United States Nuclear Regulatory Commission Official Hearing Exhibit			
In the Matter of:	POWERTECH USA, INC. (Dewey-Burdock In Situ Uranium Recovery Facility)		
	ASLBP #: 10-898-02-MLA-BD01 **Docket #:** 04009075 **Exhibit #:** INT-022B -00-BD01 **Admitted:** 8/19/2014 **Rejected:** **Other:**	**Identified:** 8/19/2014 **Withdrawn:** **Stricken:**	

SPILL-12/06/2011
AREA = 14,273 SQFT.

5575

5550

5600

H.H. 2 20 H.H. 3 18

H.H. 4 18

H.H. 5 22

9MU-4
9MO-4
9MP-4
9MU-3
9MO-3
9MP-3A
9MU-5A
9MO-5
9MP-5

REJECTED AIR PROD. WELL

SPILL

TOPOGRAPHICAL CONTOUR INTERVAL

HEADER HOUSE BOUNDARY

TOPSOIL (2008)

SPILL-1/25/2008
AREA = 366 SQFT

P 9P-XXX PRODUCTION WELL

I 9I-XXX INJECTION WELL

CONTOUR INTERVAL =5'

SPILL

PATTERN

FENCE

SCALE IN FEET
0 50 100 200

N

REVISIONS		
NO.	DATE	BY
0	12/06/11	NRH

CAMECO

Cameco Resources
SMITH RANCH - HIGHLAND OPERATION
P.O. Box 1210
Glenrock, WY 82637 Telephone: (307) 358-6541

MINE UNIT 9
SPILL 12/06/11
Header House 3

FSCM NO: | DWG NO: | CURRENT REV 0

PAPER SIZE: ANSI EXPAND B (11.00 X 17.00 INCHES)

U:\ENGINEERING\NICK'S\BASEMAP.DWG

Cameco

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December 21, 2011

ATTN: Document Control Desk
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Washington DC, 20555-10001

CERTIFIED MAIL #7011 0470 0000 7716 1031 RETURN RECEIPT REQUEST

RE: REPLY TO A NOTICE OF VIOLIATION Inspection Report 040-08964/11-002

Please find below Power Resource's Inc. reply to the Notice of Violation issued by the Nuclear Regulatory Commission (NRC) to Power Resources, Inc. (PRI) on October 25, 2011. This response is being provided in accordance with 10 CFR 2.201.

During an NRC inspection conducted on August 29 through September 1, 2011, three violations of NRC requirements were identified. The three violations are listed below-

1) "License condition 10.1.7 states, in part that the license shall maintain an area within the restricted area boundary for storage of contaminated materials prior to their disposal.

   Contrary to the above, on August 30, 2011, the licensee had two byproduct disposal bins, containing contaminated materials, stored in an unrestricted area adjacent to the Central Processing Plant.

   This is a Severity Level IV violation (Section 6.7)."

2) "License condition 12.1 states, in part, that if the licensee is required to report any wellfield excursions, spills, or pond leaks of source, 11e.(2) byproduct material, and process chemicals that may have an impact on the environment, or any other incidents/events, to State or Federal Agencies, a report shall be made to the NRC Headquarters Project Manager within 24 hours. Also, once a notification of a spill is made, the licensee is required to submit a written report documenting the event, corrective actions, and the outcome within 30 days.

   Contrary to the above, the licensee failed to provide a 30 day follow-up report for a spill that occurred on May 5, 2011, in Mine Unit 15A. The licensee also failed to provide NRC with copies of correspondence addressed to the Wyoming Department of

IE07

Environmental Quality, dated May 9, 2011, August 12, 2011 and August 26, 2011, related to the spill at Mine Unit 15A.

This is a Severity Level IV violation (Section 6.9)."

3) "Section 3.3 of the NRC approved license applications states, in part, that monitoring and alarm instrumentation are employed to provide centralized monitoring of key process components, and when operating parameters move outside specified normal operating ranges, an alarm will notify the operator to initiate corrective action to alleviate the problem.

Contrary to the above, on May 3, 2011, a release of production fluids occurred in Mine Unit 15A involving eight production wells, which caused operating parameters to move outside of the specified normal operating range. As a result of this occurrence, no automatic alarm was received at satellite building SR-1 to tell the night shift operator that there was a problem.

This is a Severity Level IV violation (Section 6.3)."

Reason for Violation #1

The two 11e.(2) containers were stored in a "Controlled Area" rather than a 'Restricted Area" located behind the Central Processing Plant(CPP). The CPP is located in the main office complex area that has controlled access through coded locked gates that do not allow visitors, vendors, delivery driver's or members of the public access to the site without permission from the main office or CPP. In addition the area is under constant surveillance with video back up and the CPP is manned 24 hours a day 7 days a week by employees.

Corrective Actions

Cameco Resources immediately began the process of fencing the area around the loading dock including both 11e.(2) bins and reclassified the area as a "Restricted Area". The fencing and posting was completed on September 16, 2011 and the area is kept locked or occupied at all times.

Date of full compliance

Full compliance was achieved on September 16, 2011.

Reason for Violation #2

On May 3, 2011(stated as May 5, 2011 in the NRC inspection report) @10:30 am a release of mining solutions located in Mine Unit 15A Header House (HH) 15-20 was identified. Notification was made to the Nuclear Regulatory Commission (NRC), Wyoming Department of environmental Quality (WDEQ), Land Quality Division and Water Quality Division within 24 hours. A written release of solutions report was required within five working days (WDEQ). The report was written and sent to the Wyoming Department of Environmental Quality on May 9, 2011 and two courtesy copies should have been sent to Cameco Resources NRC project

manager Mr. Doug Mandeville. The submittal letter had Mr. Mandeville as a cc recipient but, it appears the courtesy copies were not mailed.

The letter dated August 12, 2011 contained the HH 15-20 soil sample analytical results that were submitted to the WDEQ. The NRC was not included in the correspondence. The letter dated August 26, 2011 a "Draft" Remediation Plan was sent to the WDEQ to review and provide comments it was not intended to be a final document, after the WDEQ reviewed the document and provided comments the document was officially submitted to WDEQ and the NRC.

During the first half of 2011 the Senior Safety, Health, Environment, Quality (SHEQ) administrative assistant who managed all correspondence was intermittently absent due to illness. Three replacement contract employees were onsite during this time period that ultimately led to a disruption in the management of correspondence. In addition correspondence was not sent by certified mail to the NRC.

Corrective Actions

Two additional employees, the SHEQ Administrative Assistant and Receptionist have been properly trained to oversee the regulatory correspondence mailings.

A meeting was held with the SHEQ Manager and SHEQ Environmental Coordinator to discuss NRC license condition 12.1 reporting requirements.

Date of full compliance

Full compliance for NRC license condition 12.1 reporting requirements and submitting documents through certified mail was achieved on September 14, 2011.

Reason for Violation #3

On May 3, 2011 a release of mining fluid through eight production wells was discovered. During this time all three line fuses were blown causing a complete loss of electrical power in Header House (HH) 15-20. With the loss of all three phases of power the eight production pumps were rendered inoperable. The injection feed pumps are located in a booster station or a satellite which is on a separate electrical circuit therefore the injection feed pumps continued to pump fluid to the HH 15-20 and ultimately the injection wells in the wellfield.

The HH 15-20 is equipped with a local alarm consisting of a red beacon on the outside of the building that will alarm in the event of low/ high pressures or when fluid is indicated in the basement or a loss of power to the header house. It is also equipped with an auto cla val brand valve that will shut the injection flow in the event of a power outage or alarm phase. In the event of a loss of power an uninterrupted power supply (UPS) that operates for 35 minutes to provide backup power for the 15-20 header house alarm (red beacon). In addition the header house is equipped with an alarm that will activate in the satellite facility in the event of low/ high pressures or when fluid is indicated in the basement of the header house. If power is lost for greater than 35 minutes, the header house red beacon will no longer flash and alarm capabilities are no longer in effect. If all three phases of power are lost then the UPS system will activate a

local alarm through a red light beacon located on the top of the header house. In the event that power is not lost but the alarms are activated, notice would be sent to the satellite and a local alarm at the header house would be activated.

HH 15-20 is located in Mine Unit 15A in the southwest portion of the Smith Ranch – Highland (SRH) Project Area. Uranium mineralization occurs within the water bearing O-Sand unit of the Fort Union Formation, which is typical for much of the SRH Project Area. The groundwater potentiometric surface of the O-Sand aquifer within Mine Unit 15A is generally flat, but groundwater likely flows in an easterly direction under natural conditions in the absence of nearby aquifer pumping or injection effects.

Because of the moderate relief of the land surface and generally flat groundwater potentiometric surface of the O-Sand aquifer within Mine Unit 15A, the depth to O-Sand aquifer groundwater varies across the mine unit and is a function of the topographic surface elevation. The central and southwest portions of Mine Unit 15A exists in the uplands and the depth to O-Sand aquifer groundwater ranges from about 150 feet (central portion) to greater than 250 feet (southwest portion) below the ground surface. The northeast portion of Mine Unit 15A exists within an ephemeral stream valley that is incised into the surrounding landscape. Because of this topographically low geomorphic feature, the groundwater potentiometric surface of the O-Sand production zone aquifer is encountered about 100 feet from the ground surface. ***This is in contrast to other mine units within the SRH project area, in which production zone groundwater is usually in excess of 300-400 feet below the ground surface.***

In the area of Mine Unit 15A – Header House 15-20, the depth to O-Sand groundwater is about 100 feet below the ground surface. Moving in an up-gradient direction along the axis of the incised ephemeral stream valley, the depth to O-Sand aquifer groundwater increases quickly at a rate proportional to the gradient of the valley. At the boundary separating Mine Unit 15A from Mine Unit 15, the depth to O-Sand aquifer groundwater is approximately 135 feet below the ground surface.

Because Mine Unit 15A is in a non- typical mining zone where the production zone or "O sand" is approximately 100 feet below the ground surface (typically mining zones are 300'- 400'below the ground surface) the pressure needed to force water out of the production wells is much less than elsewhere on the mine site.

The investigation of this incident indicated that the alarms were not activated in the satellite because all pressures were within the normal operating range and no leakage was indicated in the header house basement. After the power was lost the UPS system came on and the red beacon on the header house was activated. It was determined that the cla val brand valve failed to shut when the power was lost. The satellite operators routine is inspect each header house every shift to verify flows/pressures and overall condition of each house. In this case it appears that the operator checked the header house early in his shift, after returning to the satellite facility the operator failed to review the past trends on the computer monitoring system which did indicate a drop in pressure by approximately twenty psi. In addition the Central Plant Operator has the

ability to observe the wellfield pressures. The operator on shift did observe a drop in pressure but failed to verify the reason, and assumed that the satellite operator was simply adjusting flows.

Corrective Actions

As indicated above the reasons for the failure to alarm are due to mechanical failure and should have been addressed by employees. It is anticipated that the controls listed below will address the mechanical failure and the human error.

The first corrective action is a new pressure differential alarm that has been installed in the SR-1 Satellite and the Central Processing Plant on the main injection line that has an audible alarm that will sound in the trailer bay and on the control room computer if 10 psi difference is indicated.

The second corrective action is motor operated valve (MOV) that is installed in the 15-20 header house as a back up to the cla val brand valve. The MOV will shut if the flow falls below 99 gallons per minute on the production line regardless of the power situation. In the event that the MOV is activated an alarm is indicated at the satellite and the header house.

The third corrective action is an electrical phase monitor located at the 15-20 header house to detect loss of power on the incoming power supply. The 15-20 header house electrical phase monitor has been tested to ensure its proper operation.

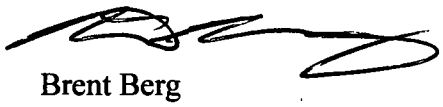
These corrective actions have all been implemented in HH 15-20 and additional MOV equipment has been ordered for Mine Unit 15A Header House 15-19, 15-21, 15-22, and 15-23 which are all located in the non-typical mining unit.

The fourth corrective action includes additional training to all Satellite and Central Plant Operators.

Date of full compliance

It is anticipated that the equipment for the additional non typical header houses will be installed by March 1, 2012.

Sincerely,



Brent Berg
General Manager

cc: D. Mandeville, USNRC (2 copies) CERTIFIED MAIL #7011 0470 0000 7716 1048
L. Spackman, WDEQ CERTIFIED MAIL #7011 0470 0000 7716 1055
SR 4.6.4.1
CR-Cheyenne

Cameco

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December 21, 2011

ATTN: Document Control Desk
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Washington DC, 20555-10001

CERTIFIED MAIL #7011 0470 0000 7716 1000 RETURN RECEIPT REQUESTED

RE: NRC Inspection Report 040-08964/11-002

Power Resources, Inc. d/b/a/ Cameco Resources is herein responding to NRC Inspection Report 040-08964/11-002 for the routine inspection conducted August 29-September 1, 2011.

In response to the unresolved item regarding the failure to evaluate if wells exceeded injection pressures after an incident (URI-040-08964/1102-03) Cameco Resources commissioned a third party review by, SRK Consulting. The third party review included analysis of information related to the May 3, 2011 in regard to forces placed upon the confined aquifer during the power failure and subsequent spill event as well as the pressure seen by the well heads. One causal factor that led to the spill was that Mine unit 15A, in contrast to other mine units within the Smith Ranch Highland (SRH) project area, has a potentiometric surface of the O-sand production zone aquifer approximately 100 feet below the ground surface, which is about 200 feet shallower than the potentiometric surface at most mine units in the SRH project area.

SRK completed a technical review of subsurface hydraulic response to injection well operation in the absence of pumping, as observed at Mine Unit 15A, header house 15-20 on May 3, 2011. The review was based on operational discussions with Cameco staff, review of all available and relevant information, and the results of groundwater modeling to simulate the power failure event. In conclusion it was determined that the formation fracture pressure nor the injection well head pressures were elevated beyond regulatory limits stated in the facility operating permits.

In addition Cameco Resources conducted mechanical integrity testing (MIT) inspections of all injection wells in the wellfield and found two of 40 Class III wells that did not pass the Cameco Resources MIT inspection criteria. The MIT wells were found to have failed at a joint of the PVC piping and did not appear to be related to the event that occurred on May 3, 2011. The wells (15I-0739 and 15I-0741) were plugged and abandoned on October 21, 2011 after further

investigation and isolation of the failure location. This information is available at site for your further review during the next inspection.

If you have questions, please contact me at (307) 358-6541, ext. 452

Sincerely,

Brent Berg
General Manager

Attachments: SRK Report

cc: D. Mandeville, USNRC (2 copies) CERTIFIED MAIL #7011 0470 0000 7716 1017
L. Spackman, WDEQ CERTIFIED MAIL #7011 0470 0000 7716 1024
File SR 4.6.4.1
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Technical Memo

To:	Dave Moody Arlene Faunce	**Date:**	November 26, 2011
Company:	Cameco Resources Smith Ranch Highland Operations	**From:**	Vladimir Ugorets Matt Hartmann Miori Yoshino Terry Braun
Copy to:	Jim Clay, Cameco David Repshire, Cameco	**Project #:**	157200.010
Subject:	Technical Review of Solution Release at Mine Unit 15, Header House 15-20		

1 Introduction

Power Resources Inc., dba, Cameco Resources (Cameco) requested that SRK Consulting (US) Inc. complete a technical review of potential operational impacts of a reportable release of uranium bearing solutions to the ground surface at the Smith Ranch Highland Uranium In Situ Recovery (ISR) Mine located in Converse County, Wyoming. This technical memo summarizes the event analysis completed by SRK.

2 Background

On May 3, 2011 an estimated 1,500 gallons of water were released from production wells located in Mine Unit 15, in the area of header house 15-20. The release resulted from a three failed transformer fuses that caused a total power outage at header house 15-20 at approximately 0230 hours. The automated Cla-Val flow control valve at the header house failed to close for unknown reason(s). The open control valve allowed continued pressurization of injection wells at an approximate rate of 400 to 600 gpm for a period of approximately 8 hours based on both production and injection pressure data recorded in Smith Ranch Satellite 1 (SR1) and the Central Processing Plant (CPP). Based upon field observations, 8 production wells flowed to the surface with no pumping to relieve injection pressure in the production formation. No surface flow was observed from the 150psi pressure relief valves that seal the injection well heads. Following discovery of release of solutions, the flow of barren lixiviant solution (BLS) to header house 15-20 was manually isolated and stopped. A vacuum truck was dispatched to the site and approximately 200 of the estimated 1,500 gallons released were recovered. Following replacement of the Cla-Val, and restoration of power, header house 15-20 operations resumed in the afternoon of May 3, 2011.

3 Technical Evaluation

In an effort to define the potential effects of the release event, Cameco requested that SRK undertake this technical evaluation to assess:

- The maximum pressure applied to the formation during the event compared to the permit stated fracturing pressure of the formation;
- The maximum pressure applied to the wells during the continued injection in absence to the pumping; and
- The maximum possible pressure experienced at the manifold in HH-20-MU-15 during the power outage event and subsequent contamination of injection in absence of pumping.

3.1 Site Visit

Prior to commencing the technical review, SRK completed a site visit at the Smith Ranch Highland facility on September 6-7, 2011. SRK staff present for the site visit were Terry Braun - SRK Practice Leader, and Vladimir Ugorets - Principal Hydrogeologist. Messrs Braun and Ugorets met with Brent Berg - Mine Manager, David Moody - Well Field Operations Manager Superintendent, Larry Wilbanks – Restoration Superintendent, Jim Clay - Senior Metallurgist, and David Repshire - Staff Engineer to discuss the scope of work, event of interest, and to gather relevant data to complete the technical review.

A second site visit by SRK was completed on November 8, 2011 by Matt Hartmann – Senior Hydrogeologist for the purpose of further discussion, and collection of additional data for assessment of the operational pressure regime of the Mine Unit 15 injection wells during the power failure. Mr. Hartmann met with Arlene Faunce – Radiation Safety Officer, Derek Eager – Well Field Supervisor, and Russel Jannsen – Well Field Services Supervisor, in addition to the aforementioned Cameco staff from the September meeting.

3.2 Formation Fracture Pressure

3.2.1 Analytical Evaluation of Formation Pressurization

Initial analysis of the available data consisted of a pressure evaluation to assess the potential of the continued operation of injection wells, in the absence of pumping well operation, to exceed the fracturing pressure of the formation.

Hydrostatic pressure was simulated as difference between depth to the top/bottom of production zone and depth to the water level. Injection pressure is a measured value prior to the pumping failure. Formation fracturing pressure was estimated base of gradient 0.7psi/ft, the same as that used in all Smith Ranch and Highland permits. The results of simulation of maximum total pressure vs. fracturing pressure of formation are shown in Table 1.

Table 1: Simulation of Maximum Total Pressure vs. Formation Fracturing Pressure

Parameter		Depth	Hydrostatic Pressure		Injection Pressure	Maximum Total Pressure	Formation Fracturing Pressure	Pressure Differential (Frac. – Max)
		ft	ft	psi	psi	psi	psi	psi
Top of Production Zone	Average	451.2	339.2	146.9	110.0	256.9	315.8	59.0
Bottom of Production Zone		471.6	359.6	155.7	110.0	265.7	330.1	64.4
Top of Production Zone	At Minimum Depth	442.0	330.0	142.9	110.0	252.9	309.4	56.5
Bottom of Production Zone		463.0	351.0	152.0	110.0	262.0	324.1	62.1

Note: Depth to water level in production zone is assumed to be 112ft

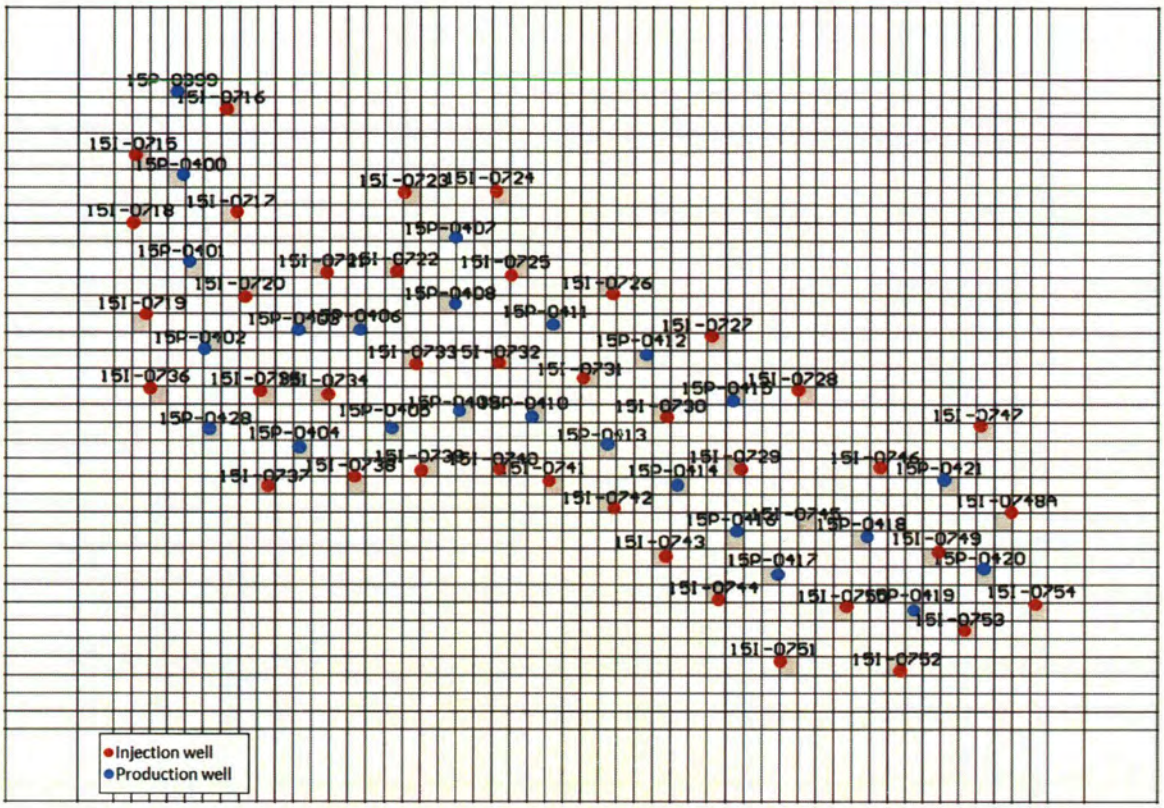
The results of the formation pressure evaluation indicate that:

- Hydrostatic pressures at averaged top and bottom of production zone vary between 147psi and 156psi (143psi and 152psi at the top and bottom of the most elevated part of production zone) assuming an average depth to the water level of 112ft.
- Maximum total pressures applied to formation at averaged top and bottom of production zone vary between 257psi and 266psi (253psi and 262psi at the top and bottom of the most elevated part of production zone).

