampling and analysis is projected to begin in October 2005, two months after drilling, and when groundwater conditions have stabilized. Ecology will also collect samples for independent verification of results. Sampling and analyses of groundwater from *LMW-11* will coincide with the interim groundwater monitoring of other wells at the site.

During drilling and installation of the well, all drill cuttings and groundwater will be captured and contained on site for proper disposal.

What Happens Next?

The next steps after the well installation will depend on the sampling results.

If sampling shows mine water is not contaminated, it should remove other concerns relating to potential deep contamination and its relevant deep contamination pathway from the former mine. The cleanup will then proceed to the next stage.

If deep contamination is found, the Department of Ecology and the Potentially Liable Parties group (*PLP)* will evaluate its risks and will further consider if there are any technical and regulatory concerns that could impact the cleanup plans for this site. Such an evaluation will depend on the kind of contaminants and concentrations found, and supporting information from the suite of chemical parameters and other water samples taken at the site.

Therefore, Ecology would like to first evaluate the results of the deep well water sampling before the next steps are determined.

Ecology and the PLP group have been negotiating a draft Cleanup Action Plan (dCAP) describing in detail the cleanup actions to be taken. You will have an opportunity to comment on the actions during a 30-day comment period before they are finalized. At this point, no cleanup alternative has been formally selected. The dCAP is part of a Consent Decree (*legal agreement*) needed to implement the cleanup work.

Site Background

The Landsburg Mine site is a former underground coal mine located approximately 1.5 miles northwest of Ravensdale in southeast King County. The site is located directly south of the S.E. Summit-Landsburg Road and north of S.E Kent-Kangley Road (see figure). The Cedar River is approximately 500 feet north of the site. The mine site occupies property owned by Palmer Coking Coal Company and the Plum Creek Timber Company, L.P.

Coal mining began along the Landsburg coal *seam* in the 1930s. In 1959, when the Landsburg seam was exhausted, mining shifted to the Rogers seam and continued there until 1975.

Underground mining methods were used to extract the coal from the Rogers seam. These methods resulted in the ground surface above the abandoned mine sinking down and forming a *subsidence trench*. This trench is roughly three-quarters of a mile long, 20- to 60-feet deep, and 60- to 100-feet wide.

During the late 1960s and early 1970s, the northern part of the trench was used as a disposal site for a variety of industrial wastes. The wastes were either contained in drums or were drained from tanker trucks. Records indicate that about 4,500 drums and 200,000 gallons of oily waste water and sludge were disposed of in this portion of the trench. A portion of the waste may have been burnt during fires. Samples taken from recovered drums indicate that this material consisted of a wide range of organic and inorganic industrial waste, including paint waste, polychlorinated biphenyls (PCBs), cyanide, metals, and oily sludge. Disposal of land-clearing debris and construction debris in the trench continued until the early 1980s.

In late 1991, at Ecology's request, four of the Potentially Liable Persons (PLPs) removed the most accessible drums from the trench and constructed a fence to restrict access to the site. Following removal of the drums, Ecology and the PLPs began negotiations for a Remedial Investigation/Feasibility Study. The results of this study were the subject of public review and comment in March 1996.

