

## Reports Available for Review and Comment

Ecology invites comments on the draft Remedial Investigation and Feasibility Study (RI/FS) Reports conducted at the Airport Kwik Stop site. These documents will help guide clean up of site-related contamination. The site begins west of Highway 31 and north of Greenhouse Road and extends generally east and southeast toward the river in Ione, Pend Oreille County, Washington (Fig. 1).

Contamination is found in soil and groundwater at the Airport Kwik Stop, beneath the Cabin Grill, and on several private properties Northeast and Southeast of the Cabin Grill. The Remedial Investigation Report provides information about the extent of contamination at the site. Current contaminants of concern include volatile organic compounds (VOCs), benzene, toluene, ethylbenzene and xylenes (BTEX), and gasoline range petroleum hydrocarbons (GRPH) in soil and groundwater. The Feasibility Study Report evaluates four options for cleanup at the site.



Airport Kwik Stop Site

## You are invited to:

- ◆ **Review** the Remedial Investigation and Feasibility Study Reports. These documents are draft until Ecology considers public comments and makes any appropriate modifications.
- ◆ **Send** comments to Doug Ladwig of Ecology **November 27 through December 30, 2013**. Doug's contact information is in the box at the right.

## Site Background

The Airport Kwik Stop was formerly a convenience store and historically sold gasoline and diesel. The site is made up of the Airport Kwik Stop, the Cabin Grill, and vacant properties north, south, and east of the Cabin Grill. In 1994 underground storage tanks at the Airport Kwik Stop were removed and above ground storage tanks were used to store fuel. In 2008 a leak occurred in a pipe connection under the premium gas dispenser which resulted in spraying gasoline inside the dispenser. In 2010 and 2011 soil and groundwater samples taken from the site showed certain petroleum-related contaminants exceeded state standards.

## Comments Accepted

November 27 through December 30, 2013

For **ADA accommodations** or documents in an alternate format, call Carol Bergin 509/329-3546 (voice), 711 (relay service), or 877-833-6341 (TTY).

## Document Review Locations

### WA Department of Ecology

Kari Johnson, Public Disclosure  
4601 N. Monroe St.  
Spokane, WA 99205-1295  
Call for an appointment 509/329-3415

### Ione Public Library

Ione Community Center  
200 Blackwell, Suite 1  
P.O. Box 605, Ione, WA 99139  
509/442-3030

### Ecology's Toxics Cleanup Website

<https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=4203>

## Comments/Technical Questions

WA Department of Ecology  
Doug Ladwig, Site Manager  
4601 N. Monroe St.  
Spokane, WA 99205-1295  
509/329-3440  
[Doug.Ladwig@ecy.wa.gov](mailto:Doug.Ladwig@ecy.wa.gov)

## Health-Related Questions:

Matt Schanz at Northeast Tri County  
Health District 509/684-2262

## Public Involvement Questions

WA Department of Ecology  
Carol Bergin, Public Involvement  
See Ecology address above  
509/329-3546 or  
[Carol.bergin@ecy.wa.gov](mailto:Carol.bergin@ecy.wa.gov)

**Facility Site ID No.** 32584416

**Cleanup Site ID No.** 4203

## Remedial Investigation Results

The Remedial Investigation Report evaluates past investigations as well as those conducted from 2010 through 2012. Investigations included the Airport Kwik Stop, Cabin Grill and vacant properties.

These properties, as well as the Ione Airport, domestic wells on private residences downgradient and surrounding the Airport Kwik Stop, and some portions of property in the rights-of-way administered by the Washington State Department of Transportation were evaluated. Results of the investigation show the Ione Airport is not a contributor to the contamination and is not considered part of the site.

## Soil Results

The Remedial Investigation showed soil near the fuel dispensers at the Airport Kwik Stop contains gasoline range petroleum hydrocarbons (GRPH) and volatile organic compounds (VOCs), including BTEX compounds, at levels that exceed state standards. Petroleum contamination was also found in soil near the southeast corner of the Airport Kwik Stop property.

An underground storage tank was discovered and closed during the installation of the SVE system. The tank contained water but no fuel. The tank was 500 gallons in size and located under the southeast corner of the convenience store building. Water was removed from the tank and it was filled with concrete.

The contaminated soil in the fuel dispenser area at the Airport Kwik Stop extends from the surface to groundwater at a depth of approximately 34 to 39 feet. Current asphalt and concrete in this area prevent human and wildlife contact with the contaminated soil.