3.2.2 Groundwater Modeling of Power Failure Event

SRK created a preliminary numerical groundwater model to simulate the PLS discharge from 8 production wells (wells 15P-409 to 15P-416) regulated by Header House 15-20 after the pressure flow control valve failure. Numerical modeling was chosen versus the Theis analytical solution to better estimate initial head distributions that existed during prior-to-failure operating conditions. The approximation for initial hydraulic head distributions was simulated using injection and pumping rates of the Header House 15-20 well field prior to pumping well failure and the model assumed that they were balanced (well field operated under steady-state conditions). These values were then used as initial hydraulic heads in a transient scenario where injection continued while pumping ceased. Visual MODFLOW-SURFACT (SWS, 2010, and HGL, 2006), a 3-D finite-difference code was used to simulate 2-D hydraulic head distributions within the production zone. A plan view of the simulated well field in Header House 15-20 is shown in Figure 1.

Figure 1: Plan-view of Well Field Controlled at Header House 15-20 Simulated by Numerical Groundwater Model



The results of completed modeling show that under the observed injection and pumping rates, the measured hydraulic conductivity and storativity, and given geology of the area, it was possible to model pressure increases in the production zone that resulted in water levels in inactive pumping wells to rise above the ground surface. The model set up and assumptions included:

- One numerical layer (26ft in thickness) and 89 rows and 103 columns, representing productive sand unit within an area approximately 5mi x 5.25mi;
- Grid cell discretization ranged from 62.5ft x 62.5ft in the well field area to 6,350ft x 6,220ft in peripheral areas of the model;
- The productive layer was modeled as a confined system limited by upper and lower aquitards with storativity and transmissivity constant in time;
- Boundary conditions included zero recharge (from overlying and underlying units) and Constant Head cells along the perimeter of the model, simulated by constant hydraulic head values 112ft below ground surface. This value was obtained from the average depth to water measurements in surrounding monitoring wells. The distances from the well field to the lateral model boundaries are about 2.3mi;
- Hydraulic conductivity of 3ft/d, rounded from the original value of 2.83ft/d from the completed pumping test, using 10:1 anisotropy ratio (vertical hydraulic conductivity of 0.3ft/d);

- Specific storage was varied from 10^{-5}/ft to 10^{-7}/ft, based on the reported storativity of $2.3x10^{-4}$; Specific storage of $2.35x10^{-6}$/ft was chosen for the base case simulation which allows for the reproduction of the 1,500gal spillover during pumping well failure;
- Locations of wells were imported into the model from real world data;
- Pumping and injection rates prior to the failure of production wells were used to simulate steady state mining conditions assuming total rate of 642gpm. Injection rates were continued for the transient simulation of 8hrs of pumping well failure. Pumping was turned off for the duration of the 8-hour simulation;
- All wells were simulated approximately using a screen interval thickness of 26ft (fully penetrating the pumped production layer);
- Drain cells were used to calculate discharge (spillover) volume from each production well. Drain cell elevation was set to the elevation of the ground surface (the point at which discharge from the well will occur);

Model results show discharge from 8 wells after pumping wells have been turned off. On May 3, 2011 wells 15P-409 to 15P-416 were reported to have discharged solution at the well head. In the model simulation, wells 15P-405, 15P-406, 15P-408, 15P-409, 15P-410, 15P-411, 15P-413, and 15P-414 discharged at the surface. Discrepancies between reported overflow wells and model-simulated overflow wells occurred at wells 15P-405, 15P-406, 15P-408, where the model simulation produced discharge at the surface, and at wells 15P-412, 15P-415, and 15P-416, where the model simulation did not reproduce discharge at the surface. This difference in discharge wells may be due to factors including a difference in screen interval thickness, production zone thickness, localized differences in hydraulic conductivity, variation in ground surface elevation from top of casing elevation, and injection rates that may have changed during the 8-hour period that were not accounted for in the model. Figure 2 displays the production wells with modeled spill over, as well as the surveyed extent of observed solutions on the surface of the well field post event.

The simulated increase of the hydraulic heads in production wells during power failure is shown in Figure 3. Total simulated discharge from all wells was 1,585gal at the end of the pumping failure period and shown in Figure 4.

Figure 2: Location of Simulated vs. Observed Spillover in Header House 15-20 Area

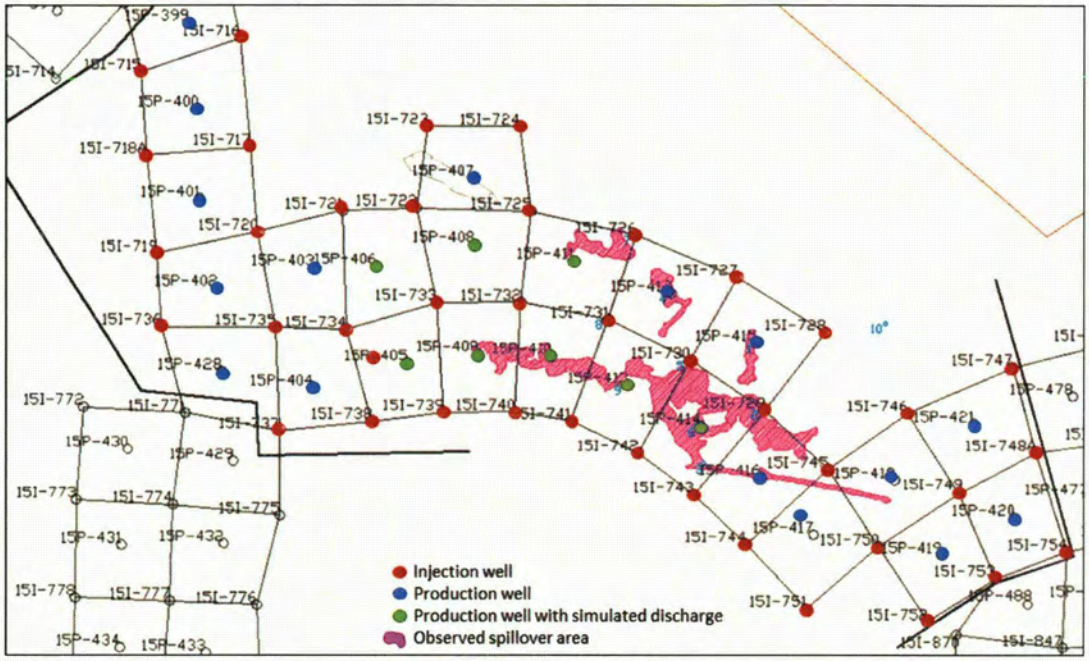


Figure 3: Simulated Increase of Hydraulic Heads in Production Wells During Pumping Failure

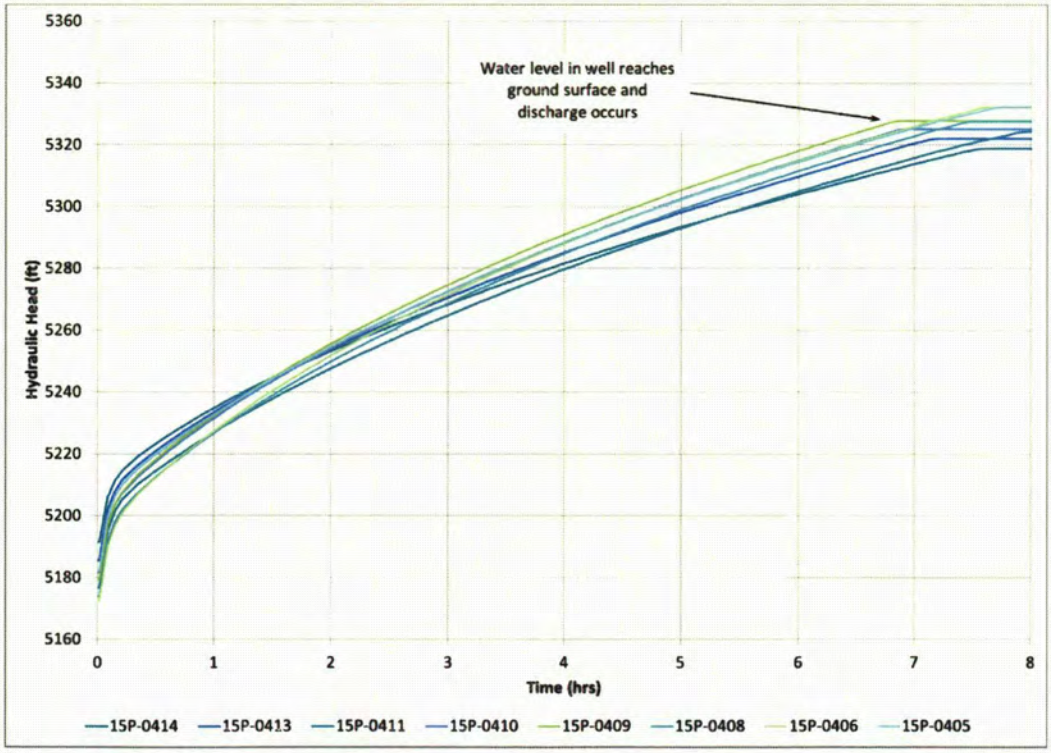
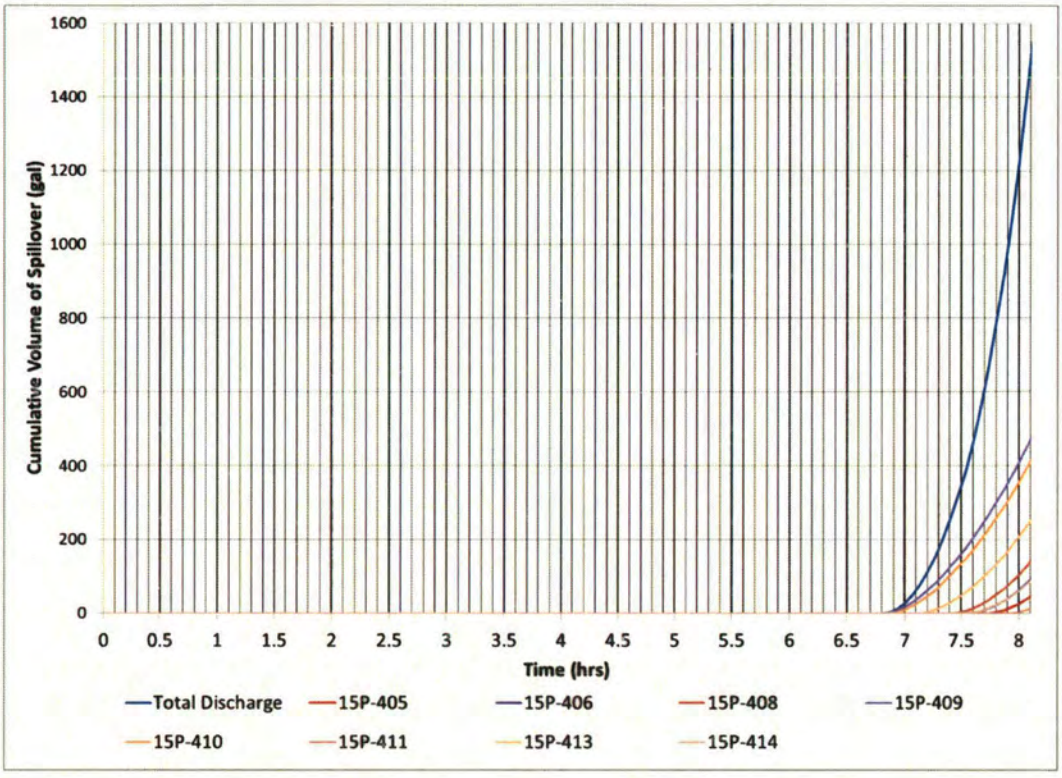


Figure 4: Simulated Volume of Discharge from Production Wells During Valve Failure



Numerical groundwater model calculations show that spill over began approximately 7hrs after pumping ceased.

The results of completed groundwater modeling indicate the possibility of a spillover of about 1,500gal of PLS during the pumping failure period due to raising hydraulic heads in the production zone from continued injection of BLS. The model therefore supports the conceptual system dynamics that led to artesian conditions in production wells, and indicates that the wells acted as a pressure relief for the formation effectively capping further elevation of the hydraulic pressures that would lead to fracturing of the formation. The model also validates the pressures utilized to determine the maximum total pressure exerted on the formation during the event. In addition, the in-field approximation of 1,500gal of solution release is determined to be reasonable.

3.2.3 Formation Fracture Pressure Analysis Conclusions

Presently all operating permits (WDEQ Permit 633, NRC License SUA 1548) for the Smith Ranch Highland facility utilize a formation fracture gradient of 0.7 psi/ft. Numerical groundwater modeling and analytical methods have reasonably replicated the surface discharge observed at the end of the 8hr pumping failure at header house 15-20. The results of this work support a finding that the formation pressure did not exceed the regulatory stipulated formation fracture pressure limits, peaking at approximately 60psi lower than the formation fracture pressure.

3.3 Analysis of Injection Well and Well Field Piping Pressurization

3.3.1 Injection Pressure Data

Under the WDEQ 633 Permit to Mine, the point of compliance for injection pressure is the individual injection well heads within each mine unit. The absolute regulatory limit for injection pressure is based on the mechanical integrity test (MIT) pressure which is 125% of operational pressure. The operating pressure for the injection wells of header house 15-20 is 110psi, the MIT pressure is 140psi. The injection pressure is regulated via Cla-Val and manual controls at the manifold on a header house basis. Individual wells are further regulated at the header house injection manifold through flow rate adjustment. Injection pressure and flow rate data are recorded on 24hr cycles at the header house level. The total loss of power at the header house interrupted continuous data recordings of pressure and flow.

The only recorded pressure data for the injection side of the 15-20 header house during the power failure was recorded on the BLS pipeline leaving SR1 and the CPP. The pressure data for BLS leaving these facilities is variably logged and available for review of historical events. The pressure logs for the BLS leaving SR1 and the CPP was reviewed by SRK. BLS leaving SR1 indicated an overall pressure drop of 17psi during the 8hr event, while the BLS leaving the CPP indicated a pressure drop of 15psi during the same period. The recorded pressure drop also confirms an approximate 8hr event duration. The drop in pressure is consistent with a balanced mine unit operation, where the pressure of the incoming pregnant lixiviant solution (PLS) directly dictates the pressure of the outgoing BLS. In this instance, the loss of production from the 15-20 header house lowered the incoming pressure, therefore decreasing the outgoing pressure as controlled through fixed speed pumping boosters at SR1 and the CPP.

The last point of pressure modulation between SR1 and the CPP and the 15-20 header house is Injection Booster 8 (IB8). The injection boosters are a combination of several fixed speed pumps and one variable frequency drive (VFD) booster pump that regulates the discharge pressure. IB8 has a max outlet pressure of 170psi, and a maximum pressure differential between incoming and outgoing fluid of 60psi. During the event, BLS pressure from SR1 dropped to approximately 56psi, and to 116psi from the CPP. It is believed that the discharge pressure from IB8 was relatively consistent through the power failure event in header house 15-20.

Pressure control into the header house injection manifold is regulated by the Cla-Val pressure control valve during normal operation. The standard Cla-Val is a hydraulically operated, pilot controlled, diaphragm valve. The pilot is activated by the differential pressure across the valve to regulate incoming pressure/flow into the header house and limit pressure to a determined preset value. The addition of a solenoid to the valve allows for the potential to override the differential control and close the valve. During the power failure event it is assumed that the Cla-Val pressure regulation continued to operate as normal, reducing the distribution pressure from IB8 to the preset pressure of the valve. The solenoid failed to activate during the power failure for unknown reasons, and therefore the BLS continued to enter into the distribution manifold of the header house at a regulated pressure of approximately 110psi. Due to the hydraulically controlled pressure regulation at the Cla-Val valve, an injection pressure increase at the manifold would be unlikely; however, flow rates would decrease as the hydraulic head in the formation increases. This decrease in total flow rate to MU-15 was reflected in the 24hr interval injection data logs for the mine unit.

The final point of control for injection well pressure is an air pressure relief valve located in the well head of each injection well. Although designed to prevent excess air (oxygen) pressure in the injection well, the relief valve would also release an excess hydraulic pressure. The pressure relief valves utilized in the Mine Unit 15 injection wells are American Society of Mechanical Engineers (ASME) certified, and come from the manufacturer preset to 150psi. The drip trays at each injection well tied to header house 15-20 were dry at the end of the event, indicating that no pressure had been released by a relief valve, and therefore it is unlikely that injection pressures increased above 150psi.

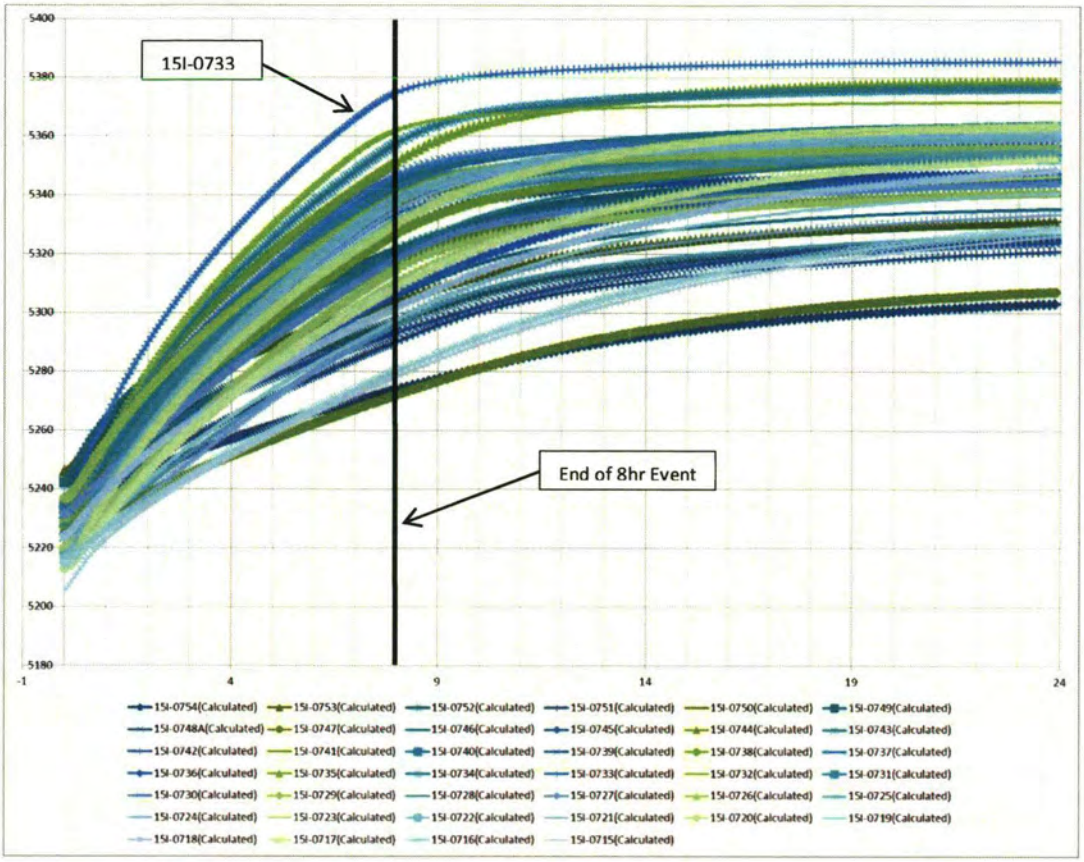
3.3.2 Modeled Injection Well Hydraulic Head

The same model used to analyze the formation pressure can also be used to recreate the hydraulic head in each individual injection well throughout the event. During the event the hydraulic head in the formation reached pressures that equaled a groundwater elevation at or above the ground surface. Where the hydraulic head is greater than ground surface, the total injection pressure is equal to this pressure in addition to the injection pressure transmitted from the header house where:

Hydraulic Head Above Ground Surface (psi)
\+ Header House 15-20 Injection Pressure (psi)
= Total Injection Pressure at Well Head (psi)

Using this basic pretense, the hydraulic head at each injection well was extracted on an hourly basis from the groundwater model to determine the maximum hydraulic head above ground surface during the 8hr event period. The highest hydraulic head modeled was in injection well 15I-0733, where hydraulic head equated to a groundwater level 42.4ft above ground surface at the end of 8 hours of injection with no extraction. This hydraulic head equates to a pressure of 18.4psi. When this pressure is added to assumed standard injection pressure from the header house of 110psi, the resultant total injection pressure is 128.4psi. This is 11.6psi below the regulatory limit of 140psi as dictated by WDEQ Permit 633 and Smith Ranch MIT procedures. The four injection wells with the highest resultant hydraulic head: 15I-0730, 15I-0732, 15I-0733, and 15I-0734 are centrally located within the mine unit and the results are consistent with the concept of rapidly increasing pressures in the center of the mine unit, and slow building pressures in the perimeter of the mine unit where there is greater relief of hydraulic pressure laterally. Graphs of groundwater elevation versus time are shown in Figure 5 and plotted out over a theoretical 24hr event to how the pressure approaches steady state conditions.