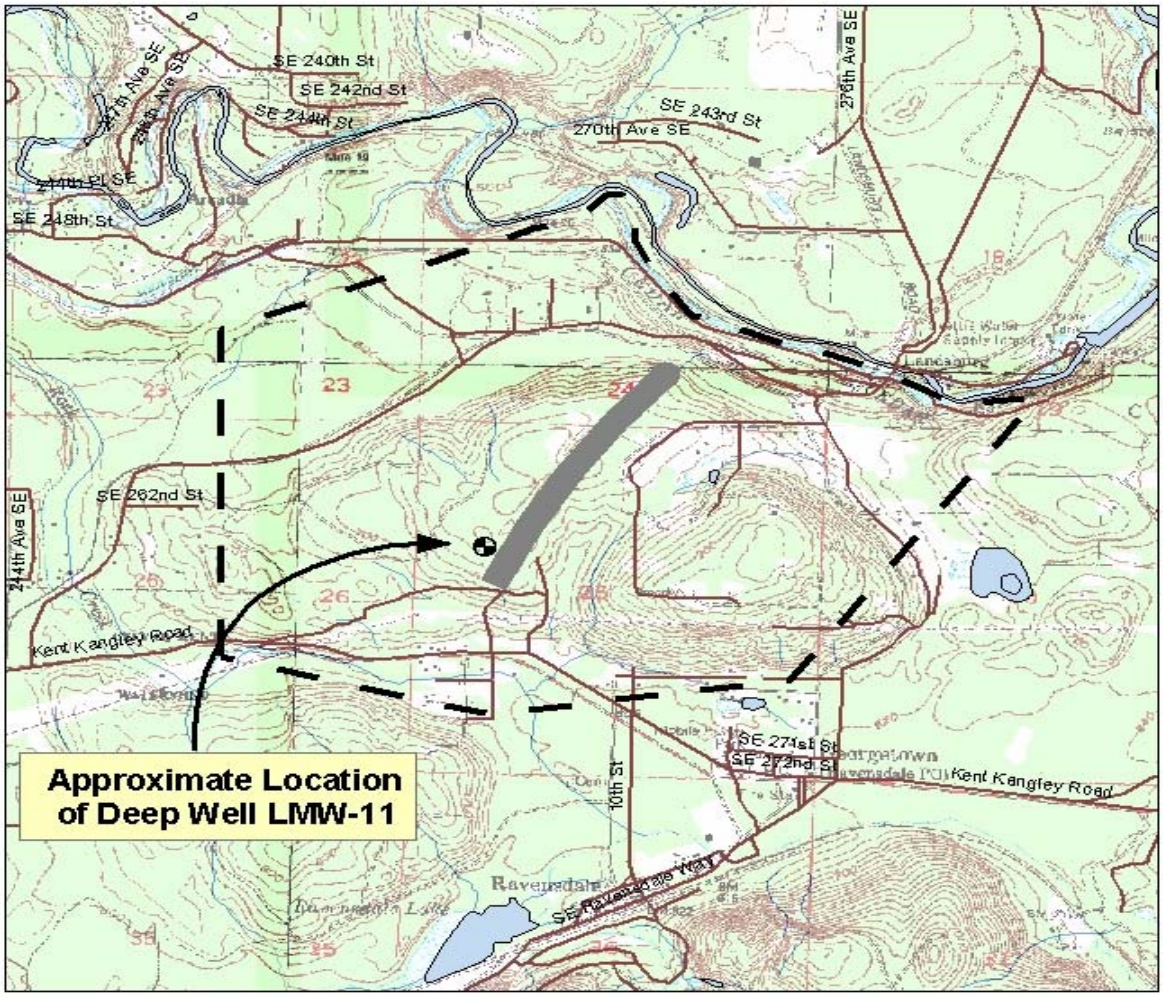
Overview of Previous Groundwater Sampling

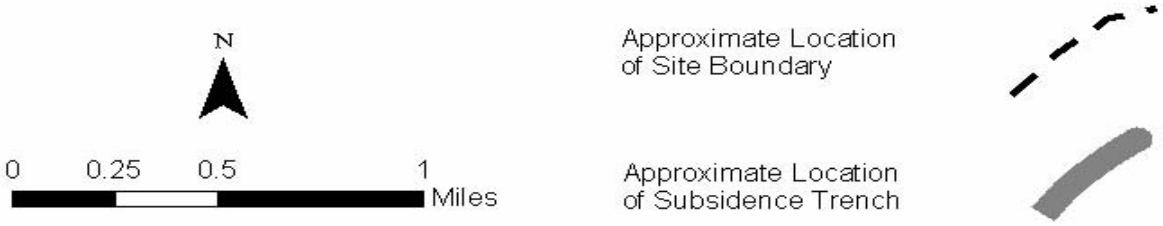
Extensive sampling of 14 private wells, seven monitoring wells installed in close proximity to the mine site, and water flowing from the two mine *portals* (the now collapsed north and south entrances to the mine) was conducted in 1996. The well water and surface flows were analyzed for a wide variety of pollutants including metals, organic compounds, and inorganic compounds. The results of the testing indicate that the wastes disposed of in the mine were not affecting ground water.

Additional sampling of monitoring wells at the site was conducted to check for contaminants in May 2000 and October 2003. The results indicate that the site still had not affected ground water.

How can you be involved?

Ecology encourages you to stay informed and involved in the cleanup by getting on the site mailing list (see box on page one for a contact), attending Ecology meetings, reading related documents as they become available, becoming familiar with the process and providing feedback through public meetings and comment periods. You can provide valuable local input and knowledge that will be helpful as the cleanup plan is developed and implemented.





Location Map of Landsburg Mine Site, Ravensdale

Coal Mining and Cleanup Terms

Seam: A layer of coal typically surrounded by sedimentary rock, locally known as bedrock or "the Puget Group," and generally consisting of sandstone, siltstone, claystone, and carbonaceous shale.

Subsidence Trench: Subsidence is the gradual sinking, or sometimes abrupt collapse, of overlying rock and soil layers into an underground mine. At the Landsburg Mine, the land surface collapsed to form a narrow, deep trench along the line of the Roger's coal seam.

Underground Mining Methods: The Roger's mine was operated by driving a series of tunnels in the coal seams at depths of up to 600 feet. The coal was loosened by blasting, removed mechanically, and hauled to the surface in coal cars.

Remedial Investigation is used to characterize the site and define the extent of contamination

Feasibility Studies develop and evaluate cleanup options for a given site.

A *Potentially Liable Person* is defined as any individual(s) or company(s) potentially responsible for, or contributing to, the contamination problems at a site. Whenever possible, Ecology requires these PLPs, through administrative and legal actions, to clean up hazardous waste sites for which they may be liable.

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