Five soil samples near the Cabin Grill contained GRPH and BTEX petroleum contamination at levels that exceed state standards. Five soil samples from the vacant properties also contained GRPH and VOCs at levels that exceeded state standards.

## Groundwater Results

Groundwater movement at the site is complex and flows both easterly and southeasterly toward the Pend Oreille River. Additionally, groundwater levels fluctuate depending upon the time of year.

Ecology's contractors monitored groundwater between June 2010 and August 2012. Monitoring showed contamination in groundwater that forms what is called a plume (see Fig. 1). Petroleum product is floating on the top 1-2 inches of the groundwater plume that is beneath the Cabin Grill. The plume also contains petroleum product that has dissolved and become part of the groundwater that lies under the Airport Kwik Stop fuel dispensers and moves downgradient. The plume has migrated to the east-southeast at least 1400 feet. Three domestic water wells have been impacted by the plume as well as the domestic water well at the Cabin Grill.

Potential impacts to humans and wildlife could occur if the contaminated groundwater plume rose to the surface in springs, seeps, or small ponds along the Pend Oreille River. Although Ecology has not found contamination in these areas, it is recommended that people avoid contact with these types of springs, seeps or ponds at this time.

## Ione Airport

The Ione Airport does not contribute to the groundwater plume that extends from the Airport Kwik Stop to the Cabin Grill. In 2008 two underground storage tanks (USTs) were removed at the airport, and soil contamination was discovered at that time. During follow-up investigations conducted in 2010 and 2011 soil and groundwater at the Ione Airport met state standards. Additionally, the groundwater monitoring well at the airport has met state standards since August, 2012 when it was installed. As a result of these findings, the Ione Airport is not considered part of the Airport Kwik Stop site.

## Actions Taken to Reduce Contamination

As part of the RI/FS two treatment systems were tested to reduce contamination in soil and

groundwater. The first system consisted of two Soil Vapor Extraction wells (SVE1 and SVE2) that pulled air from contaminated soil into well screens and through piping to an exhaust stack. Petroleum product was volatilized and pulled into SVE wells. This process removes the volatilized petroleum from the ground. The tests show this is successfully being used to remove petroleum hydrocarbons from the soil.

The second system, called an Air Sparge system, is often used in conjunction with an SVE system to improve groundwater conditions. Air is injected into contaminated groundwater and changes the VOCs to a vapor phase which is then vented through piping and removed by the SVE system. This process can help in the biodegradation of certain contaminants by increasing dissolved oxygen in groundwater which provides oxygen for microbial activity. However, testing showed this is not an effective method for removing contamination from groundwater at this site.

**Feasibility Study Report**

The cleanup alternatives evaluated for this site contain complex technical information that is detailed in the report. This fact sheet provides only a brief overview of the four options considered.

**Alternative 1: Source Area SVE/BV, Product Removal, and Natural Attenuation.** This option continues the use of the current SVE and Bioventing (BV) systems at the Airport Kwik Stop until state standards are met for the contaminated soil. It is anticipated this system would remove 30,000 pounds of petroleum hydrocarbons from soil over 2 ½ years.

The petroleum product on top of the groundwater plume is addressed using pumps designed to remove petroleum product. Petroleum product that is recovered is disposed of or recycled off-site.

Contaminants within the groundwater plume are allowed to naturally reduce over time. Groundwater monitoring is conducted over a long term period to monitor the progress.

**Alternative 2: Source Area SVE/BV, Product Removal, Hydraulic Control, and Natural Attenuation.** This option is the same as Alternative 1 but includes use of a hydraulic control method to optimize recovery of petroleum product.

**Alternative 3: Source Area Excavation, Product Removal, Hydraulic Control, and Chemical Oxygenation.** This option removes contaminated soil at the Airport Kwik Stop property. It requires demolition of the building and work to preserve Highway 31 and Greenhouse Road. It addresses the groundwater contamination similar to Alternative 2. It also adds a chemical oxidation process to enhance cleanup of dissolved contamination in the groundwater plume.

**Alternative 4: Source Area SVE/BV, Product Removal, Hydraulic Control, and Chemical Oxygenation.** This option is a combination of treatment technologies in Alternatives 2 and 3. It does not include excavation of contaminated soils.