Figure 5: Modeled Groundwater Elevation vs. Time



3.3.3 Injection Well and Piping Pressure Analysis Conclusions

Based on the review of all available data, the following conclusions can be made:

- No information supports an increase in BLS pressure ahead of header house 15-20;
- It is believed that the Cla-Val valve continued to modulate the incoming pressure, regulating it to 110psi;
- Groundwater modeling suggests a maximum injection pressure of 128.4psi in any injection well tied to header house 15-20; and
- There is no evidence that BLS was released through the well head pressure relief valve in the header house 15-20 injection wells.

Based on this evidence, SRK does not believe that the injection pressure of any wells tied to header house 15-20 was greater than the regulatory limit of 140psi.

4 Summary

SRK completed a technical review of subsurface hydraulic response to injection well operation in the absence of pumping, as observed at Mine Unit 15, header house 15-20, Smith Ranch Highland facility on May 3, 2011. Based on operational discussions with Cameco staff, review of all available and relevant information, and the results of groundwater modeling to simulate the power

failure event, there are no indications that the formation fracture pressure or the injection well head pressures were elevated beyond regulatory limits stated in the facility operating permits.

Cameco

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December 30, 2011

Mr. Lowell Spackman
District I Supervisor
Land Quality Division
Wyoming Department of Environmental Quality
122 W. 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL #7011 0470 0000 7716 4414 RETURN RECEIPT REQUESTED

RE: Excursion Report Summary Update, Cameco Resources, Smith Ranch-Highland Uranium Project, Permit 603 and 633

Dear Mr. Spackman:

Power Resources, Inc. d/b/a/ Cameco Resources (Cameco) is submitting the monthly Excursion Report Summary for the Smith Ranch-Highland Uranium Project. During the month of December zero (0) new excursions were reported. The Cameco Excursion Report table is attached. Monitor well DM-003 and DM-010 remain on excursion from the month of November. Monitor well KM-031 went off excursion on October 18, 2011. Guideline 8 samples pursuant to Chapter 11 regulations were taken October 11, 2011. Results were received on December 7, 2011 and are attached.

Constituent levels in Monitor Well DM-003 have stayed relatively stable throughout the month of December 2011. Alkalinity and Conductivity levels in Monitor Well DM-010 have stayed stable with Chloride showing a gradual decrease. Copies of the monitor well reports for these wells are attached. Also attached please find graphs tracking alkalinity, chloride, and conductivity trends for each well.

A Plan and Compliance Schedule for well DM-003 was submitted to LQD in a letter dated March 10, 2011 responding to 3rd Qtr. 2010 Excursion Monitoring Report comments from LQD. A Plan and Compliance Schedule for the well DM-010 was submitted to LQD in a letter dated October 20, 2011 proposing to have DM-010 off excursion by the end of 2012 and stating that Cameco will submit progress reports through the monthly excursion report summary. LQD has acknowledged receipt of said letter and found acceptable the plan and schedule via an email dated October 25, 2011, cc. to Ken Garoutte, Cameco, from Pam Rothwell, LQD to Steve Ingle,

FSME20
FSME5

LQD. Cameco is conducting additional monitoring in an effort to merge Mine Units C, D and E in a comprehensive ground water restoration plan. Cameco plans to review this plan with LQD during the next site inspection.

Please contact Ken Garoutte @ 307-358-6541, ext 476 or Kenneth_Garoutte@cameco.com if you have questions.

Respectfully,

Brent Berg
General Manager

BB/vg

Attachments: Cameco Resources Excursion Report
Monitor Well Report and Trend Graphs for DM-003
Monitor Well Report and Trend Graphs for DM-010
KM-031 Guideline 8 Sample Results – Energy Labs

cc: File HUP 4.3.3.1 File SR 4.3.3.1
Mr. Doug Mandeville, NRC (2copies) - CERTIFIED MAIL #7009 2820 0001 4046 2720
Document Control Desk, NRC - CERTIFIED MAIL #7009 2820 0001 4046 2737

ec: Cameco-Cheyenne

Cameco Resources Excursion Report
Permit Nos. 603 & 633
(December 2011)

Well Identification	Initial Sample Date	Confirmation Sample Date	Excursion Status (on/off)	Parameters Exceeded	Verbal Notification Date	Written Notification Date	Excursion Resolution Date	LQD Concurrence Notification Date
DM-3	11/19/2009	11/20/2009	ON	Chloride Alkalinity	11/23/2009	11/25/2009		
DM-10	6/3/2011	6/6//2011	ON	Chloride Alkalinity	6/7/2011	6/10/2011		

Cameco

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December 30, 2011

Mr. Lowell Spackman, District 1 Supervisor
Land Quality Division
Wyoming Department of Environmental Quality
Herschler Building
122 West 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL # 7011 0470 0000 7716 0232 RETURN RECEIPT REQUESTED

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

Dear Mr. Spackman:

On June 20, 2011, Power Resources, Inc. d/b/a Cameco Resources (Cameco) provided written notification to the Wyoming Department of Environmental Quality, Land Quality Division and the Nuclear Regulatory Commission regarding a leak into secondary containment discovered on June 13, 2011 at the East Evaporation Pond. Cameco drained the pond to investigate the leak into secondary containment and repaired a tear in the primary liner on July 7, 2011. Following repairs, water was returned to the pond.

On August 15, 2011 water was again discovered in the East Evaporation Pond Sump. Verbal notification was made to the Wyoming Department of Environmental Quality, Land Quality Division and the Nuclear Regulatory Commission on August 16, 2011 with written notification following in the monthly report on August 31, 2011. The pond level was lowered for the second time to reexamine the primary liner. Another tear was discovered and repairs were made August 29, 2011. Following repairs, water was returned to the pond.

On November 4, 2011 water was again discovered in the East Evaporation Pond Sump. Verbal notification was made to the Wyoming Department of Environmental Quality, Land Quality Division and the Nuclear Regulatory Commission on November 7, 2011.

Samples were collected from the sump on November 4, 2011 and analyzed for chloride, specific conductance, uranium and bicarbonate. Results are provided in the table below. No samples were obtained between November 4, 2011 and December 14, 2011, as the sump remained dry. Samples will continue to be taken on a weekly basis when obtainable. Cameco no longer has the ability to complete sulfate analysis at our on-site lab. In the future, monthly samples obtained will also be sent to an external lab for analysis of sulfate per Permit 633 requirements. Cameco

TSME20

would like to note that results for these analyses will take additional time to receive, often times 30 days or more. Sulfate determination for December has been sent to Energy Labs and results are pending.

Weekly Sample Results

Sample Date	Chloride (mg/L)	Conductivity (mS/cm)
06/15/2011	257	3194
06/20/2011	413	3645
08/15/2011	464	3647
08/16/2011	435	3924
11/04/2011	407	3869
12/14/2011	402	4133
12/28/2011	241	2439

Monthly Sample Results

Sample Date	Chloride (mg/L)	Conductivity (mS/cm)	Bicarbonate (mg/L)	Uranium (mg/L)	Sulfate (ppm)
06/20/2011	413	3645	925	248	905
08/16/2011	435	3924	811	158	947
11/04/2011	407	3869	650	179	Not analyzed
12/14/2011	402	4133	759	276	Not analyzed
12/28/2011	241	2439	442	134	Analysis Pending

Work to find and repair any tear in the pond liner has been postponed due to weather. The snow and ice on the pond make it difficult to visually find tears at the present time. Additionally, in November Cameco concluded that there was a possibility the sump could have been collecting runoff water. The top of the liner was inspected and in November visible voids were found. Cameco repaired the roadway and sloped the road away from the pond. These repairs were made the week of December 12th, 2011. Attached are before and after photos. However, these repairs have not eliminated periodic water in the sump.

Routine monitoring will continue to be conducted and a monthly report will to be submitted until the basis for the water found in the sump is determined and successful abated. Please contact Ken Garoutte at (307) 358-6541 ext. 476 if you have questions.

Sincerely,

Brent Berg
General Manager

BB/vg

cc: File SR 4.3.3.1 File SR 4.3.3.4
Special Volume: Wellfield Release Reports, Evaporation Ponds, Spill Reports
Mr. Doug Mandeville – NRC (2 Copies) Certified Mail # 7011 0470 0000 7716 0249
Document Control Desk, NRC Certified Mail # 7011 0470 0000 7716 0256

ec: CR-Cheyenne

North side of pond looking East

North side of pond looking West

Cameco

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January 20, 2012

Mr. Lowell Spackman, District I Supervisor
Land Quality Division
Wyoming Department of Environmental Quality
122 W. 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL #7011 0470 0001 0202 3099 RETURN RECEIPT REQUESTED

RE: Excursion at Monitor Well JM-007, Cameco Resources, Permit No. 603

Dear Mr. Spackman:

Pursuant to WDEQ/LQD Chapter 11 regulations, Section 8.4 of the Operations Plan for Permit 603 and NRC License SUA-1548 Condition No. 11.5 for the Highland Uranium Project, Power Resources, Inc. d/b/a/ Cameco Resources (Cameco) is providing written notification that Monitor Well JM-007 went on excursion status January 12, 2012. Confirmation monitoring results were received on January 16, 2012. Ms. Pam Rothwell with WDEQ/LQD and Mr. Doug Mandeville with the NRC were verbally notified by telephone on January 17, 2012.

Analytical results of January 13, 2012 for the routine sample taken on January 12, 2012 indicated a potential exceedance in all three parameters (chloride, alkalinity and conductivity). Cameco collected a confirmation sample from the well and analyzed it with a quality assurance duplicate on January 16, 2012. Results of the laboratory analyses confirmed the exceedance of Upper Control Limit (UCL) parameters as shown below.

Sample Date	**Chloride (mg/L)**	**Alkalinity (mg/L $CaCO_3$)**	**Conductivity (µMhos/cm)**
	UCL 18	**UCL 230**	**UCL 769**
1-16-2012	24	259	795
1-13-2012	24	256	794

Monitor Well JM-007 is located in Mine Unit J as illustrated on the attached map. Weekly samples will be collected to monitor the UCL constituents until the excursion is resolved. The excursion at monitor well JM-007 will be added to the monthly Excursion Report Summary and will be identified on the Cameco Resources site map.

Pursuant to WDEQ/LQD Chapter 11, Section 2, a duly authorized representative certification is attached.

Please feel free to contact me at (307) 358-6541 ext. 476 or at Kenneth_Garoutte@cameco.com if you have any questions.

Sincerely,

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

KG/vg

Attachment: 1) Map
2) Duly Authorized Representative Certification

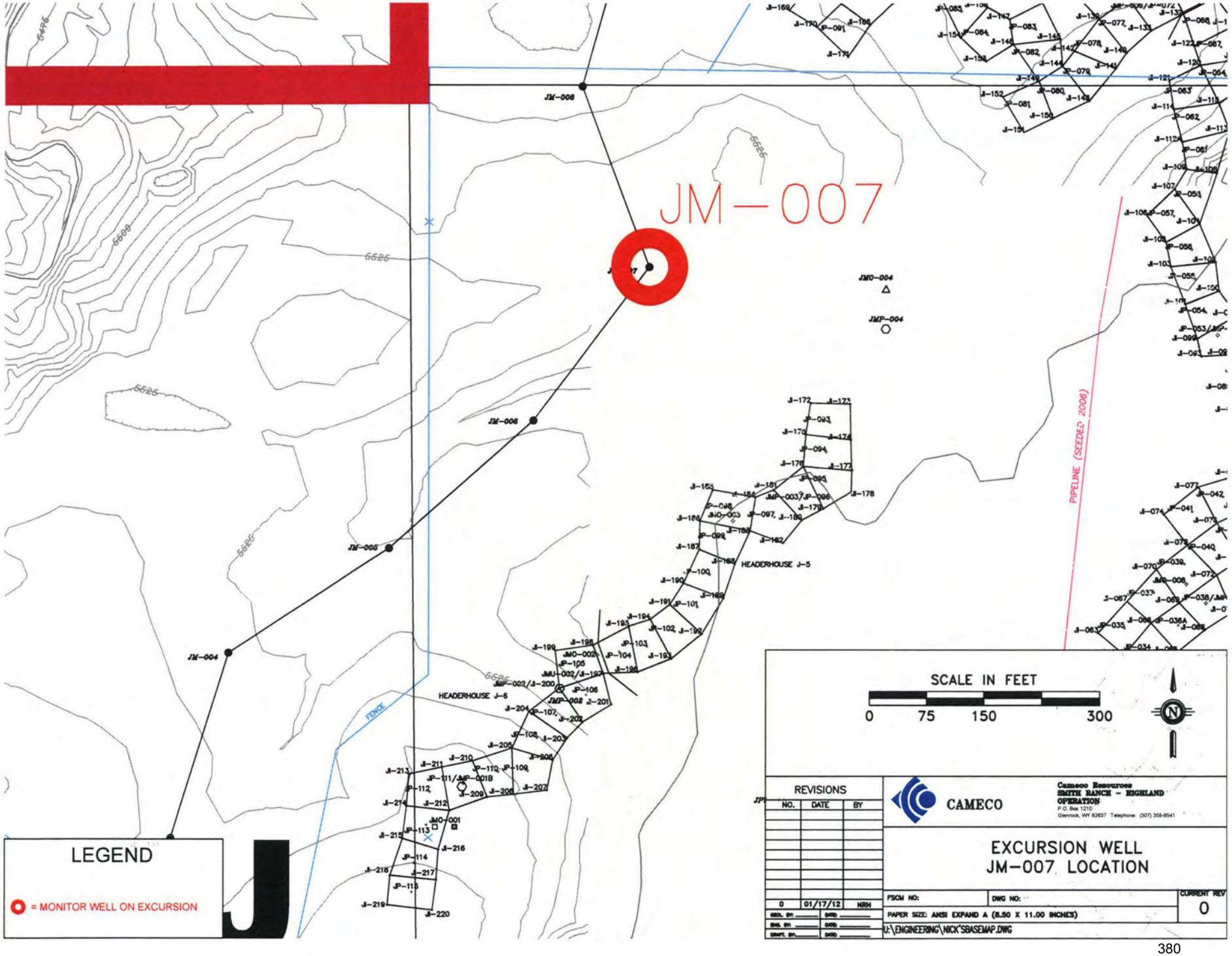
cc: File HUP 4.6.4.1
Doug Mandeville, NRC (2 copies) Certified Mail #7011 0470 0001 0202 3105
Document Control Desk, NRC Certified Mail #7011 0470 0001 0202 3112

ec: CR-Cheyenne

Duly Authorized Representative Certification

I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.

Duly Authorized Representative: Brent Berg Date: 1-20-12


JM-007
JM-008
JM-006
JM-005
JM-004
JMO-004
JMP-004
JMO-003
JMO-002
JMO-001
JMP-001B
JMP-002/J-200
JMU-002/J-192
HEADERHOUSE J-5
HEADERHOUSE J-6
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= MONITOR WELL ON EXCURSION
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REVISIONS
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CAMECO
Cameco Resources
SMITH RANCH - HIGHLAND
OPERATION
P.O. Box 1210
Glenrock, WY 82637 Telephone: (307) 358-6541
EXCURSION WELL
JM-007 LOCATION
FSCM NO:
DWG NO:
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January 27, 2012

Mr. Lowell Spackman
District I Supervisor
Land Quality Division
Wyoming Department of Environmental Quality
122 W. 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL #7011 0470 0001 0202 3396 RETURN RECEIPT REQUESTED

RE: Excursion Report Summary Update, Cameco Resources, Smith Ranch-Highland Uranium Project, Permit 603 and 633

Dear Mr. Spackman:

Power Resources, Inc. d/b/a/ Cameco Resources (Cameco) is submitting the monthly Excursion Report Summary for the Smith Ranch-Highland Uranium Project. During the month of January one (1) new excursion was reported. The Cameco Excursion Report table is attached. Monitor well DM-003 and DM-010 remain on excursion from the month of December 2011. Monitor well JM-007 went on excursion on January 12, 2012. Confirmation monitoring results were received on January 16, 2012. Ms. Pam Rothwell with WDEQ/LQD and Mr. Doug Mandeville with the NRC were verbally notified by telephone on January 17, 2012 with written notification following in a letter dated January 20, 2012.

Constituent levels in Monitor Well JM-007 have continued to increase since the initial excursion on January 12, 2012. Cameco is investigating possible cause of excursion in an effort to resolve the problem. Weekly samples will continue to be collected to monitor the UCL constituents until and resolution is found.

Alkalinity levels in Monitor Well DM-003 have stayed relatively stable throughout 4th Quarter 2011 and January 2012 with Chloride and Conductivity increasing slightly. Alkalinity and Conductivity levels in Monitor Well DM-010 have stayed relatively constant throughout 4th Quarter 2011 and January 2012 with Chloride showing a gradual decrease. Copies of the monitor well reports for these wells are attached. Also attached please find graphs tracking alkalinity, chloride, and conductivity trends for each well.

FSME20

Cameco, with the help of a consultant, is conducting additional monitoring in an effort to merge Mine Units C, D and E in a comprehensive ground water restoration plan. Cameco expects this report to be available by the end of February and plans to review it with LQD following its evaluation and acceptance by Cameco.

Please contact me at 307-358-6541, ext 476 or Kenneth_Garoutte@cameco.com if you have questions.

Respectfully,

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

KG/vg

Attachments: Cameco Resources Excursion Report
Monitor Well Report and Trend Graphs for DM-003
Monitor Well Report and Trend Graphs for DM-010
Monitor Well Report and Trend Graphs for JM-007

cc: File HUP 4.3.3.1 File SR 4.3.3.1
Special Volume: Excursion Status Reports
Mr. Doug Mandeville, NRC (2copies) - CERTIFIED MAIL #7011 0470 0001 0202 3075
Document Control Desk, NRC - CERTIFIED MAIL #7011 0470 0000 7716 4483

ec: Cameco-Cheyenne

Cameco Resources Excursion Report
Permit Nos. 603 & 633
(January 2012)

Well Identification	Initial Sample Date	Confirmation Sample Date	Excursion Status (on/off)	Parameters Exceeded	Verbal Notification Date	Written Notification Date	Excursion Resolution Date	LQD Concurrence Notification Date
DM-003	11/19/2009	11/20/2009	ON	Chloride Alkalinity	11/23/2009	11/25/2009		
DM-010	6/3/2011	6/6/2011	ON	Chloride Alkalinity	6/7/2011	6/10/2011		
JM-007	1/12/2012	1/16/2012	ON	Chloride Alkalinity Conductivity	1/17/2012	1/20/2012		

Cameco

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January 27, 2012

Mr. Lowell Spackman, District 1 Supervisor
Land Quality Division
Wyoming Department of Environmental Quality
Herschler Building
122 West 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL # 7011 0470 0001 0202 3044 RETURN RECEIPT REQUESTED

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

Dear Mr. Spackman:

On June 20, 2011, Power Resources, Inc. d/b/a Cameco Resources (Cameco) provided written notification to the Wyoming Department of Environmental Quality, Land Quality Division and the Nuclear Regulatory Commission regarding a leak into secondary containment discovered on June 13, 2011 at the East Evaporation Pond. Cameco drained the pond to investigate the leak into secondary containment and repaired a tear in the primary liner on July 7, 2011. Following repairs, water was returned to the pond.

