



September 9, 2005

Smith Ranch - Highland  
Uranium Project  
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Mr. Lowell Spackman, District 1 Supervisor  
Land Quality Division  
Wyoming Department of Environmental Quality  
Herschler Building  
122 West 25<sup>th</sup> Street  
Cheyenne, WY 82002

RE: Permit to Mine No. 633  
In Situ Uranium Wellfield Release Report

Dear Mr. Spackman:

As reported to Mr. Steve Ingle of the Land Quality Division and Mr. Paul Michalak, NRC Project Manager, via e-mail on the weekend of September 3, 2005, Power Resources, Inc. (PRI) had a release of Production Fluid at the Smith Ranch Uranium Project in Converse County, Wyoming. The original volume estimate provided in these initial notifications was 9,000 gallons. However, after further investigation, that estimate has been reduced to approximately 4,500 gallons. The release was detected on September 2, 2005 in Mine Unit-2 at Production Well 2P-182. The release of fluid resulted from a cracked 1.5-inch schedule 80 union on the wellhead. The concentrations of uranium, selenium and radium in Injection Fluid are above background levels, however the fluid is not considered hazardous material under RCRA, and is not reportable under SARA.

In accordance with Chapter IV, Section 4(a)(iv) of the Water Quality Division Rules and Regulations, attached is a report describing the release and the steps taken to prevent a recurrence of this nature.

Please call if you have any questions.

Sincerely,

Ken Milmine  
Manager-Health, Safety  
& Environmental Affairs

KLM

Cc: Paul Michalak - NRC Project Manager      C. Foldenauer      S. Hatten  
M.D. Bryson      File SR 4.3.3.1      File SR 4.6.4.2      File SR 4.6.4.4



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## **Attachment**

### **Power Resources, Inc Smith Ranch-Highland Uranium Project URANIUM IN SITU WELLFIELD FLUID RELEASE REPORT**

#### **Production Well 2P-182 Schedule 80, 1.5-inch Union Failure**

##### **A. DESCRIPTION OF THE EVENT AND MITIGATIVE ACTIONS TAKEN**

On September 2, 2005 at approximately 8:30 p.m., personnel discovered a Production Fluid leak at well 2P-182 in Mine Unit-2. The release occurred when a 1.5-inch schedule 80 union on the wellhead failed. The well was immediately shut down and repairs were completed. The spill occurred on Labor Day weekend and limited staff was available. As a result, initial estimates for volume, extent, and uranium concentration made during the initial notification to the NRC and WDEQ-LQD have been revised after further investigations were conducted once appropriate staff returned to work.

An estimated 4,500 gallons of Production Fluid flowed from the wellhead onto the ground. The released fluid entered an ephemeral draw and flowed approximately 475 feet before it absorbed into the ground. Soil samples will be taken to determine potential effects in the spill area.

The approximate uranium concentration of the Production Fluid was 8.6 mg/l. The entire area will be reevaluated during the decommissioning of the wellfield to ensure that applicable decommissioning standards for soils are met. Although no adverse impacts are expected due to the small quantity of fluid involved and the small extent of the spill, soil samples will be obtained at two locations within the wetted area and at an adjacent background site. The samples will be analyzed for uranium, radium -226 and selenium.

The release occurred in the SW ¼, SW ¼, Section 25, T36N, R74W and affected approximately 0.2 acres. The exact location and extent of the spill is shown on the attached map.

##### **B. CAUSE OF THE RELEASE AND THE STEPS TAKEN TO PREVENT RECCURANCE**

###### **Cause**

The release occurred when a 1.5-inch schedule 80 union on the wellhead failed.

###### **Recurrence Prevention**

The union was replaced with a brass union instead of PVC. Brass is currently used in the construction of new wells or for replacement from maintenance activities to eliminate failure potential from PVC unions.

