



May 31, 2012

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

**CAMECO RESOURCES**  
 Smith Ranch-Highland  
 Operation  
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CERTIFIED MAIL # 7011 0470 0001 0202 1897 RETURN RECEIPT REQUESTED

RE: East Impoundment (Evaporation Pond) Leak, Cameco Resources,  
 Smith Ranch-Highland Uranium Project, Permit to Mine No. 633

Dear Mr. Spackman:

On November 7, 2011, Power Resources, Inc. d/b/a Cameco Resources (Cameco) provided verbal notification to the Wyoming Department of Environmental Quality, Land Quality Division (LQD) and the Nuclear Regulatory Commission (NRC) regarding a leak into secondary containment (sump) discovered on November 4, 2011 at the East Impoundment, referred to as Evaporation Pond in Permit 633, Volume 1, Section 5.5.5. Written notification followed in the Monthly Update dated November 30, 2011

Since the discovery of water in the sump, samples have continued to be taken on a weekly and monthly basis, when obtainable. Results are provided in the tables below.

**Weekly Sample Results**

Sample Date	Chloride (mg/L)	Conductivity (mS/cm)	Sample Date	Chloride (mg/L)	Conductivity (mS/cm)
11/04/2011	407	3869	05/23/2012	310	3046
12/14/2011	402	4133	05/30/2012	343	3662
12/28/2011	241	2439			
01/10/2012	247	2607			
01/19/2012	295	3336			
02/8/2012	241	2663			
02/15/2012	203	2407			
02/29/2012	173	2256			
03/12/2012	184	2213			
04/05/2012	196	2287			
04/10/2012	184	2313			
04/17/2012	215	2316			

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### Monthly Sample Results

Sample Date	Chloride (mg/L)	Conductivity (mS/cm)	Bicarbonate (mg/L)	Uranium (mg/L)	Sulfate (ppm)
11/04/2011	407	3869	650	179	-
12/28/2011	241	2439	442	134	900
01/10/2012	247	2607	424	135	-
02/01/2012	-	-	-	-	1080
02/21/2012	182	2286	540	105	-
02/29/2012	173	2256	511	106	-
03/01/2012	-	-	-	-	771
03/12/2012	184	2213	259	94	-
04/5/2012	196	2287	413	126	780
04/10/2012	184	2313	618	134	-
04/17/2012	215	2316	462	96	-
05/23/2012	310	3046	446	102	Results Pending
05/30/2012	343	3662	466	112	-

As reported in previous monthly updates, Cameco no longer has the ability to complete sulfate analysis at our on-site lab, therefore, monthly samples obtained are being sent to an external lab for analysis of sulfate.

In March two tears were found in the primary liner. Repairs to the liner were made on March 16, 2012 and reported in the March monthly update. After the repairs were made the water level in the impoundment was increased. On April 5, 2012 water was detected in the sump. Water was drained from the impoundment and Cameco continued to look for tears with none being discovered. During the month of May the water level was increased and closely monitored to accurately determine the water level when water starts emerging in the sump. Based on these monitoring events fluid began to emerge in the sump at a freeboard of 4 feet 5 inches. This gives a more precise depth to search for tears in the impoundment liner.

Cameco continues to examine the liner and work toward a solution. A plan for reline Impoundment network is outlined below:

All activities and work will be within previously disturbed areas and are targeting installing more durable liners that are 2.67 times as thick as the liners being replaced. Any defective components of the impoundment network will be replaced or repaired. Cameco plans to reline the West and East Impoundments with 80 mil High Density Polyethylene (HDPE), and to install a solids management system to keep solid material out of the impoundment network. Cameco will first excavate the accumulated 11e.(2) byproduct waste material from the West Impoundment, then reline the impoundment. During the relining, Cameco will inspect the underlining drain network for integrity and the sump system, conducting repairs as necessary. Cameco will then place this impoundment into service after testing with clean water to the crest minus 3' (the required freeboard of the pond). The pond will be tested for leaks for 72 hours. This process will be repeated for the East Impoundment.

Responses for the January 2012 East Storage Pond Leak Report Review were submitted to LQD on May 25, 2012. Routine monitoring will continue to be conducted and a monthly report will be submitted and progress will be reported to the WDEQ.

Please contact me at (307) 358-6541 ext. 476 or [Kenneth\\_Garoutte@cameco.com](mailto:Kenneth_Garoutte@cameco.com) if you have questions.

Sincerely,



Ken Garoutte  
Safety, Health, Environment and Quality (SHEQ) Manager

KG/vg

cc: File SR 4.3.3.1      File SR 4.3.3.4  
Special Volume: Impoundment Reports Start February 1999  
Mr. Doug Mandeville – NRC Certified Mail # 7011 0470 0001 0202 1903  
Document Control Desk, NRC Certified Mail # 7011 0470 0001 0202 1910

cc: Cameco-Cheyenne