On August 15, 2011 water was again discovered in the East Evaporation Pond Sump. Verbal notification was made to the Wyoming Department of Environmental Quality, Land Quality Division and the Nuclear Regulatory Commission on August 16, 2011 with written notification following in the monthly report on August 31, 2011. The pond level was lowered for the second time to reexamine the primary liner. Another tear was discovered and repairs were made August 29, 2011. Following repairs, water was returned to the pond.

On November 4, 2011 water was again discovered in the East Evaporation Pond Sump. Verbal notification was made to the Wyoming Department of Environmental Quality, Land Quality Division and the Nuclear Regulatory Commission on November 7, 2011.

Samples were collected from the sump on November 4, 2011 and analyzed for chloride, specific conductance, uranium and bicarbonate. Results are provided in the table below. No samples were obtained between November 4, 2011 and December 14, 2011, as the sump remained dry. Samples continue to be taken on a weekly basis when obtainable. 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 per Permit 633 requirements. Cameco would

like to note that results for these analyses will take additional time to receive, often times 30 days or more. Sulfate determination for January has been sent to Energy Labs and results are pending.

Weekly Sample Results

Sample Date	Chloride (mg/L)	Conductivity (mS/cm)
06/15/2011	257	3194
06/20/2011	413	3645
08/15/2011	464	3647
08/16/2011	435	3924
11/04/2011	407	3869
12/14/2011	402	4133
12/28/2011	241	2439
1/10/2012	247	2607
1/19/2012	295	3336

Monthly Sample Results

Sample Date	Chloride (mg/L)	Conductivity (mS/cm)	Bicarbonate (mg/L)	Uranium (mg/L)	Sulfate (ppm)
06/20/2011	413	3645	925	248	905
08/16/2011	435	3924	811	158	947
11/04/2011	407	3869	650	179	Not analyzed
12/28/2011	241	2439	442	134	900
1/10/2012	247	2607	424	135	Analysis Pending

Work to find and repair any tear in the pond liner is postponed due to weather. The snow and ice on the pond make it difficult to visually find tears at the present time without further damaging the integrity of the pond liner. Once Cameco is able to adequately inspect the pond, plans to repair the leak will be shared with the LQD.

Routine monitoring will continue to be conducted and a monthly report will to be submitted until the basis for the water found in the sump is determined and successful abated. Please contact me at (307) 358-6541 ext. 476 or 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: Wellfield Release Reports, Evaporation Ponds, Spill Reports
Mr. Doug Mandeville – NRC (2 Copies) Certified Mail # 7011 0470 0001 0202 3051
Document Control Desk, NRC Certified Mail # 7011 0470 0001 0202 3068

ec: CR-Cheyenne

Cameco

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February 28, 2012

Mr. Lowell Spackman
District I Supervisor
Land Quality Division
Wyoming Department of Environmental Quality
122 W. 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL #7011 0470 0001 0202 1187 RETURN RECEIPT REQUESTED

RE: Excursion Report Summary Update, Cameco Resources, Smith Ranch-Highland Uranium Project, Permit 603 and 633

Dear Mr. Spackman:

Power Resources, Inc. d/b/a/ Cameco Resources (Cameco) is submitting the monthly Excursion Report Summary for the Smith Ranch-Highland Uranium Project. During the month of February zero (0) new excursions were reported. The Cameco Excursion Report table is attached. Monitor well DM-003 and DM-010 remain on excursion from the month of January.

Chloride levels in Monitor Well DM-003 have stayed relatively stable from January with Alkalinity and Conductivity increasing slightly. Chloride levels in Monitor Well DM-010 have stayed relatively constant from January. Alkalinity levels have increased slightly and Conductivity levels showed an increase in mid-February, dropping back down at the end of the month. Copies of the monitor well reports for these wells are attached. Also attached please find graphs tracking alkalinity, chloride, and conductivity trends for each well.

Constituent levels in Monitor Well JM-007 started decreasing at the beginning of February and the well went off excursion on February 14, 2012. Because the well had been on excursion for 30 days, Guideline 8 samples were collected and sent to an external lab for analysis. Results will be submitted with the monthly update when Cameco receives them. JM-007 has returned to the normal sampling schedule of once every two weeks. The investigation concluded that due to the thin sand, over pumping of the well caused the excursion event. No other changes to the well field operations occurred at the time of excursion. A copy of the monitor well report for this well is attached along with the graphs tracking alkalinity, chloride, and conductivity trends.

FSME 20

Cameco, with the help of a consultant, is conducting additional monitoring in an effort to merge Mine Units C, D and E in a comprehensive ground water restoration plan. Cameco has received the draft report and has provided the consultant with our review comments for revision, Cameco review comments are intended to improve the report recommendations. The report will be shared with LQD once final recommendations are found acceptable to Cameco.

Please contact me at 307-358-6541, ext. 476 or Kenneth_Garoutte@cameco.com if you have questions.

Respectfully,

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

KG/vg

Attachments: Cameco Resources Excursion Report
Monitor Well Report and Trend Graphs for DM-003
Monitor Well Report and Trend Graphs for DM-010
Monitor Well Report and Trend Graphs for JM-007

cc: File HUP 4.3.3.1 File SR 4.3.3.1
Special Volume: Excursion Status Reports
Mr. Doug Mandeville, NRC (2copies) - CERTIFIED MAIL #7011 0470 0001 0202 1194
Document Control Desk, NRC - CERTIFIED MAIL #7011 0470 0001 0202 1200

ec: Cameco-Cheyenne

Cameco Resources Excursion Report
Permit Nos. 603 & 633
(February 2012)

Well Identification	Initial Sample Date	Confirmation Sample Date	Excursion Status (on/off)	Parameters Exceeded	Verbal Notification Date	Written Notification Date	Excursion Resolution Date	LQD Concurrence Notification Date
DM-003	11/19/2009	11/20/2009	ON	Chloride Alkalinity	11/23/2009	11/25/2009		
DM-010	6/3/2011	6/6/2011	ON	Chloride Alkalinity	6/7/2011	6/10/2011		
JM-007	1/12/2012	1/16/2012	OFF	Chloride Alkalinity Conductivity	1/17/2012	1/20/2012		

Cameco

CAMECO RESOURCES
Smith Ranch-Highland Operation
Mail:
P.O. Box 1210
Glenrock, WY
82637 USA

Tel: (307) 358-6541
Fax: (307) 358-4533
www.cameco.com

February 28, 2012

Mr. Lowell Spackman, District 1 Supervisor
Land Quality Division
Wyoming Department of Environmental Quality
Herschler Building
122 West 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL # 7011 0470 0000 7716 4605 RETURN RECEIPT REQUESTED

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

Dear Mr. Spackman:

On June 20, 2011, Power Resources, Inc. d/b/a Cameco Resources (Cameco) provided written 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 June 13, 2011 at the East Evaporation Pond. Cameco drained the pond to investigate the reason for water in the sump and repaired a tear in the primary liner on July 7, 2011. Following repairs, water was returned to the pond.

On August 15, 2011 water was again discovered in the sump. Verbal notification was made to the LQD and NRC on August 16, 2011 with written notification following in the monthly report on August 31, 2011. The pond level was lowered for the second time to reexamine the primary liner. Another tear was discovered and repairs were made August 29, 2011. Following repairs, water was returned to the pond.

On November 4, 2011 water was again discovered in the sump. Verbal notification was made to the LQD and NRC on November 7, 2011.

Samples have continued to be taken on a weekly basis, when obtainable and results are provided in the table below. 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. Cameco would like to note that results for these analyses will take additional time to receive, often times 30 days or more. Sulfate determination for February has been sent to Energy Labs and results are pending.

Weekly Sample Results

Sample Date	Chloride (mg/L)	Conductivity (mS/cm)
06/15/2011	257	3194
06/20/2011	413	3645
08/15/2011	464	3647
08/16/2011	435	3924
11/04/2011	407	3869
12/14/2011	402	4133
12/28/2011	241	2439
1/10/2012	247	2607
1/19/2012	295	3336
2/8/2012	241	2663
2/15/2012	203	2407

Monthly Sample Results

Sample Date	Chloride (mg/L)	Conductivity (mS/cm)	Bicarbonate (mg/L)	Uranium (mg/L)	Sulfate (ppm)
06/20/2011	413	3645	925	248	905
08/16/2011	435	3924	811	158	947
11/04/2011	407	3869	650	179	-
12/28/2011	241	2439	442	134	900
1/10/2012	247	2607	424	135	-
2/01/2012	-	-	-	-	Analysis Pending
2/21/2012	182	2286	540	105	-

At this time, work to find and repair any tear in the pond liner has been postponed due to weather. However, Cameco is in discussion to formulate a plan to effectively repair the Evaporation Ponds and thus minimize leakage risk. Once Cameco has a plan, with an adequate and feasible solution, a proposal will be submitted to the LQD. Routine monitoring will continue to be conducted and a monthly report will to be submitted until a plan has been implemented.

Cameco would like to acknowledge receipt of a letter dated February 22, 2012 regarding Review of the January 2012 East Storage Pond Leak Report. Cameco will respond to the concerns in that letter within the 90 day deadline.

Please contact me at (307) 358-6541 ext. 476 or 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: Wellfield Release Reports, Evaporation Ponds, Spill Reports
Mr. Doug Mandeville – NRC Certified Mail # 7011 0470 0000 7716 4612
Document Control Desk, NRC Certified Mail # 7011 0470 0001 0202 1170

ec: CR-Cheyenne

From: Kenneth Garoutte [Kenneth_Garoutte@Cameco.com]
Sent: Friday, March 02, 2012 4:13 PM
To: Mandeville, Douglas
Cc: Karen Siebken; Beverly Johnson; Josh Leftwich; Arlene Faunce; Michael Bryson; Erik Heide; Scott Bakken; Dee DeWald
Subject: Excursion on well JM-007; verbal notification

Doug,

I left a message with you today regarding an excursion confirmed at monitor well JM-007 located in Mine Unit J. A written notification will be forthcoming next week.

Ken Garoutte
Safety Health Environmental Quality (SHEQ) Manager
Cameco Resources
Smith Ranch-Highland
P.O. Box 1210
Glenrock, Wy 82637

(307) 358-6541 ext. 476
Kenneth_Garoutte@cameco.com

SAFETY BY CHOICE, NOT BY CHANCE!

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March 2, 2012

Mr. Lowell Spackman, District I Supervisor
Land Quality Division
Wyoming Department of Environmental Quality
122 W. 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL #7011 0470 0001 0202 1590 RETURN RECEIPT REQUESTED

RE: Excursion at Monitor Well JM-007, Cameco Resources, Permit No. 603

Dear Mr. Spackman:

Pursuant to WDEQ/LQD Chapter 11 regulations, Section 8.4 of the Operations Plan for Permit 603 and NRC License SUA-1548 Condition No. 11.5 for the Highland Uranium Project, Power Resources, Inc. d/b/a/ Cameco Resources (Cameco) is providing written notification that Monitor Well JM-007 went back on excursion status February 29, 2012. Confirmation monitoring results were received on March 2, 2012. Ms. Pam Rothwell with WDEQ/LQD and Mr. Doug Mandeville with the NRC were verbally notified by telephone on March 2, 2012.

Analytical results of March 1, 2012 for the routine sample taken on February 29, 2012 indicated a potential exceedance in all three parameters (chloride, alkalinity and conductivity). Cameco collected a confirmation sample from the well and analyzed it with a quality assurance duplicate on March 2, 2012. Results of the laboratory analyses confirmed the exceedance of Upper Control Limit (UCL) parameters as shown below.

Sample Date	Chloride (mg/L)	Alkalinity (mg/L $CaCO_3$)	Conductivity (µMhos/cm)
	UCL 18	**UCL 230**	**UCL 769**
2-29-2012	23	256	824
3-2-2012	23	257	801

TSME20

Monitor Well JM-007 is located in Mine Unit J as illustrated on the attached map. Cameco is investigating the cause of the excursion event and will share finding with LQD in the next monthly excursion update. The excursion at monitor well JM-007 will be identified on the Cameco Resources site map.

Pursuant to WDEQ/LQD Chapter 11, Section 2, a duly authorized representative certification is attached.

Please feel free to contact me at (307) 358-6541 ext. 476 or at Kenneth_Garoutte@cameco.com if you have any questions.

Sincerely,

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

KG/vg

Attachment: 1) Map
2) Duly Authorized Representative Certification

cc: File HUP 4.3.3.1
Special Volume: Excursion Status Reports
Doug Mandeville, NRC Certified Mail #7011 0470 0001 0202 1606
Document Control Desk, NRC Certified Mail #7011 0470 0001 0202 1613

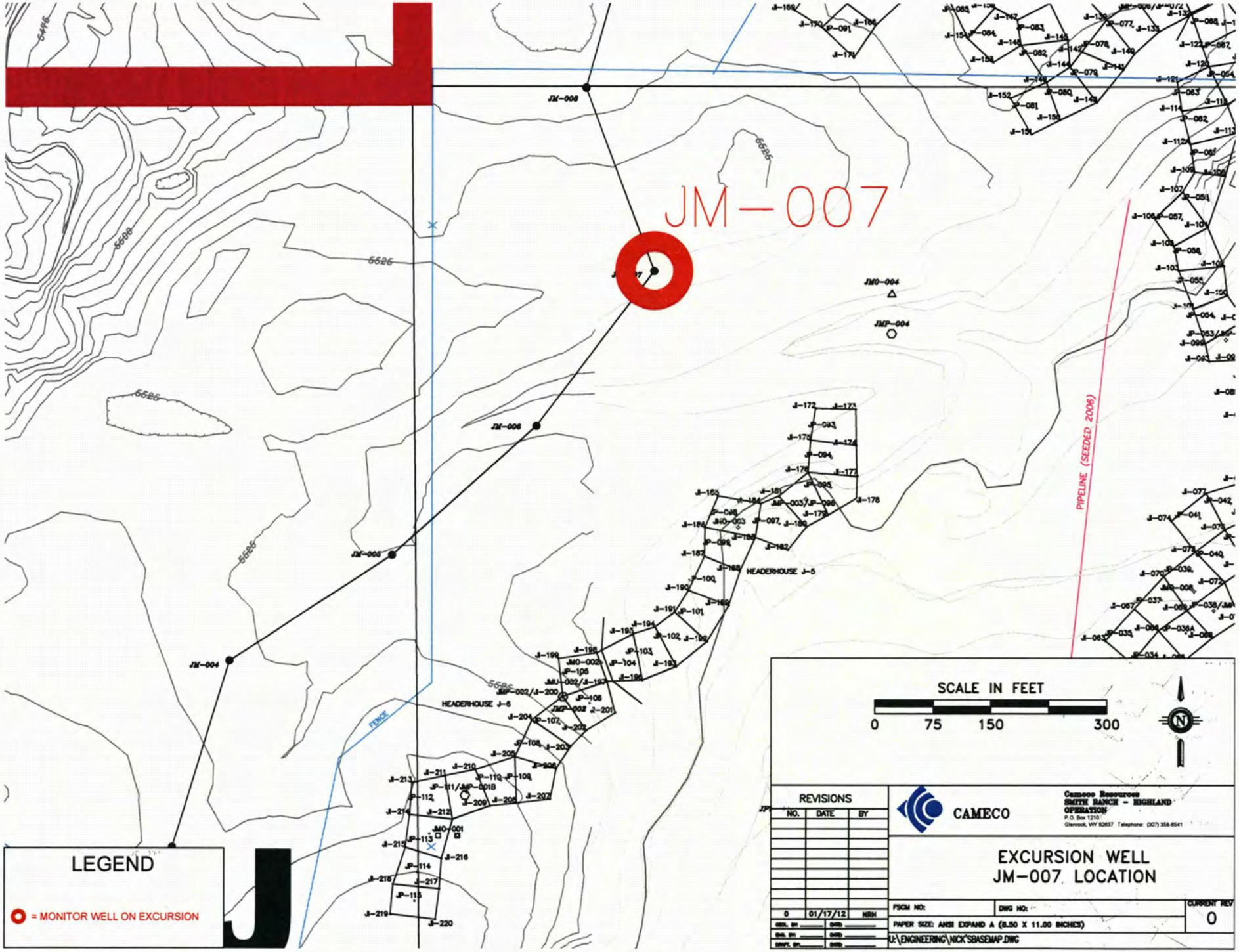
ec: CR-Cheyenne

Duly Authorized Representative Certification

I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.

3.2.12

Duly Authorized Representative: Brent Berg Date:


JM-007
JM-008
JM-006
JM-005
JM-004
JMO-004
JMP-004
PIPELINE (SEEDED 2006)
HEADERHOUSE J-5
HEADERHOUSE J-6
FENCE
5686
5685
5684
5688
LEGEND
= MONITOR WELL ON EXCURSION
SCALE IN FEET
0 75 150 300
N
REVISIONS
NO. DATE BY
0 01/17/12 NRH
CAMECO
Cameco Resources
SMITH RANCH - HIGHLAND
OPERATION
P.O. Box 1210
Glenrock, WY 82637 Telephone: (307) 358-6541
EXCURSION WELL
JM-007 LOCATION
FSCM NO:
DWG NO:
CURRENT REV
0
PAPER SIZE: ANSI EXPAND A (8.50 X 11.00 INCHES)
U:\ENGINEERING\NICK'S\BASEMAP.DWG

Garrett, Betty

From: Kenneth Garoutte [Kenneth_Garoutte@Cameco.com]
Sent: Sunday, March 11, 2012 12:45 PM
To: Pam Rothwell (pam.rothwell@wyo.gov); Mandeville, Douglas
Cc: Karen Siebken; Victoria Gitthens; Brent Berg; Michael Bryson; Derek Eager; Dave Moody; Josh Leftwich; Arlene Faunce; Beverly Johnson; Stephen Shire
Subject: Reportable Fluid Release, 3/10/2012

This email is to document that verbal notification was given to your office on 3/11/12 of a reportable release on Permit 603, NRC Source Material License SUA-1548. The release happened on Saturday, 3/9/12. The data reported was as follows:

> Location in H wellfield, header house H-12, bellhole H-41.
> Fluid release = 344 gallons of production fluid that entered a dry draw, Uranium content @ 4.1 ppm.
> Cause was a failure of a steel tee connection in the bellhole.

The WDEQ-WQD was given verbal notification and a report will be filed in the WQD spill data base.

A written report will follow.

Please reply or telephone if more information is needed.

Ken Garoutte
Safety Health Environmental Quality (SHEQ) Manager
Cameco Resources
Smith Ranch-Highland
P.O. Box 1210
Glenrock, Wy 82637

(307) 358-6541 ext. 476
Kenneth_Garoutte@cameco.com

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March 13, 2012

Mr. Lowell Spackman, District 1 Supervisor
Land Quality Division
Wyoming Department of Environmental Quality
Herschler Building
122 West 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL # 7011 0470 0001 0202 1668 RETURN RECEIPT REQUESTED

RE: Release of Solutions Report, Header House 7, Mine Unit J, Cameco Resources, Smith Ranch Highland Uranium Project, Permit 603

Dear Mr. Spackman:

In accordance with WDEQ regulation and the NRC License SUA 1548, Power Resources, Inc. d/b/a Cameco Resources (Cameco) verbally notified via telephone Ms. Pam Rothwell of Wyoming Department of Environmental Quality, Land Quality Division (LQD) and Mr. Doug Mandeville, Nuclear Regulatory Commission (NRC), on March 8, 2012, that a release occurred at Smith Ranch-Highland Uranium Project in Converse County, Wyoming on March 7, 2012. The release was also recorded in the WQD Report a Spill or Release online database, Incident Id: 120312-090035.

Approximately 774 gallons of injection fluid was released from a vent valve in Header House 7, Mine Unit J on March 7, 2012. During a planned shutdown of the wellfield a one inch ball valve was opened to allow fluid in the injection wells to drain down hole to prevent freezing. The ball valve was not closed prior to startup of the wellfield causing a leak into the header house. The spill came out the door of Header House 7 and traveled along the roadway in the ditches. Immediate corrective action taken for this incident was to shutdown Header Houses 7. All header houses in the Mine Unit were checked to assure the event did not extent to them. A vacuum truck was dispatched to clean up the pooled fluid.

The release was located in the W1/2, SW1/4 of Section 20, T36N, R73W, of Converse County, Wyoming. A field map is attached. The release will be updated into the site base map for inclusion in the Annual Report.

Soil samples will be taken and Cameco will provide a follow-up letter to LQD with the soil sample analyses.

FSME20
~~FSME~~

Please contact me at 307-358-6541, ext 476 or Kenneth_Garoutte@cameco.com if you have questions.