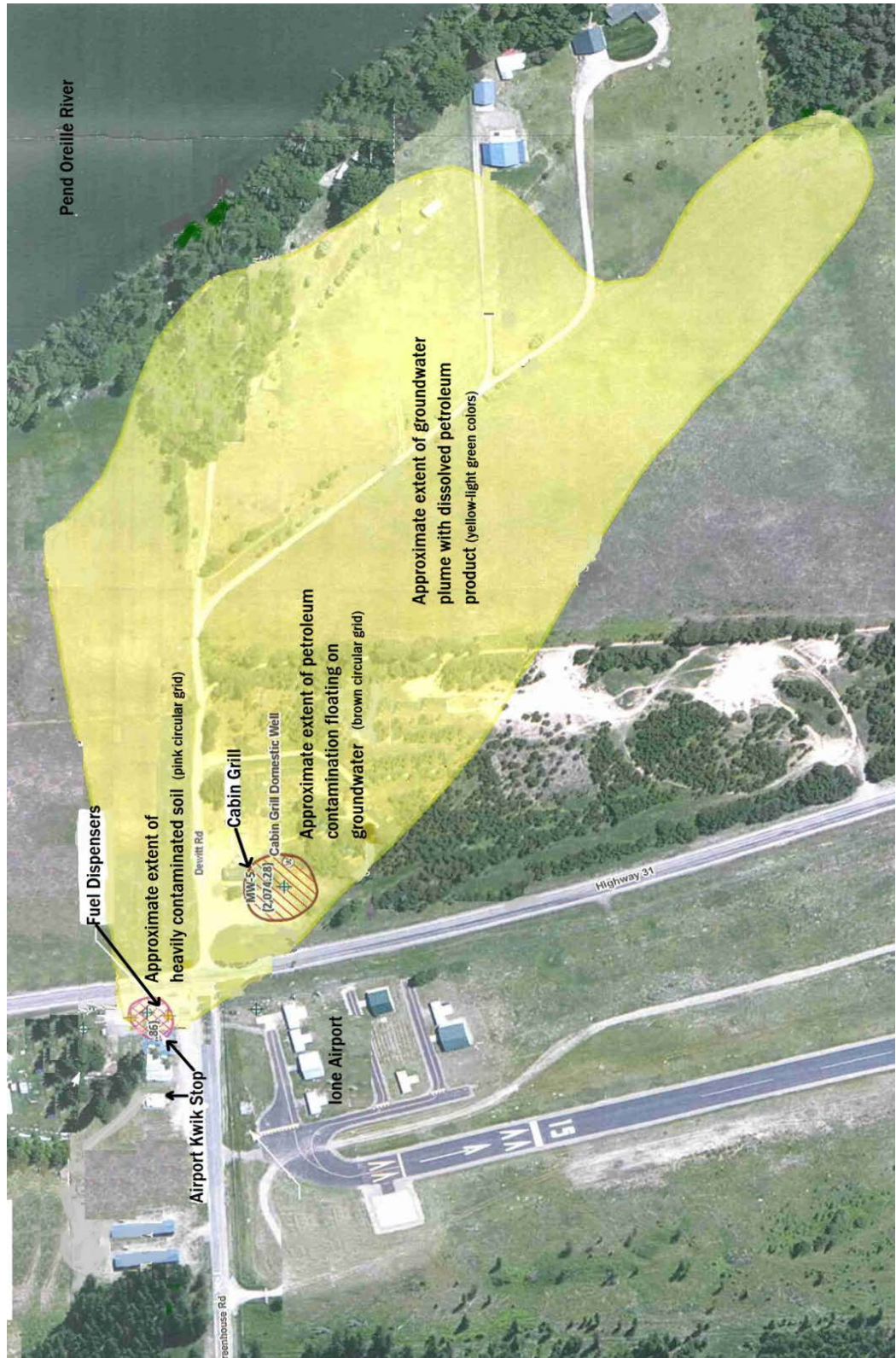
**What Happens Next?**

Ecology will review and respond to the comments received. A written Responsiveness Summary will be prepared and sent to all commenters and placed on the website listed in the box on page 1. Ecology will make modifications to the reports based on public comment if appropriate. If no changes are made, the reports will become final.

Ecology may conduct additional cleanup actions called Interim Actions in late spring 2014. The Interim Actions would address the petroleum product floating on the groundwater plume beneath the Cabin Grill. If Ecology determines this work is necessary, the public will be notified and have an opportunity to comment on the proposed Interim Actions. A public meeting will be held to explain the proposed actions.

Next, Ecology will write a draft Cleanup Action Plan (DCAP) and identify the cleanup option that has been selected for the site. The DCAP will be made available for public review and comment.





Note: Figure modified from GeoEngineer's original for ease of reading

**Figure 1**



DEPARTMENT OF  
**ECOLOGY**  
State of Washington

4601 N. Monroe  
Spokane, WA 99205-1295

**Airport Kwik Stop Site**

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