Respectfully,

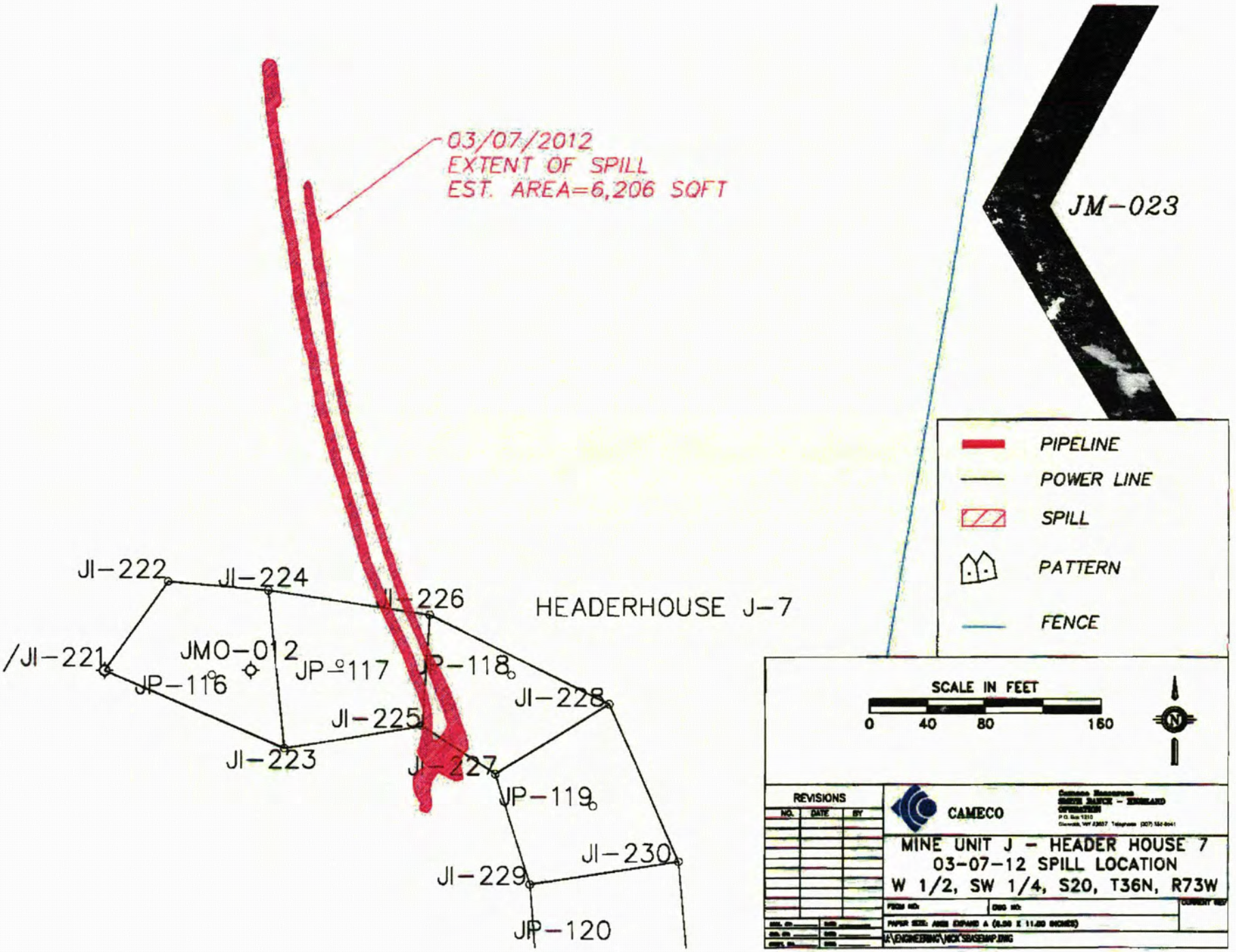
Ken Garoutte
Safety, Health, Environment and Quality (SHEQ) Manager

KG/vg

Attachments: Map

cc: File HUP 4.3.3.1
Special Volume: Wellfield Release Reports, Evaporation Ponds, Spill Reports
Mr. Doug Mandeville, NRC Certified Mail # 7011 0470 0001 0202 1675
Document Control Desk, NRC Certified Mail # 7011 0470 0001 0202 1682
Mr. Joe Hunter – Water Quality Division Certified Mail #7011 0470 0001 0202 1699

ec: Cameco Resources-Cheyenne


03/07/2012
EXTENT OF SPILL
EST. AREA=6,206 SQFT
JM-023
HEADERHOUSE J-7
JI-222
JI-224
JI-226
/JI-221
JMO-012
JP-117
JP-118
JP-116
JI-228
JI-225
JI-223
JI-227
JP-119
JI-230
JI-229
JP-120
PIPELINE
POWER LINE
SPILL
PATTERN
FENCE
SCALE IN FEET
0
40
80
160
N
REVISIONS
NO.
DATE
BY
CAMECO
MINE UNIT J - HEADER HOUSE 7
03-07-12 SPILL LOCATION
W 1/2, SW 1/4, S20, T36N, R73W

Cameco

CAMECO RESOURCES
Smith Ranch-Highland Operation
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82637 USA

Tel: (307) 358-6541
Fax: (307) 358-4533
www.cameco.com

March 13, 2012

Mr. Lowell Spackman, District 1 Supervisor
Land Quality Division
Wyoming Department of Environmental Quality
Herschler Building
122 West 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL # 7011 0470 0001 0202 1620 RETURN RECEIPT REQUESTED

RE: Release of Solutions Report, Bellhole #41-H, Mine Unit H, Cameco Resources, Smith Ranch Highland Uranium Project, Permit 603

Dear Mr. Spackman:

In accordance with WDEQ regulation and the NRC License SUA 1548, Power Resources, Inc. d/b/a Cameco Resources (Cameco) verbally notified via telephone Ms. Pam Rothwell of Wyoming Department of Environmental Quality, Land Quality Division (LQD) and Mr. Doug Mandeville, Nuclear Regulatory Commission (NRC), on March 11, 2012, that a release occurred at Smith Ranch-Highland Uranium Project in Converse County, Wyoming on March 10, 2012. The release was also recorded in the WQD Report a Spill or Release online database, Incident Id: 120311-105722.

Approximately 344 gallons were released from Bellhole #41-H located north of Header House 12, Mine Unit H on March 10, 2012. This event is being reported because the fluid entered a dry draw, considered Waters of the State. The release resulted from a failure of a steel tee connection in the bellhole. Immediate corrective action taken for this incident was to shut in Header Houses 11 through 16 and close the main line valve between Header House 9 and 12. A vacuum truck was dispatched to remove the water in Bellhole #41-H and off the ground around the bellhole. Repairs will be made and the steel tee connection will be replaced with a poly tee.

The release was located in the NWSE of Section 18, T36N, R72W, of Converse County, Wyoming. A field map is attached. The release will be updated into the site base map for inclusion in the Annual Report. Soil samples will be taken and Cameco will provide a follow-up letter to LQD with the soil sample analyses.

FSME20
FSME

Please contact me at 307-358-6541, ext 476 or Kenneth_Garoutte@cameco.com if you have questions.

Respectfully,

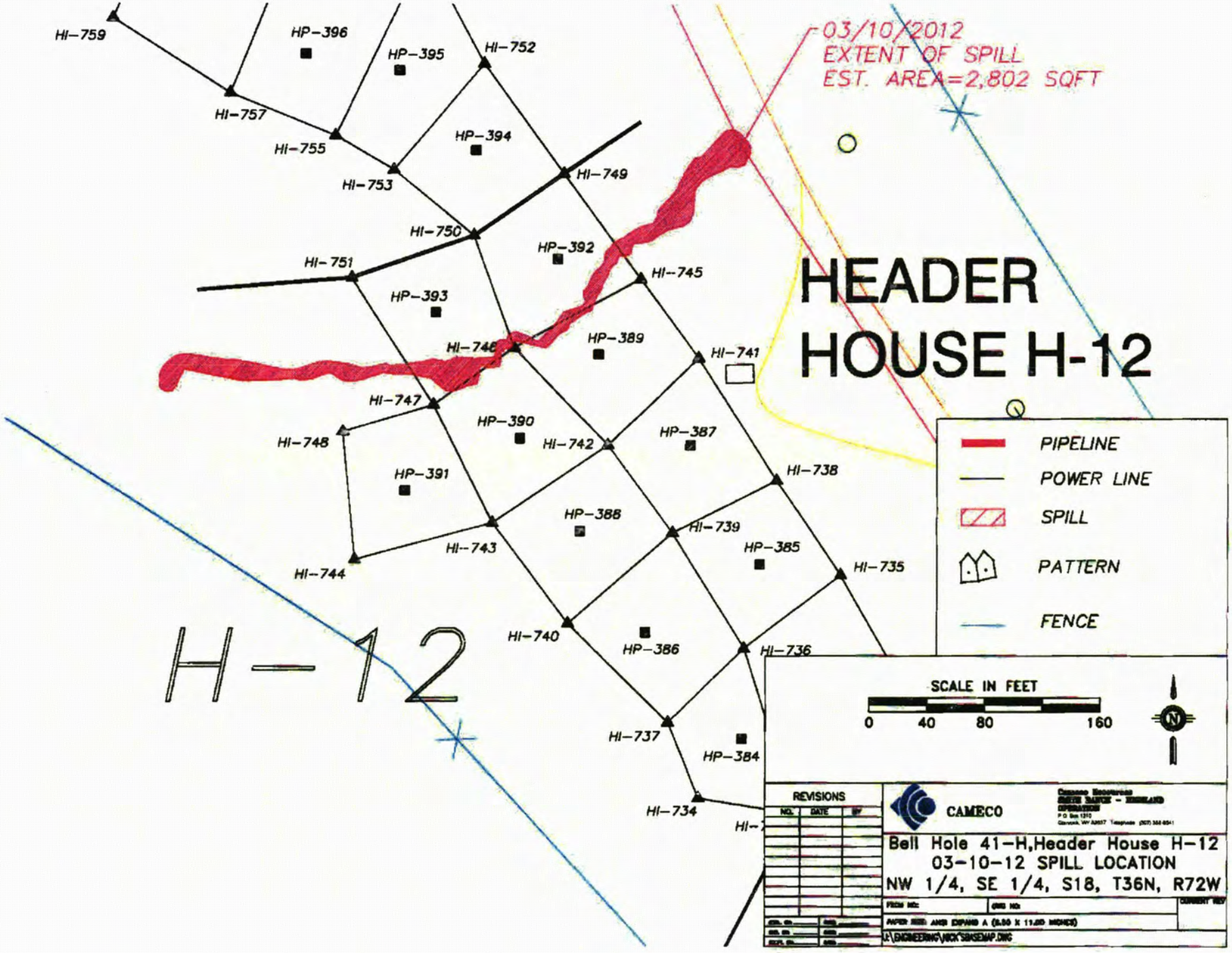
Ken Garoutte
Safety, Health, Environment and Quality (SHEQ) Manager

KG/vg

Attachments: Map

cc: File HUP 4.3.3.1
Special Volume: Wellfield Release Reports, Evaporation Ponds, Spill Reports
Mr. Doug Mandeville, NRC Certified Mail # 7011 0470 0001 0202 1637
Document Control Desk, NRC Certified Mail # 7011 0470 0001 0202 1644
Mr. Joe Hunter – Water Quality Division Certified Mail #7011 0470 0001 0202 1651

ec: Cameco Resources-Cheyenne


03/10/2012
EXTENT OF SPILL
EST. AREA=2,802 SQFT
HEADER
HOUSE H-12
H-12
HI-759
HP-396
HP-395
HI-752
HI-757
HI-755
HP-394
HI-753
HI-749
HI-750
HP-392
HI-751
HI-745
HP-393
HI-746
HP-389
HI-741
HI-747
HP-390
HP-387
HI-748
HI-742
HI-738
HP-391
HP-388
HI-739
HI-743
HP-385
HI-744
HI-735
HI-740
HP-386
HI-736
HI-737
HP-384
HI-734
PIPELINE
POWER LINE
SPILL
PATTERN
FENCE
SCALE IN FEET
0
40
80
160
N
REVISIONS
NO.
DATE
CAMECO
Bell Hole 41-H,Header House H-12
03-10-12 SPILL LOCATION
NW 1/4, SE 1/4, S18, T36N, R72W

Cameco

CAMECO RESOURCES
Smith Ranch-Highland Operation
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P.O. Box 1210
Glenrock, WY
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March 28, 2012

Mr. Lowell Spackman
District I Supervisor
Land Quality Division
Wyoming Department of Environmental Quality
122 W. 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL #7011 0470 0001 0202 1736 RETURN RECEIPT REQUESTED

RE: Excursion Report Summary Update, Cameco Resources, Smith Ranch-Highland Uranium Project, Permit 603 and 633

Dear Mr. Spackman:

Power Resources, Inc. d/b/a/ Cameco Resources (Cameco) is submitting the monthly Excursion Report Summary for the Smith Ranch-Highland Uranium Project. During the month of March one (1) new excursions was reported. The Cameco Excursion Report table is attached. Monitor well DM-003 and DM-010 remain on excursion from the month of February and JM-007 went back on excursion after going off briefly in February.

Chloride, alkalinity and conductivity levels in Monitor Well DM-003 show a slight decrease from February. Chloride, alkalinity and conductivity levels in Monitor Well DM-010 have stayed relatively constant from February. Copies of the monitor well reports for these wells are attached. Also attached please find graphs tracking alkalinity, chloride, and conductivity trends for each well.

Monitor Well JM-007 went off excursion on February 14, 2012 and the normal sampling schedule resumed. On February 29, 2012, JM-007 went back on excursion. Confirmation monitoring results were received on March 2, 2012. Ms. Pam Rothwell with WDEQ/LQD and Mr. Doug Mandeville with the NRC were verbally notified by telephone on March 2, 2012, followed by written notification the same day. Constituent levels in JM-007 show a decrease from the beginning of March. Guideline 8 samples were collected on February 14, 2012 after the well had been on excursion for 30 days, results are attached. Because the well has again been on excursion for 30 days, another Guideline 8 sample suite was collected on March 27, 2012 and sent to an external lab for analysis. Results will be submitted with the monthly update when

Cameco receives them. Going forward, Cameco will not consider JM-007 off excursion until three (3) consecutive samples indicate as such. Further investigation into the cause of excursion is being completed, once a factor is determined Cameco will update with LQD. A copy of the monitor well report for this well is attached along with the graphs tracking alkalinity, chloride, and conductivity trends.

Cameco, with the help of a consultant, is conducting additional field activities in an effort to merge Mine Units C, D and E in a comprehensive ground water restoration plan in conjunction with planned activities to remove wells DM-003 and DM-010 from excursion. The attached report details how Cameco plans to achieve restoration in Mine Units C, D and E and remove wells DM-003 and DM-010 from excursion with the assistance of pumping wells and estimated pumping rates. The pumping well locations are located in Figure 4-1 and the estimated pumping rate information can be found on the bottom of page 13 (RES-1P, RES-2P and RES-3P).

Please contact me at 307-358-6541, ext. 476 or Kenneth_Garoutte@cameco.com if you have questions.

Respectfully,

Dave Mordy for Ken Garoutte

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

KG/vg

Attachments: Cameco Resources Excursion Report
Monitor Well Report and Trend Graphs for DM-003
Monitor Well Report and Trend Graphs for DM-010
Monitor Well Report and Trend Graphs for JM-007
DRAFT Wellfield Restoration Modeling report dated 2-29-2012

cc: File HUP 4.3.3.1 File SR 4.3.3.1
Special Volume: Monthly Excursion Reports Summary Updates, Permit 603 and 633
Mr. Doug Mandeville, NRC - CERTIFIED MAIL # 7011 0470 0001 0202 1743
Document Control Desk, NRC - CERTIFIED MAIL # 7011 0470 0001 0202 1750

ec: Cameco-Cheyenne

Cameco Resources Excursion Report
Permit Nos. 603 & 633
(March 2012)

Well Identification	Initial Sample Date	Confirmation Sample Date	Excursion Status (on/off)	Parameters Exceeded	Verbal Notification Date	Written Notification Date	Excursion Resolution Date	LQD Concurrence Notification Date
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DM-010	6/3/2011	6/6/2011	ON	Chloride Alkalinity	6/7/2011	6/10/2011		
JM-007	2/29/2012	3/2/2012	ON	Chloride Alkalinity Conductivity	3/2/2012	3/2/2012		

Cameco

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82637 USA

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March 29, 2012

Mr. Lowell Spackman, District 1 Supervisor
Land Quality Division
Wyoming Department of Environmental Quality
Herschler Building
122 West 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL # 7011 0470 0001 0202 1774 RETURN RECEIPT REQUESTED

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

Dear Mr. Spackman:

On June 20, 2011, Power Resources, Inc. d/b/a Cameco Resources (Cameco) provided written 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 June 13, 2011 at the East Evaporation Pond. Cameco drained the pond to investigate the reason for water in the sump and repaired a tear in the primary liner on July 7, 2011. Following repairs, water was returned to the pond.

On August 15, 2011 water was again discovered in the sump. Verbal notification was made to the LQD and NRC on August 16, 2011 with written notification following in the monthly report on August 31, 2011. The pond level was lowered for the second time to reexamine the primary liner. Another tear was discovered and repairs were made August 29, 2011. Following repairs, water was returned to the pond.

On November 4, 2011 water was again discovered in the sump. Verbal notification was made to the LQD and NRC on November 7, 2011.

Samples have continued to be taken on a weekly basis, when obtainable and results are provided in the table below. 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. Cameco would like to note that results for these analyses will take additional time to receive, often times 30 days or more.

Weekly Sample Results

Sample Date	Chloride (mg/L)	Conductivity (mS/cm)
06/15/2011	257	3194
06/20/2011	413	3645
08/15/2011	464	3647
08/16/2011	435	3924
11/04/2011	407	3869
12/14/2011	402	4133
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

Monthly Sample Results

Sample Date	Chloride (mg/L)	Conductivity (mS/cm)	Bicarbonate (mg/L)	Uranium (mg/L)	Sulfate (ppm)
06/20/2011	413	3645	925	248	905
08/16/2011	435	3924	811	158	947
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	-

Recently, with warmer weather and ice melt, two tears were found in the primary liner. Repairs were made to the tears on March 16, 2012. Since the repairs, water has been returned to the pond and the sump has not taken on water.

Cameco is in the process of obtaining a contractor to assist with formulating a plan to effectively address LQD's concerns stated in the Review of the January 2012 East Storage Pond Leak report letter dated February 22, 2012. The plan and responses will be submitted to LQD within the 90 day deadline. Routine monitoring will continue to be conducted and a monthly report will to be submitted until a plan has been implemented.

Please contact me at (307) 358-6541 ext. 476 or 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: Wellfield Release Reports, Evaporation Ponds, Spill Reports
Mr. Doug Mandeville – NRC Certified Mail # 7011 0470 0001 0202 1781
Document Control Desk, NRC Certified Mail # 7011 0470 0001 0202 1798

ec: Cameco-Cheyenne

April 2, 2012

Ken Garoutte
Cameco Resources, Inc.
PO Box 1210
Glenrock, WY 82637

RE: Mechanical Integrity Testing (MIT) Approval Requests and associated concerns;
Smith-Highland Ranch PT603 & 633

Dear Mr. Garoutte:

The Land Quality Division (LQD) has recently reviewed several requests submitted by Cameco Resources to resume operation of injection wells that had failed routine five-year MIT testing and were subsequently repaired. Cameco Resources is required to provide information regarding failed wells and request written authorization to resume operations pursuant to LQD Chapter 11, Section 8(c).

This letter is being provided to inform Cameco Resources that the LQD is unable to provide authorization to resume operation of any of the wells at this time and will require a meeting to discuss the repairs of failed wells. The process being utilized to repair the failed wells has raised questions regarding whether the wells remain screened within the production zone. Based on the information submitted, it appears that Cameco is resetting the J-top above the failed portion of the well and moving the screen up vertically as much as one-hundred (100) feet. In some cases, the J-top has been reset above the top of production sand. The LQD has questions regarding this method and is concerned that if the wells resumed injection, they would be injecting fluid outside of the production zone. The LQD is also concerned that the wells may no longer be in communication with the surrounding monitoring well ring.

Please contact the LQD ***within ten (10) days*** of this letter in order to set up a meeting to discuss these concerns. If you have questions, please contact me in the Cheyenne District One Office (307-777-7048).

Sincerely,

Pam Rothwell
District One Assistant Supervisor
Land Quality Division

PCR/jp
xc: WDEQ/LQD Julie Powell, Steve Ingle, Lowell Spackman
cc: Cameco Resources Cheyenne Office

Cameco

CAMECO RESOURCES
Smith Ranch-Highland Operation
Mail:
P.O. Box 1210
Glenrock, WY
82637 USA

Tel: (307) 358-6541
Fax: (307) 358-4533
www.cameco.com

April 30, 2012

Mr. Lowell Spackman
District I Supervisor
Land Quality Division
Wyoming Department of Environmental Quality
122 W. 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL #7011 0470 0001 0202 1842 RETURN RECEIPT REQUESTED

RE: Excursion Report Summary Update, Cameco Resources, Smith Ranch-Highland Uranium Project, Permit 603 and 633

Dear Mr. Spackman:

Power Resources, Inc. d/b/a/ Cameco Resources (Cameco) is submitting the monthly Excursion Report Summary for the Smith Ranch-Highland Uranium Project. During the month of April no new excursions were reported. The Cameco Excursion Report table is attached. Monitor well DM-003, DM-010 and JM-007 remained on excursion from the month of March.

Chloride, alkalinity and conductivity levels in Monitor Well DM-003 show an increase from March. Chloride, alkalinity and conductivity levels in Monitor Well DM-010 have stayed relatively constant from March. Chloride, alkalinity and conductivity levels in Monitor Well JM-007 show an increase from March. Copies of the monitor well reports for these wells are attached. Also attached please find graphs tracking alkalinity, chloride, and conductivity trends for each well.

Cameco is currently installing the excursion remediation pumping wells in MU-D that were outlined and described in the Wellfield Restoration Modeling Report, included in the March monthly update. The three (3) wells are described on page 9 (RES-1P, RES-2P and RES-3P) and located in Table 4-1, of that report. The purpose of these three (3) wells is solely for the remediation of the excursion parameters at DM-003 and DM-010. The three (3) wells were drilled and cased in April 2012 with one (1) being underreamed as of the end of April. The wells will be piped into existing header houses and pumped with no associated injection. The wells will be reported as DX-114, DX-115 and DX-116.

FSME20
FSME

Guideline 8 samples were collected on March 27, 2012 for Monitor Well JM-007. Samples were sent to an external lab for analysis and results will be submitted with the monthly update when Cameco receives them. Further investigation into the cause of excursion continues, once a factor is determined Cameco will update with LQD.

Please contact me at 307-358-6541, ext. 476 or Kenneth_Garoutte@cameco.com if you have questions.

Respectfully,

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

KG/vg

Attachments: Cameco Resources Excursion Report
Monitor Well Report and Trend Graphs for DM-003
Monitor Well Report and Trend Graphs for DM-010
Monitor Well Report and Trend Graphs for JM-007

cc: File HUP 4.3.3.1 File SR 4.3.3.1
Special Volume: Monthly Excursion Reports Summary Updates, Permit 603 and 633
Mr. Doug Mandeville, NRC - CERTIFIED MAIL # 7011 0470 0001 0202 1859
Document Control Desk, NRC - CERTIFIED MAIL # 7011 0470 0001 0202 1866

ec: Cameco-Cheyenne

Cameco Resources Excursion Report
Permit Nos. 603 & 633
(April 2012)

Well Identification	Initial Sample Date	Confirmation Sample Date	Excursion Status (on/off)	Parameters Exceeded	Verbal Notification Date	Written Notification Date	Excursion Resolution Date	LQD Concurrence Notification Date
DM-003	11/19/2009	11/20/2009	ON	Chloride Alkalinity	11/23/2009	11/25/2009		
DM-010	6/3/2011	6/6/2011	ON	Chloride Alkalinity	6/7/2011	6/10/2011		
JM-007	2/29/2012	3/2/2012	ON	Chloride Alkalinity Conductivity	3/2/2012	3/2/2012		

Cameco

CAMECO RESOURCES
Smith Ranch-Highland Operation
Mail:
P.O. Box 1210
Glenrock, WY
82637 USA

Tel: (307) 358-6541
Fax: (307) 358-4533
www.cameco.com

April 30, 2012

Mr. Lowell Spackman, District 1 Supervisor
Land Quality Division
Wyoming Department of Environmental Quality
Herschler Building
122 West 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL # 7011 0470 0001 0202 1811 RETURN RECEIPT REQUESTED

RE: East 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 Evaporation Pond. Written notification followed in the Monthly Evaporation Pond Update dated November 30, 2011

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

Weekly Sample Results

Sample Date	Chloride (mg/L)	Conductivity (mS/cm)
11/04/2011	407	3869
12/14/2011	402	4133
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

FSME20
FSME

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	-
04/05/2012	-	-	-	-	780
04/5/2012	196	2287	413	126	-
04/10/2012	184	2313	618	134	-
04/17/2012	215	2316	462	96	-

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 tears were made on March 16, 2012 and reported in the March monthly update. After the repairs were made the water level in the pond was increased. On April 5, 2012 water was detected in the sump. Water was drained from the pond and Cameco continues to look for tears.

Cameco has obtained a contractor to assist with formulating a plan to effectively address LQD's concerns stated in the Review of the January 2012 East Storage Pond Leak report letter dated February 22, 2012. The plan and responses will be submitted to LQD within the 90 day deadline. Routine monitoring will continue to be conducted and a monthly report will to be submitted until a plan has been implemented.

Please contact me at (307) 358-6541 ext. 476 or 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: Wellfield Release Reports, Evaporation Ponds, Spill Reports
Mr. Doug Mandeville – NRC Certified Mail # 7011 0470 0001 0202 1828
Document Control Desk, NRC Certified Mail # 7011 0470 0001 0202 1835

ec: Cameco-Cheyenne

Department of Environmental Quality

To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.

Matthew H. Mead, Governor

John Corra, Director

May 18, 2012

CERTIFIED MAIL RETURN RECEIPT REQUESTED # 7010 0780 0000 4621 0536

Mr. Ken Garoutte
Manager-Health, Safety and Environmental Affairs
Cameco Resources
P.O. Box 1210
Glenrock, WY 82637

RE: Notice of Violation, Docket No. 4998-12
Cameco Resources (CR), Permit 633, Smith Ranch Mine

Dear Mr. Garoutte:

Enclosed you will find a Notice of Violation issued under the provisions of Wyoming Statute § 35-11-701(c). The Notice of Violation is the result of surface disturbance outside of the permit boundary as a result of well constructions, road improvements and impoundment construction. Also identified in the violation are unapproved impoundment development and usage, unapproved use of the water in the pond, and inadequate surface caps on the wells. These violations were identified during the April 2012 Land Quality Division (LQD) Inspection.

In effort to resolve this matter without further legal action, the LQD is requesting you contact Lowell Spackman LQD, District I Supervisor at 307-777-7052 or lowell.spackman@wyo.gov within fifteen (15) days of receipt of this letter to schedule a meeting to discuss resolution of this enforcement action. Should resolution of this enforcement action be reached as a result of this meeting, a Settlement of Agreement will be signed by both parties.

If you should have any questions regarding this letter, contact Mr. Spackman or Ms. Nancy Nuttbrock, LQD Administrator, at (307)777-7046. Thank you for your cooperation in this matter.

Respectfully,

John V. Corra, Director
Department of Environmental Quality

Nancy Nuttbrock, Administrator
Land Quality Division

Enclosure: Notice of Violation
cc: District 1
Doug Mandeville, NRC

DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE OF WYOMING

NOTICE OF VIOLATION

IN THE MATTER OF THE NOTICE OF VIOLATION ISSUED TO POWER RESOURCES, INC.
d/b/a Cameco Resources **DOCKET NO. 4998-12**
P.O. BOX 1219
GLENROCK, WY 82637
Re: Smith Ranch Mine, Insitu Uranium Operation, Permit No. 633

NOTICE

NOTICE IS HEREBY GIVEN THAT:

1. Notice of Violation (NOV) is being sent to you pursuant to Wyoming Statute (W.S.) §35-11-701(c)(i) which requires that a written notice shall be issued in the case of failure to correct or remedy an alleged violation.

2. Cameco Resources is the operator of the Smith Ranch uranium insitu mine located in Converse County, Wyoming. On April 13, 2012, the Land Quality Division (LQD) conducted an inspection of Wellfield-9, header house #1 area. It was discovered that an improved road, two monitoring wells and a water supply pond were located outside the permit boundary in Section 7, T35N, R74W. The pond is not approved as a water supply pond in Permit 633. In addition, the monitoring wells were noted to have insufficient covers to prohibit the introduction of undesirable material.

3. Affecting lands outside the approved permit boundary of Permit 633 is a violation of W.S. § 35-11-405(a).

4. Use of the water in the pond must be approved in the LQD permit according to Wyoming Environmental Quality Act § 35-11-406(b)(xvi).

5. Impoundment plans and designs are required to be included in the permit according to LQD Noncoal Rules and Regulations, Chapter 11, Section 4(a)(iv).

6. Wells that are not protected with adequate cover is a violation of LQD Rules and Regulations Chapter 11, Section 6(b)(ii).

7. W.S. § 35-11-901(a) provides that any person who violates and provision of the Environmental Quality Act or any rule, standard, permit, license or variance adopted hereunder is liable to a penalty of ten thousand dollars ($10,000) for each day of violation, which penalty may be recovered in a civil action brought by the Attorney General in the name of the People of the State of Wyoming.

NOTHING IN THIS NOTICE shall be interpreted in any way, limit or contravene any other remedy available under the Environmental Quality Act, nor shall this notice be interpreted as being a condition precedent to any other enforcement action.

SIGNED this 18th day of May, 2012

John V. Corra
Director
Department of Environmental Quality

Nancy Nuttbrock
Administrator
Land Quality Division

Please direct all inquiries regarding this Notice of Violation and Order to Mr. Lowell Spackman, Wyoming Department of Environmental Quality, Land Quality Division, Cheyenne Office, 122 West 25th Street, Cheyenne, WY 82002. Telephone No. (307) 777-7052.

cc: Lowell Spackman, District I
File Docket #4998-12
Doug Mandeville, NRC

Cameco

CAMECO RESOURCES
Smith Ranch-Highland Operation
Mail:
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May 25, 2012

Mr. Lowell Spackman, District 1 Supervisor
Land Quality Division
Wyoming Department of Environmental Quality
Herschler Building, 3rd FL-West
122 West 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL # 7011 0470 0000 7716 3394 RETURN RECEIPT REQUESTED

RE: Response to East Storage Pond Leak, Review of January 2012 Report
Permit 633, Cameco Resources (Wellfield Release Volume)

Dear Mr. Spackman:

Power Resources, Inc. d/b/a Cameco Resources (Cameco) is providing herein responses to the letter dated February 22, 2012 received February 27, 2012 containing review comments from the Wyoming Department of Environmental Quality (WDEQ) – Land Quality Division of the January 2012 East Storage Pond Leak Monthly Update. Attached are responses to the comments and a plan to investigate seepage into the groundwater required to be submitted within 90 days of receipt of the February 22, 2012 letter.

Please contact me at (307) 358-6541 ext. 476 or 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 0000 7716 3417
Document Control Desk, NRC Certified Mail # 7011 0470 0000 7716 3400
ec: CR-Cheyenne

FSHE20

Response to East Storage Pond Leak, Review of January 2012 Report
Permit 633, Cameco Resources

Cameco submitted the January 2012 East Storage Pond Leak Report to the Wyoming Department of Environmental Quality – Land Quality Division (LQD) in a letter dated January 27, 2012. LQD reviewed the report and provided comments in a letter received by Cameco on February 27, 2012. Cameco is to provide an investigation plan within 90 days to look at potential shallow groundwater contamination. The following offers LQD's comments and Cameco responses.

COMMENTS

1. *Postponement of the repairs to the pond is acceptable to LQD provided the water level in the pond is kept below the possible location of the leak or the pond is kept as dry as possible. This may require snow removal to minimize significant snow melt which would exceed the level of the leak. (SI/PCR)*

Cameco Response: Whenever a leak is detected in the sump, water levels are dropped until the leak stops and then kept at that level. Cameco then searches for a tear or other cause for the leak. Once a repair is made water is allowed to return to the pond to verify if the leak is fixed.

2. *Due to the numerous leaks in the storage ponds over the last 22 or more years, LQD is concerned that seepage from the ponds may be creating a plume of contaminated groundwater. During the November 2011 inspection, CR discussed possible installation of monitor wells around the ponds to monitor the water quality and the potential of a plume. LQD requests CR submit a plan for investigating potential groundwater contamination as a result of the high number of leaks at the ponds.* ***Please provide a plan to investigate seepage from the ponds to shallow groundwater within 90 days of receipt of this letter. (SI/PCR)***

Cameco Response: See the Smith Ranch Storage Ponds Investigation Work Plan attached.

3. *The November 2011 monthly report discusses the possibility that surface water was seeping under the liner at the top of the pond. The December 2011 report included before-and-after photos of the liner and repaired roadway. It does not appear that an anchor trench was included in the liner design which would have helped prevent seepage under the liner. If cleaner surface water is entering the sump the water quality in the sump would be expected to be much better than that reported. If the source of the water in the sump is surface water, the water is becoming contaminated, either by surface contamination on the road or remnant contamination in the sand layer under the pond. If either is occurring the problem would possibly require cleanup and/or control measures. LQD requests the source of the leak be adequately investigated and an anchor trench be used in the future if it was not used previously. (SI/PCR)*

Cameco Response: The source of the leak is being investigated. Repairs have been made where failures in the liner have been detected. Cameco believes that if clean water reaches the sump it is contaminated by residue left in the sump from previous pond leak water that has evaporated. Cameco will continue to investigate sources of leaks, make repairs/improvements, and will provide updates to the LQD in the monthly Evaporation (Impoundment) Pond Leak Reports.

Smith Ranch Storage Ponds Investigation Work Plan

Prepared For

Cameco Resources
Smith Ranch-Highland Operation
PO Box 1210
Glenrock, WY 82637

Prepared By

Wright Environmental Services Inc.
201 Linden Street, Suite 301
Fort Collins, CO 80524

May 18, 2012

TABLE OF CONTENTS

FIGURES

LIST OF APPENDICES

1.0 INTRODUCTION

In a letter dated February 22, 2012, Wyoming Department of Environmental Quality (WDEQ), Land Quality Division (LQD) notified Cameco Resources that an investigation into potential seepage from the Smith Ranch Project storage ponds was needed. LQD expressed a concern that "seepage from the storage ponds may be creating a plume of contaminated groundwater."

This work plan presents the methods to be employed in investigating potential seepage from the Smith Ranch Project storage ponds into shallow hydrostratigraphic units by assessing available existing site data (i.e., geologic, pond construction and operational data) as well as water quality conditions in the shallow hydrostratigraphic units beneath the Smith Ranch Project storage ponds. The objective of this work plan is to establish investigative procedures to determine if there have been impacts to groundwater quality beneath the storage pond.

2.0 PROJECT HISTORY

2.1 Storage Pond History

Two lined storage ponds were constructed in 1981 and authorized under NRC License SUA-1387. The ponds are currently authorized under LQD Permit to Mine 633 and NRC License SUA-1548. These ponds are located in Section 36 of Township 36 North, Range 74 West north of the Central Processing Plant (CPP) at the Smith Ranch Facility. The ponds were intended as interim storage for operational liquid wastes containing high total dissolved solids.

2.1.1 Storage Pond Construction

As outlined in the Smith Ranch Project Technical Report (Cameco, 2012) submitted as part of the NRC License SUA-1548 Renewal, each storage pond is double lined, constructed with a synthetic primary liner underlain by a compacted sandy clay base liner. The bottom of each pond has a two way slope toward the center. A sand layer

was placed over the compacted sandy clay pond base. A leak detection system consisting of a network of perforated pipes was installed in the sand layer with the pipes draining to a collection sump. The sand layer is overlain by a 30-millimeter thick Hypalon® liner. Should a leak in the primary liner occur, the water will flow through the sand above the sandy clay base liner, enter a perforated pipe, and flow to the collection sump. As outlined in the SR-HUP Application-Reynolds Ranch Amendment (Power Resources, 2006) to NRC License SUA-1548, each storage pond has a capacity of 0.78 acre feet of water. Each pond is 100 feet by 100 feet and eight feet in depth. During operation, three feet of freeboard is maintained in each pond to protect the berms from wind generated wave action.

2.1.2 Storage Pond Operations

The storage ponds have been used to manage process fluids with high dissolved solids concentrations, liquids from well swabbing of operational wells, soils and fluids accumulating during spill remediation activities, and other fluids with high solids content that are generated during operational activities at the facility prior to disposal of these fluids in the deep disposal injection wells. Tears or breaks in the Hypalon® liner have been identified and repaired over the life of the storage ponds (Cameco, 2012).

2.1.3 Storage Pond Monitoring

A summary of recent water quality results is included in Appendix A. This information was included in a letter to LQD dated March 29, 2012. The water quality of samples collected from the standpipe resembles that of the liquids in the pond, which contain elevated levels of chloride, sulfate, and uranium. Thus, it is observed and believed that water from the pond is seeping through holes within the primary liner, which were identified and summarized within the March 29, 2012 letter.

Standard operating procedures detail the monitoring program for the leak detection system. The monitoring program for the lined ponds includes either a fluid level sensor in each pond sump with an alarm displayed at the CPP or a daily inspection of

each sump by an operator. The storage ponds are inspected daily for visual indications of leaks or embankment deterioration by an individual instructed in proper inspection procedures. The pond inspections are recorded and initialed by the inspector.

3.0 INVESTIGATION PLAN

The objective of the investigation is to determine if seepage from the ponds is migrating vertically past the leak detection system, infiltrating near-surface soils and shallow bedrock into the uppermost hydrostratigraphic unit. A preliminary review of geophysical logs (Appendix B) from wells near the facility (Figure 1) indicates sandy soils overlying shale. The top of the shale occurs at an approximate depth of 25 to 55 feet below ground surface and varies in thickness from 25 feet in M-210 (west) to 50 feet in M-211(near the southeast toe of the pond). The preliminary interpretation of the uppermost-sand unit below the shale is that it pinches-out to the west and is of limited areal extent.

However, there is poor resolution of lithology and saturation information in the uppermost 30 feet of the available borehole geophysical logs. The work plan is designed to ascertain both subsurface lithology and the presence or absence of saturated conditions above the shale unit (within 50 feet below ground surface) using test pits and drilling operations. The proposed locations of test pits and boreholes are presented on Figure 1.

3.1 Test Pits

An excavator or backhoe is proposed to excavate six test pits within the vicinity of the pond. The purpose of these test pits is to determine if seepage is occurring into the shallow subsurface from the ponds. Test pits will be excavated to a minimum depth of ten feet or until refusal or equipment limits. Test pit sidewalls will be logged by geologist, photographed, and left open for 24 hours. After 24 hours, the excavation will be photographed, the presence or absence of water documented and the pits backfilled. Water that accumulates in the test pits will be sampled remotely.

The test pits cannot be entered without shoring and approved confined space entry permit.

3.2 Drilling and Well Installation

Drilling and subsequent well installation will be conducted following the test pit excavation. A total of three boreholes are proposed for the locations identified in Figure 1. These boreholes will be located near the test pits in the anticipated down gradient direction from the ponds (west, south, and east), and will terminate at the top of uppermost-shale unit. A qualified geologist will be on-site to log the lithology in each borehole, identify saturated conditions, and determine the total depth of the borehole

Each borehole will be allowed to remain open for one hour at which time the presence or absence of standing water will be measured with a water level indicator. No monitoring wells will be constructed if ground water is not identified in the shallow sandy soils above the uppermost-shale unit.

3.2.1 Drilling Methods

The proposed drilling method will use either dry coring or air-rotary or a combination of these two methods, both of which have been used successfully on-site. The dry coring will allow continuous logging of lithology as well as identification of saturated conditions. If saturated conditions exist within the borehole, the hole will be reamed using dry rotary drilling methods to a diameter of eight inches to meet annular space requirements for well construction. Drilling equipment will be pressure washed between boreholes to minimize the potential for cross contamination. All boreholes not completed as monitoring wells will be abandoned using best management practices and in accordance with LQD Non-Coal Rules and Regulations Chapter 8 and Wyoming Statutes §35-11-404.

3.2.2 Well Installation Methods

If saturated conditions are identified, then a 4-inch well will be installed. The screened interval will be within the sandy soils and extend from the bottom of the borehole at the top of the shale and across the static water level, as measured at the cessation of drilling. A generalized well completion diagram is included as Figure 2. Wells will be constructed in accordance with Wyoming Water Quality Rules and Regulations (Chapter 26).

3.3 Well Development

Following well construction, wells will be developed. Development will take place a minimum of 24 hours after completion allowing settlement of well construction materials. Newly constructed wells will be developed using a combination of bailing, surging, and pumping. Development equipment will be pressure washed between boreholes to minimize the potential for cross contamination.

3.4 Well Sampling

Monitoring wells will be sampled in accordance with the procedures outlined in the recently submitted *Sampling and Analysis Plan for Shallow Monitoring Wells, Smith Ranch - Highland Facility* (2012). All samples will be analyzed for a full LQD Guideline 8 suite plus radionuclides. Samples will be sent to Energy Labs in Casper for analysis using standard EPA methods with appropriate laboratory reporting limits.

4.0 INVESTIGATION REPORT

A report summarizing the investigation will be submitted to Cameco Resources at the conclusion of the investigation. The investigation report will include test pit logs and photographs, well construction and lithologic logs, and ground water sampling results. In addition, recommendations for additional investigations or remediation alternatives will be included, if necessary.

5.0 REFERENCES

Wright Environmental Services, Inc. 2012. Sampling and Analysis Plan for Casing Leak Investigation Shallow Monitoring Wells Smith Ranch - Highland Facility.

Cameco Resources. 2012. Nuclear Regulatory Commission Source Material License No. SUA-1548 License Renewal Application Technical Report.

Power Resources. 2006. Reynolds Ranch Amendment, License No. 1548 Smith Ranch- Highland Uranium Project

CERTIFIED MAIL 7008 0500 0000 5500 8330

May 30, 2012

Mr. Ken Garoutte
Cameco Resources, Inc.
P.O. Box 1210
Glenrock, WY 82637

RE: Notice of Violation, Docket No. 4998-12, April 2012 Inspection Report, Request for Additional Information, Cameco Resources, Permits 603 & 633

Dear Mr. Garoutte:

The Land Quality Division (LQD) sent the April 2012 Inspection Report to CR by certified mail on May 11, 2012. The cover letter requested information regarding the wells observed off-site within 10 days of receipt of the letter.

The LQD has determined that little information is known regarding the history of the water supply pond and access road to the pond. Therefore, in addition to the information on the wells, LQD requests a similar history of the pond and road (i.e., date of pond construction, any expansion of the pond, initial date of use, purpose of pond, source of water, surface landowner consent, SEO permit information, etc.; date of road improvement, purpose of road improvement, surface landowner consent, etc. CR should disclose all information available regarding the off-site features for LQD's evaluation of a settlement in the issue of Notice of Violation, Docket No. 4998-12.

CR will be allowed an **additional 10 days** from the receipt of this letter to provide all information regarding the wells, pond and access road. If you have any questions, contact me at pam.rothwell@wyo.gov or 777-7048.

Sincerely,

Pam Rothwell

Pam Rothwell
District 1 Assistant Supervisor
Land Quality Division

cc: Cameco Resources, Cheyenne, WY
Doug Mandeville, NRC

Cameco

CAMECO RESOURCES
Smith Ranch-Highland Operation
Mail:
P.O. Box 1210
Glenrock, WY
82637 USA

Tel: (307) 358-6541
Fax: (307) 358-4533
www.cameco.com

May 31, 2012

Mr. Lowell Spackman
District I Supervisor
Land Quality Division
Wyoming Department of Environmental Quality
122 W. 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL #7011 0470 0001 0202 1927 RETURN RECEIPT REQUESTED

RE: Excursion Report Summary Update, Cameco Resources, Smith Ranch-Highland Uranium Project, Permit 603 and 633

Dear Mr. Spackman:

Power Resources, Inc. d/b/a/ Cameco Resources (Cameco) is submitting the monthly Excursion Report Summary for the Smith Ranch-Highland Uranium Project. During the month of May no new excursions were reported. The Cameco Excursion Report table is attached. Monitor well DM-003, DM-010 and JM-007 remained on excursion from the month of April.

Chloride, alkalinity and conductivity levels in Monitor Well DM-003 show a decrease mid-May and then increased the last sample of the month. Chloride, alkalinity and conductivity levels in Monitor Well DM-010 showed an increase mid-May and then decreased the last sample of the month. Chloride, alkalinity and conductivity levels in Monitor Well JM-007 show a steady decrease with chloride being right at the UCL. Copies of the monitor well reports for these wells are attached. Also attached please find graphs tracking alkalinity, chloride, and conductivity trends for each well.

Cameco has installed the excursion remediation pumping wells in MU-D that were outlined and described in the Wellfield Restoration Modeling Report in the March monthly update. The three (3) wells are described on page 9 (RES-1P, RES-2P and RES-3P) and located in Table 4-1, of that report. The purpose of these three (3) wells is solely for the control and recovery of the excursion parameters at DM-003 and DM-010. The wells will be designated as DX-114, DX-115 and DX-116. The wells will not be used as injection wells and do not fall under Chapter 11 Rules & Regulations, Section 11 (b) requiring a notice of completion or inspection. Cameco will begin use of these wells in June of 2012 to expedite the control and recovery of excursion fluids.

Guideline 8 samples were collected on March 27, 2012 for Monitor Well JM-007. The results of that suite of samples are attached. Further investigation into the cause of excursion at this well continues and success is being realized. The chloride and conductivity values have been under the UCL's for two consecutive weeks.

Please contact me at 307-358-6541, ext. 476 or Kenneth_Garoutte@cameco.com if you have questions.

Respectfully,

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

KG/vg

Attachments: Cameco Resources Excursion Report
Monitor Well Report and Trend Graphs for DM-003
Monitor Well Report and Trend Graphs for DM-010
Monitor Well Report and Trend Graphs for JM-007

cc: File HUP 4.3.3.1 File SR 4.3.3.1
Special Volume: Monthly Excursion Reports Summary Updates, Permit 603 and 633
Mr. Doug Mandeville, NRC - CERTIFIED MAIL # 7011 0470 0001 0202 1934
Document Control Desk, NRC - CERTIFIED MAIL # 7011 0470 0001 0202 1941

ec: Cameco-Cheyenne

Cameco Resources Excursion Report
Permit Nos. 603 & 633
(May 2012)

Well Identification	Initial Sample Date	Confirmation Sample Date	Excursion Status (on/off)	Parameters Exceeded	Verbal Notification Date	Written Notification Date	Excursion Resolution Date	LQD Concurrence Notification Date
DM-003	11/19/2009	11/20/2009	ON	Chloride Alkalinity	11/23/2009	11/25/2009		
DM-010	6/3/2011	6/6/2011	ON	Chloride Alkalinity	6/7/2011	6/10/2011		
JM-007	2/29/2012	3/2/2012	ON	Chloride Alkalinity Conductivity	3/2/2012	3/2/2012		

Cameco

CAMECO RESOURCES
Smith Ranch-Highland Operation
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P.O. Box 1210
Glenrock, WY
82637 USA

Tel: (307) 358-6541
Fax: (307) 358-4533
www.cameco.com

May 31, 2012

Mr. Lowell Spackman, District 1 Supervisor
Land Quality Division
Wyoming Department of Environmental Quality
Herschler Building
122 West 25th Street
Cheyenne, WY 82002

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			

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 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

ec: Cameco-Cheyenne

Department of Environmental Quality

To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.

Matthew H. Mead, Governor

John Corra, Director

June 8, 2012

Mr. Ken Garoutte
Manager, Safety, Health, Environment & Quality
Cameco Resources
P.O. Box 1210
Glenrock, WY 82637

RE: LETTER OF CONFERENCE AND CONCILIATION (LCC)
Missed Sampling Notification (Vol), Mine Unit F, Cameco Resources Permit 603

Dear Mr. Garoutte:

The Land Quality Division (LQD) received your letter of May 30, 2012 addressing the recently reported missed sampling events in MU-F. LQD is not clear on the resolution with these agencies and whether those resolutions also address the monitoring requirements for LQD.

Your letter discusses verbal notification given on May 17, 2012 for the missed sample events. Although, I agree the notification was received, it was not communicated that multiple wells were affected or that monitoring would be discontinued for an extended period. It appears, CR is making effort to comply with the FWS request to suspend monitoring (i.e., mining activity) within one-quarter (1/4) mile of a raptor nest until August 1, 2012 or until the nest(s) is no longer in use. However, this apparently requires discontinuing monitoring in five (5) adjacent monitor wells. This is not acceptable, even with the commitment to conduct trend analysis as discussed in the Permit (page OP-36). When LQD agreed to the permit revision in 2010 to allow trend analysis for missed samples, the discontinuation of monitoring in the production zone in multiple adjacent wells for an extended period was not considered. Discontinuing monitoring to this extent, carries serious operational risks which could result in undetected excursion of mining fluids.

This operation is being conducted under the permit provisions for non-coal operations required by the Wyoming Environmental Quality Act (WEQA) and the Wyoming DEQ/LQD Noncoal Rules and Regulations (WR&R). Therefore, under the "Conference and Conciliation" provisions of the WEQA § 35-11-701(c), the following corrections will be required.

1 The decision to discontinue monitoring at five adjacent monitoring wells for an extended time period (i.e., during raptor nesting activities) is considered a violation of Noncoal Rules and Regulations, Chapter 11, Section 14 (a)(i)(B), Section 14 (a)(ii)(A) and Section 14 (a)(iii)(B). Although Permit 603 includes a provision to allow trend analysis in the

event of missed samples, the review and approval for that permit revision (approved July 8, 2010) did not consider discontinuation of monitoring in the production zone for multiple adjacent wells or for an extended time period.

2 CR must continue monitoring wells FM-46, FM-47, FM-48, FM-49 and FM-50 according to the approved monitoring plan. If monitoring must be discontinued per other regulatory requirements, CR must also discontinue mining related activities that require monitoring at these wells. If CR discontinues injection and recovery in the mining patterns affected by these monitor wells, an adequate bleed must be maintained to control mining fluids and prevent a potential excursion. CR will be required to demonstrate either: a) continuation of monitoring at these wells or b) if injection and recovery is temporarily discontinued, a maintenance bleed with weekly reports which include well specific pumping rates and fluid volumes and type of fluid in the affected pattern areas. The demonstration must be provided within seven (7) days of receipt of this LCC.

3 It is apparent that CR has sought regulatory guidance from the WGFD & FWS. However, CR has failed to include the LQD in the discussions with regard to regulatory requirements for operational monitoring. CR will need to provide a proposal for a permit update that discusses the resolutions and requirements of the FWS and WGFD for LQD review. CR should not assume one agency has primacy over another. CR must acquire mutual agreement from all agencies. This request must be received within 120 days of receipt of this LCC.

4 By not including LQD in discussions and decisions with the FWS and WGFD, CR is in jeopardy of not meeting all regulatory requirements. LQD will expect that CR is following all regulatory requirements for the LQD permitted insitu operation. Until LQD has reviewed the requested permit update in No. 3 above, LQD does not have information regarding those discussions or decision for regulatory consideration. Therefore, the approved permit and all applicable regulations have precedent in the operations at the mine.

5 Failure to comply with all the items listed above will result in a Notice of Violation.

If you have any questions, please contact me at 777-7048 or pam.rothwell@wyo.gov.

Sincerely,

Pamela Rothwell

Pam Rothwell
Permit Coordinator/District I Assistant Supervisor
Land Quality Division

cc: Cameco Resources, Cheyenne, WY
Doug Mandeville, NRC
Mr. Scott Gamo, WGFD
Mr. Mark Sattelberg, USFWS

Cameco

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June 14, 2012

Mr. Lowell Spackman, District 1 Supervisor
Wyoming Department of Environmental Quality
Land Quality Division
Herschler Building, 3rd Fl-West
122 West 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL # 7011 0470 0000 7716 3431 RETURN RECEIPT REQUESTED

Re: Letter of Conference and Conciliation (LCC) Missed Sampling Notification, Mine Unit F, Cameco Resources, Permit 603.

Dear Mr. Spackman:

Power Resources, Inc. d/b/a Cameco Resources (Cameco) received a hand delivered Letter of Conference & Conciliation (LCC) on June 7, 2012 from the Wyoming Department of Environmental Quality (WDEQ) – Land Quality Division (LQD). The letter discusses LQD concerns of a written notification from Cameco to suspend sampling of five (5) perimeter monitor wells associated with Mine Unit F following recommendations from the Fish & Wildlife Service regarding nesting raptors. Herein Cameco is providing replies to the concerns listed in the LCC.

Please contact me at 307-358-6541, ext. 476 or email to: Kenneth_Garoutte@cameco.com if you have any questions.

Respectfully,

K Garoutte

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

KG/kg

Attachments: Replies to Letter of Conference and Conciliation

FSME20

Cc: File HUP 4.3.3.1
Special Volume: Missed Sampling Notification, Permit 603
Mr. Doug Mandeville, NRC – CERTIFIED MAIL # 7011 0470 0000 7716 3448
Document Control Desk, NRC – CERTIFIED MAIL # 7011 0470 0000 7716 3455
Mr. Scott Gamo, Wyoming Game & Fish Department
Mr. Mark Sattelberg, US Fish and Wildlife Service

Ec: Cameco – Cheyenne

Letter of Conference & Conciliation, Missed Sampling in MU-F
Permit 603, Cameco Resources

Cameco Resources (Cameco) received a hand delivered Letter of Conference & Conciliation (LCC) on June 7, 2012 from the Wyoming Department of Environmental Quality (WDEQ) – Land Quality Division (LQD). The letter discusses LQD concerns of a written notification from Cameco dated May 30, 2012 to suspend sampling of five (5) perimeter monitor wells associated with Mine Unit F following recommendations from the Fish & Wildlife Service regarding nesting raptors. Upon issuing the LCC under WEQA § 35-11-701 (c), LQD requires corrections as described below. Replies from Cameco are provided.

1. *The decision to discontinue monitoring at five adjacent monitoring wells for an extended time period (i.e., during raptor nesting activities) is considered a violation of Noncoal Rules and Regulations, Chapter 11, Section 14 (a)(i)(B), Section 14 (a)(ii)(A) and Section 14 (a)(iii)(B). Although Permit 603 includes a provision to allow trend analysis in the event of missed samples, the review and approval for that permit revision (approved July 8, 2010) did not consider discontinuation of monitoring in the production zone for multiple adjacent wells or for an extended time period.*

Cameco Reply: None requested.

2. *CR must continue monitoring wells FM-46, FM-47, FM-48, FM-49 and FM-50 according to the approved monitoring plan. If monitoring must be discontinued per other regulatory requirements, CR must also discontinue mining related activities that require monitoring at these wells. If CR discontinues injection and recovery in the mining patterns affected by these monitor wells, an adequate bleed must be maintained to control mining fluids and prevent a potential excursion. CR will be required to demonstrate either: a) continuation of monitoring at these wells or b) if injection and recovery is temporarily discontinued, a maintenance bleed with weekly reports which include well specific pumping rates and fluid volumes and type of fluid in the affected pattern areas. The demonstration must be provided within seven (7) days of receipt of this LCC.*

Cameco Reply: Monitor wells FM-46 and FM-50 have not missed a sampling event to date. Two sampling events for monitor wells FM-47, FM-48, and FM-49 were not undertaken due to the raptors' aggressive behavior and concerns for worker safety. Pursuant to receiving the LCC, Cameco contacted the Fish and Wildlife Service (FWS) on June 8 and June 11, 2012 to request their assistance to observe the sampling operation and provide practical recommendations to address worker safety. The FWS conveyed that they had no staff available to come out to observe and review the sampling. The suggestions offered by the FWS are being reviewed to ensure worker safety and still perform the sampling operation. The FWS proposed that Cameco may have to apply for a permit from the FWS Denver Regional Office to remove the nest. The process would be time consuming; thus, Cameco will continue/resume sampling of all the monitor wells beginning June 13, 2012. Measures to protect the workers performing the sampling operation will be taken based on observed behavior of the raptors as each scheduled sampling event is performed. The FWS believes that the aggressive behavior of the raptors will

lessen as the fledglings are growing. Cameco will provide the LQD verbal notification within 24 hours of any missed sampling event due to the aggressive behavior of the raptors but will make another attempt at the next scheduled sampling. This should provide an opportunity to resume normal scheduled sampling in a shorter period of time.

3. *It is apparent that CR has sought regulatory guidance from the WGFD & FWS. However, CR has failed to include the LQD in the discussions with regard to regulatory requirements for operational monitoring. CR will need to provide a proposal for a permit update that discusses the resolutions and requirements of the FWS and WGFD for LQD review. CR should not assume one agency has primacy over another. CR must acquire mutual agreement from all agencies. This request must be received within 120 days of receipt of this LCC.*

Cameco Reply: Cameco will attempt to schedule a meeting with the WGFD, FWS, and LQD to discuss guidance, and reach mutual agreement regarding sampling activities nearby nesting raptors. If a meeting cannot be held, then correspondence among the agencies to resolve the issue will be shared in an attempt to reach regulatory concensus.

4. *By not including LQD in discussions and decisions with the FWS and WGFD, CR is in jeopardy of not meeting all regulatory requirements. LQD will expect that CR is following all regulatory requirements for the LQD permitted insitu operation. Until LQD has reviewed the requested permit update in No. 3 above, LQD does not have information regarding those discussions or decision for regulatory consideration. Therefore, the approved permit and all applicable regulations have precedent in the operations at the mine.*

Cameco Reply: None requested

5. *Failure to comply with all the items listed above will result in a Notice of Violation.*

Cameco Reply: None requested

June 22, 2012

Mr. Josh Leftwich
Director of Safety, Health, Environmental
and Quality
Cameco Resources
2020 Carey Avenue, Suite 600
Cheyenne, WY 82001

SUBJECT: MARCH 15, 2012 REQUEST FOR AN EXEMPTION FROM THE REQUIREMENTS OF 10 CFR 40.42, AS APPLIED TO ALTERNATE GROUNDWATER RESTORATION SCHEDULES FOR CAMECO'S CURRENT AND FUTURE WELLFIELDS AT SMITH RANCH (TAC NO. J00667)

Dear Mr. Leftwich:

In a letter dated March 15, 2012, Power Resources, Inc., doing business as Cameco Resources (Cameco), requested that the U.S. Nuclear Regulatory Commission (NRC) grant a specific exemption pursuant to 10 CFR 40.14 from the requirements of 10 CFR 40.42, as applied to alternate groundwater restoration schedules for Cameco's current and future wellfields at its Smith Ranch facility.

The staff has performed a review of your submittal and has determined that it cannot perform a detailed technical analysis of the request at this time as the request does not fully address the requirements of 10 CFR 40.14(a). As required by 10 CFR 40.14(a), and as discussed in staff guidance, NMSS Policy and Procedures Letter 1-58, "Processing of Exemptions for Material Licenses and Certificate Holders," (NRC's Agencywide Documents Access and Management System (ADAMS) Number (ML11349A312)), the exemption request must contain the following:

- A description of how the exemption, if granted, would not endanger life, property, or common defense and security.
- A description of how the exemption, if granted, would be in the public interest.

In order for the NRC to make the determinations required in 10 CFR 40.14(a), the information above should be provided along with the following information. Sufficient detail such that the staff will be able to determine whether Cameco has identified:

- Compensatory safety measures as necessary and sufficient to ensure a level of health and safety equivalent to the regulation from which the exemption is being requested; and
- All reasonable alternatives for complying with the regulation that the licensee has considered prior to submittal of the exemption request.

In considering any future submittals related to the exemption request, the staff notes that it would consider, in accordance with 10 CFR 40.42(i)(5), site-specific factors potentially affecting the timely restoration of groundwater. In that regard, staff observes that despite years, and in some cases more than a decade of effort on groundwater restoration for mine units at the Smith Ranch facility, only one mine unit restoration has been approved by the NRC. The staff further notes that, with respect to the Smith Ranch facility, restoration has not proceeded in a timely way, equipment necessary for groundwater restoration has been removed from mine units before restoration has been completed, and restoration plans have not been submitted in a timely fashion. Further, past restoration actions at the Smith Ranch facility have been the subject of enforcement action by the State of Wyoming. In light of this history, in any future submittals regarding the exemption request, Cameco should also describe how, in granting this exemption, the goal of timely restoration would be met.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's ADAMS. ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html.

If you have any questions concerning the above, please call John Hayes at (301) 415-5928 or via email at John.Hayes@nrc.gov.

Sincerely,

/RA/

Keith I. McConnell, Deputy Director
Decommissioning and Uranium Recovery
Licensing Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Docket No.: 40-8964
License No.: SUA-1548

cc: Pam Rothwell, WDEQ

In considering any future submittals related to the exemption request, the staff notes that it would consider, in accordance with 10 CFR 40.42(i)(5), site-specific factors potentially affecting the timely restoration of groundwater. In that regard, staff observes that despite years, and in some cases more than a decade of effort on groundwater restoration for mine units at the Smith Ranch facility, only one mine unit restoration has been approved by the NRC. The staff further notes that, with respect to the Smith Ranch facility, restoration has not proceeded in a timely way, equipment necessary for groundwater restoration has been removed from mine units before restoration has been completed, and restoration plans have not been submitted in a timely fashion. Further, past restoration actions at the Smith Ranch facility have been the subject of enforcement action by the State of Wyoming. In light of this history, in any future submittals regarding the exemption request, Cameco should also describe how, in granting this exemption, the goal of timely restoration would be met.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's ADAMS. ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html.

If you have any questions concerning the above, please call John Hayes at (301) 415-5928 or via email at John.Hayes@nrc.gov.

Sincerely,

/RA/

Keith I. McConnell, Deputy Director
Decommissioning and Uranium Recovery
Licensing Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Docket No.: 40-8964
License No.: SUA-1548

cc: Pam Rothwell, WDEQ

DISTRIBUTION: BSpitzberg/RIV LGersey/RIV

ML12132A360

Office	DWMEP	DWMEP	DWMEP	DWMEP	OGC	DWMEP
Name	JHayes:	BGarrett	DMandeville	BVonTill	BJones	KMcConnell
Date	5/15/12	5/15/12	5/15/12	5/17/12	6/7/12	6/22/12

OFFICIAL RECORD COPY

June 22, 2012

Mr. Josh Leftwich
Director of Safety, Health, Environmental,
and Quality
Cameco Resources
2020 Carey Avenue, Suite 600
Cheyenne, WY 82001

SUBJECT: REQUEST FOR APPROVAL OF ALTERNATE DECOMMISSIONING SCHEDULE SMITH RANCH HIGHLAND URANIUM PROJECT *IN SITU* RECOVERY FACILITY, POWER RESOURCES INC., GLENROCK, WYOMING, LICENSE SUA-1548

Dear Mr. Leftwich:

By letter dated February 8, 2012, the U.S. Nuclear Regulatory Commission (NRC) staff requested that Power Resources, Inc. (PRI), doing business as Cameco Resources, submit a current version of its alternate decommissioning schedule for mine units in ground water restoration consistent with the requirements of 10 CFR 40.42 within 30 days of receipt of that letter.

On March 15, 2012, Cameco Resources submitted a request for an exemption from the requirements in 10 CFR 40.42, as applied to alternate ground water restoration schedules for Cameco's current and future wellfields at the Smith Ranch Highland Project. The NRC staff's review of the March 15, 2012 request is documented under separate cover.

This letter is to inform you that while an exemption request from the requirements in 10 CFR 40.42 is permissible under 10 CFR 40.14(a), your March 15, 2012, request did not also address NRC's concerns or the previously identified deficiency. As it stands, Cameco does not currently have an approved alternate schedule for decommissioning, nor is one currently under review by the NRC. Therefore, Cameco is not in compliance with the timeliness in decommissioning requirements in 10 CFR 40.42, which requires that licensees complete decommissioning with 24 months of initiation (§ 40.42(h)) or that the licensee receive approval for a request for an alternate schedule for completion of decommissioning (§40.42(i)).

Until NRC action is taken on Cameco's March 15, 2012, exemption request, the timeliness in decommissioning regulations continue to apply to the Smith Ranch Highland Uranium Project. Please provide the current version of the alternate decommissioning schedule, regardless of any pending status with the Wyoming Department of Environmental Quality, for NRC review and approval within 15 days of receipt of this letter.

If you have any questions concerning the above, please contact Doug Mandeville at 301-415-0724, or by email at Douglas.Mandeville@nrc.gov

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of the NRC's ADAMS. ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html.

Sincerely,

/RA/

Keith I. McConnell, Deputy Director
Decommissioning and Uranium Recovery
Licensing Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Docket No.: 40-8964
License No.: SUA-1548

cc: K. Garoutte, Cameco
B. Berg, Cameco
P. Rothwell, WDEQ

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of the NRC's ADAMS. ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html.

Sincerely,

/RA/

Keith I. McConnell, Deputy Director
Decommissioning and Uranium Recovery
Licensing Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Docket No.: 40-8964
License No.: SUA-1548

cc: K. Garoutte, Cameco
B. Berg, Cameco
P. Rothwell, WDEQ

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ML121180167

Office	DURLD	DURLD	DURLD	DURLD	OGC	DURLD
Name	JHayes	BGarrett	DMandeville	BVonTill	BJones	KMcConnell
Date	4/27/12	5/15/12	5/15/12	5/21/12	06/07/12	6/22/12

OFFICIAL RECORD COPY

Cameco

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June 28, 2012

Mr. Lowell Spackman
District 1 Supervisor
Land Quality Division
Wyoming Department of Environmental Quality
122 W. 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL #7011 0470 0001 0202 1965 RETURN RECEIPT REQUESTED

RE: Excursion Report Summary Update, Cameco Resources, Smith Ranch-Highland Uranium Project, Permit 603 and 633

Dear Mr. Spackman:

Power Resources, Inc. d/b/a/ Cameco Resources (Cameco) is submitting the monthly Excursion Report Summary for the Smith Ranch-Highland Uranium Project. During the month of June no new excursions were reported. The Cameco Excursion Report table is attached. JM-007 officially came off excursion status on June 5, 2012 after 3 consecutive weeks of all parameters being below their respective UCLs. An email notification of status change was sent to LQD, Pam Rothwell, on June 12, 2012. Monitor well DM-003 and DM-010 remained on excursion for the month of June.

Chloride, alkalinity and conductivity levels in Monitor Well DM-003 continued to show an increase from the end of May through June. Chloride, alkalinity and conductivity levels in Monitor Well DM-010 continue to be above UCL but remained stable through June. Copies of the monitor well reports for these wells are attached. Also attached please find graphs tracking alkalinity, chloride, and conductivity trends for each well.

Cameco has installed the excursion remediation pumping wells in MU-D that were outlined and described in the Wellfield Restoration Modeling Report included in the March monthly update. The well completion inspection to verify the annular seal on these wells was done by LQD on June 14, 2012. Approval to operate was received via email on June 18, 2012 with the formal written Letter of Concurrence dated June 19, 2012. Cameco is currently installing piping from these wells to the header houses and extending the electricity. Two (2) of the three (3) wells are planned for start-up in July.

TSME20

Please contact me at 307-358-6541, ext. 476 or Kenneth_Garoutte@cameco.com if you have questions.

Respectfully,

Ken Garoutte by DA Moody

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

KG/vg

Attachments: Cameco Resources Excursion Report
Monitor Well Report and Trend Graphs for DM-003
Monitor Well Report and Trend Graphs for DM-010

cc: File HUP 4.3.3.1 File SR 4.3.3.1
Special Volume: Monthly Excursion Reports Summary Updates, Permit 603 and 633
Mr. Doug Mandeville, NRC - CERTIFIED MAIL # 7011 0470 0001 0202 1972
Document Control Desk, NRC - CERTIFIED MAIL # 7011 0470 0001 0202 1989

cc: Cameco-Cheyenne

Cameco Resources Excursion Report
Permit Nos. 603 & 633
(June 2012)

Well Identification	Initial Sample Date	Confirmation Sample Date	Excursion Status (on/off)	Parameters Exceeded	Verbal Notification Date	Written Notification Date	Excursion Resolution Date	LQD Concurrence Notification Date
DM-003	11/19/2009	11/20/2009	ON	Chloride Alkalinity	11/23/2009	11/25/2009		
DM-010	6/3/2011	6/6/2011	ON	Chloride Alkalinity	6/7/2011	6/10/2011		
JM-007	2/29/2012	3/2/2012	OFF	Chloride Alkalinity Conductivity	3/2/2012	3/2/2012	6/5/2012 after 3 consecutive weeks below UCLs	

Cameco

CAMECO RESOURCES
Smith Ranch-Highland Operation
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Glenrock, WY
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June 28, 2012

Mr. Lowell Spackman, District 1 Supervisor
Land Quality Division
Wyoming Department of Environmental Quality
Herschler Building
122 West 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL # 7011 0470 0000 7716 3516 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	06/07/2012	339	3703
01/10/2012	247	2607	06/22/2012	346	3510
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			

FSME 20

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	1160
05/30/2012	343	3662	466	112	-
06/06/2022	-	-	-	-	Result Pending
06/07/2012	339	3703	448	125	-
06/22/2012	346	3510	448	102	-

As reported in previous monthly updates, sulfate analysis is being done at an external lab.

Cameco continues to examine the liner and work toward a solution. A plan for relining of the impoundment network was outlined in the May monthly update. Currently Cameco has ordered materials for the repairs. Cameco would welcome the opportunity to provide an overview of plans to LQD staff on site during the next site inspection. 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 if you have questions.

Sincerely,

Ken Garoutte By D A Moody

Ken Garoutte
Safety, Health, Environment, 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 0000 7716 3523
Document Control Desk, NRC Certified Mail # 7011 0470 0000 7716 3530

ec: Cameco-Cheyenne

Cameco

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July 23, 2012

Mr. Lowell Spackman, District 1 Supervisor
Wyoming Department of Environmental Quality
Land Quality Division
Herschler Building, 3rd FL-West
122 W. 25th Street
Cheyenne, WY 82002

CERTFIED MAIL # 7011 0470 0001 0202 2061 RETURN RECEIPT REQUESTED

Re: Selenium Issues at Irrigation Circles, 2007-2008 Annual Report Comments, Plan of Action to Provide Characterization Information, Permit 603, Cameco Resources

Dear Mr. Spackman:

Power Resources, Inc. d/b/a Cameco Resources (Cameco) is herein providing a set of action plans to provide Wyoming Department of Environmental Quality (WDEQ) – Land Quality Division (LQD) characterization information related to selenium issues at irrigator circles on Permit 603. LQD has requested in their review of the 2010-2011 Annual Report for Permit 603 a surety increase of $138,734,000 to remove soil at the irrigator circles and transport to an 11e (2) disposal. It is not clear the soil should be classified as 11e (2) material; furthermore, historical studies are not indicative of 12" of soil requiring disposal in an 11e (2) facility. Cameco does not believe the surety increase is warranted; hence the company proposes to address the selenium issues via the following actions:

1. Respond to the 2007-2008 Annual Report comments 19 through 22 with associated prepared studies and indexes of change (TFN 3 1/251) by **August 13, 2012.**

2. Evaluate and design a proposal to dispose of harvested vegetation. Cameco will contact LQD by **August 31, 2012** to schedule a meeting to review the proposal.

3. Develop a proposal with a work plan for the remediation of the selenium elevated soil. University of Wyoming Professor of Soil Ecology and Director of Wyoming Restoration & Reclamation Center, Pete Stahl, will provide a proposal and work plan to Cameco by August 20, 2012. Cameco will contact LQD by **October 5, 2012** to schedule a meeting to review the work plan.

FSME20

4. Complete an Ecological Risk Assessment on Land Application Use of Irrigators early in September, 2012. Cameco will contact LQD by **October 5, 2012** to schedule a meeting to review findings and discuss future irrigator application.

Please contact me at 307-358-6541, ext. 476 of email to Kenneth_Garoutte@cameco.com if you have any questions.

Respectfully,

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

KG/kg

Cc: File HUP 4.3.3.1
Doug Mandeville, NRC CERTIFIED MAIL # 7011 0470 0001 0202 2078
NRC Document Control Desk CERTIFIED MAIL # 7011 0470 0001 0202 2085

Ec: Cameco-Cheyenne

LKS

Department of Environmental Quality

To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.

Matthew H. Mead, Governor

John Corra, Director

July 28, 2012

Mr. Kenneth Garoutte
Cameco Resources
PO Box 1210
Glenrock, WY 82637

Subject: June 2012 Inspection Report
Cameco Resources, Permits 603 & 633

Dear Mr. Garoutte:

The Land Quality Division (LQD) conducted the June 2012 inspection with assistance from you and your staff on June 14, 2012. Please find the inspection report enclosed.

As a result of the inspection, there is potential for violations that will need additional information provided to the LQD. Please find the inspection report enclosed with the information requests in the *Compliance and Assessment* section of the report. The information is requested **within 90 days** for further evaluation of compliance.

If you have any questions, please do not hesitate to contact me at pam.rothwell@wyo.gov or 777-7048.

Sincerely,

Pam Rothwell

Pam Rothwell
District 1 Assistant Supervisor
Land Quality Division

Enclosure

cc: Cameco Resources, Cheyenne, WY w/att
Doug Mandeville, NRC

JUNE 2012 INSPECTION REPORT

PERMITS 603 & 633

COMPANY:	Cameco Resources
LOCATION:	North of Glenrock, Converse County (Smith-Highland Ranch Uranium Project)
DATE OF INSPECTION:	June 14, 2012
DATE OF REPORT:	July 12, 2012
INSPECTORS:	Pam Rothwell, Permit Coordinator
CO. STAFF PRESENT:	Ken Garoutte, Cameco SHEQ Manager Dave Moody, Cameco, Wellfield Operations Manager Craig Hiser, Wellfield Development Supervisor

INTRODUCTION

Focus of Inspection

- Review well completion records and conduct a field inspection of the completed wells in MU-D (approved under separate report).
- Observe status of Mine Unit F and Mine Unit 9 (Header House 1)

INSPECTION

MU-D Well Completion Inspection (Chapter 11, Section 11(h))

Three wells were installed as pumping wells to draw mining fluids that have been on excursion, back into the wellfield. A records review of the well completion reports, casing reports, mechanical integrity reports and geophysical logs was completed to evaluate the requirements for well construction according to Chapter 11, Section 6. A field inspection was completed of the post well construction status including well placement location, necessary surface and channel stabilization, protection of the well from surface runoff and evaluation of the annulus, i.e., fall back of the seal. The wells were deemed acceptable by LQD with formal authorization to use the wells sent to CR on June 29, 2012.

MU-F

Activities in the wellfield are focused on plugging failed wells and refurbishment of pipelines, bell holes and associated header houses. The number of bell holes is being reduced from five (5) down to (2) for better control of the operation. Apparently, there were leakage issues in the infrastructure which resulted in discontinued mining in the wellfield many years ago. The steel pipes and flanges in the bell holes were thought to be a cause of the leaks. The steel pipes are

being replaced with poly-pipe. As the injection and production wells are tested (MIT), they may be plugged if they fail testing or repaired for restoration activities. Additional mining is being evaluated in the wellfield where approved patterns were not mined in the past. The wellfield is very extensive with 38 header houses (pattern areas). The status of mining activities in the wellfield was observed by visiting several of the header houses on the east side of the wellfield. Many of the header houses are not operational with the pipes and connections stripped out **(Figures 1-4)**. There are a few patterns with some production continuing with low flow rates **(Figure 5)**. Cameco states they are evaluating refurbishment requirements for additional mining or restoration in the wellfield. A $32,000 bond is included in the surety for each header house requiring refurbishment. The following summarizes the header houses that were inspected:

Header House	Inspection Date	Observations
HH-F-1	6/14/12	New headers, upgraded PLC (programmable logic controller), for further production or restoration. Wells have been routered off, removing flange-replacing w/ certainteed O-ring seal
HH-F-5	6/14/12	Working on pipeline refurbishment in the area
HH-F-6	6/14/12	Stripped out, evaluating for additional mining or restoration, bonded for refurbishment
HH-F-8	6/14/12	Same as HH-F-6
HH-F-9	6/14/12	Not installed
HH-F-11	6/14/12	Very old used in earlier mining, stripped
HH-F-12	6/14/12	No bleed, shut off, stripped
HH-F-13	6/14/12	No bleed, shut off, stripped
HH-F-14	6/14/12	No bleed, shut off, stripped
HH-F-15	6/14/12	No bleed, shut off, stripped
HH-F-16	6/14/12	Producing, 9 producers, 21 injectors, 125gpm
HH-F-18	6/14/12	Producing, 12 patterns, 125gpm
HH-F-19	6/14/12	Producing, 9 patterns, 125gpm
HH-F-20	6/14/12	Producing
HH-F-21	6/14/12	Producing
HH-F-44	6/14/12	Stripped out, on list to refurbish
HH-F-46	6/14/12	Shut down, no bleed, not stripped

Casing Leak Testing

The consultants (Telesto) contracted to investigate the wellfield leakage issue in Wellfield F were taking samples at the shallow wells 322 and 323. There are issues with slow recharge making it difficult to obtain a sample.

Monitor Wells Not Sampled Due to Raptor Activity

The hawk nest area where sampling was discontinued was observed. There was no indication that the nest was in use. CR stated that the birds had fledged. Cameco is resuming sampling activities at the wells in question.

MU-9

Erosion Control

The slopes along the drainage through the wellfield were receiving maintenance during the inspection including bio-mats to stabilize the slopes and to enhance the vegetation (Figure 6).

Undeveloped Header House No. 1

The area that has been identified as in a Notice of Violation due to disturbance outside of the permit boundary was re-evaluated to determine whether any well installations, other than the monitor wells used for the pump test, were located outside the permit boundary. The Trimble GPS was not operational upon inspection. The operator agreed to recruit their professional surveyor to delineate the permit boundary on a map with the well locations for wells in question.

During observation of the water supply pond (Figure 7) it was discovered that there were additional wells installed to supply the pond. Those wells were approved by the State Engineer's Office and are permitted by the landowner (Figure 8).

COMPLIANCE and ASSESSMENT

1 The inspection of the header houses in Wellfield F provided insight into the extent of the casing leak issues identified in the Administrative Order issued in August 2000. It became apparent during the inspection that not only were many wells identified with casing breaks and joint failures through the Administrative Order, but also, many pipelines and bell holes were affected with many infrastructure failures requiring replacements. This is a potential violation of the Noncoal Rules and Regulations (R&Rs), Chapter 11, Section 9(a)(iv) which states, *"The operator shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the operator to achieve compliance...Proper operation and maintenance includes effective performance..."*.

Therefore, it is requested that CR conduct an investigation of the affected soils and subsoils associated with the infrastructure failures and provide soil analysis and a report of the subsoil and soil testing associated with pipeline and bell hole failures where mining and production fluids were transported through the facilities that were found to have failed. A plan for the investigation should be provided to LQD for review within 90 days of receipt of this report.

2 There are numerous header houses in Wellfield F that indicate a bleed is not being maintained to control the fluids of the mining zone in many pattern areas. This is indicated where the header houses are stripped of pipes and connections to the wellfields. The Noncoal Rules and Regulations (R&R), Chapter 11, Section 11(d) states, *"No operator shall construct, operate, maintain, convert, plug, abandon, or conduct any other injection or mining-related activity in a manner that allows the movement of fluid containing any contaminant into zones or intervals other than those authorized in the approved permit..."* A review of the excursion history in the wellfield indicates two confirmed excursions; one in 2002 and one in 2009. If these excursions were the result

of failure to maintain the bleed in the wellfield, they could be perceived as violations of this regulation.

The R&Rs, Chapter 11, Section 9(a)(iv) states, *"The operator shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the operator to achieve compliance...Proper operation and maintenance includes effective performance...".*

The lack of operational and maintained facilities through the life of the wellfield is considered a violation of these citations. **CR should provide a detailed plan for all pattern areas and header houses within Wellfield F. This plan must be submitted within 90 days of receipt of this report.** The annual reports have not provided sufficient detail to evaluate the status of patterns or header houses in operation. Upon receipt of the report, LQD will evaluate the operational status of all of the header houses for compliance with the regulatory requirements.

In recent years, LQD has identified delays in the restoration of many wellfields, followed by the discovery that the wellfields need refurbishment to proceed with restoration. Next it was learned that CR needed to re-evaluate the production status in MU-F and decide whether additional production would be pursued or whether the wellfield would be restored. These evaluations appear to be further delaying restoration progress. Therefore, CR will need to provide the requested report for LQD to understand the intent to restore the wellfield as well as remain in compliance with the above referenced citations.

3 LQD has requested that CR discontinue the practice of missing sample events and develop remote monitoring practices to avoid missed samples (review of 4th Quarter Monitoring Report). Observation of the nest site reported to be used for a Swainson Hawk was not in use nor was there evidence of recent use. It was not apparent that there was a valid reason to discontinue sampling at five monitor wells in the area.

4 A Notice of Violation, Docket No. 4988-12 was issued for disturbance outside the permit boundary and for unpermitted (LQD) use of water in the minig operations (water supply pond and wells). The violation was identified during the May 2012 inspection. Further inspection of the area was conducted to determine whether any of the wellfield unit injection or production wells were located outside the permit boundary. CR agreed to submit a professional survey of the boundary and wells near the boundary on a map. LQD also discovered additional wells were installed to supply the water supply pond. The map was provided to LQD on June 26, 2012. Cameco's practice has been to rely on the landowner for the appropriate permits for the water supplies used in the operation. The source, quality and quantity requirements of the Wyoming Environmental Quality Act have not been addressed in the permit. The additional wells found during the inspection, although not identified in the Notice of Violation will be addressed in the Settlement Agreement.

Cameco

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July 31, 2012

Mr. Lowell Spackman
District 1 Supervisor
Land Quality Division
Wyoming Department of Environmental Quality
122 W. 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL #7011 0470 0000 7716 3585 RETURN RECEIPT REQUESTED

RE: Excursion Report Summary Update, Cameco Resources, Smith Ranch-Highland Uranium Project, Permit 603 and 633

Dear Mr. Spackman:

Power Resources, Inc. d/b/a/ Cameco Resources (Cameco) is submitting the monthly Excursion Report Summary for the Smith Ranch-Highland Uranium Project. During the month of July no new excursions were reported. The Cameco Excursion Report table is attached. Monitor well DM-003 and DM-010 remained on excursion from the previous month.

Chloride and alkalinity levels in Monitor Well DM-003 remained stable through the month of July, with conductivity showing a decrease by the end of the month. Chloride and alkalinity levels in Monitor Well DM-010 remained stable through the month of July, with conductivity levels fluctuating minimally. Copies of the monitor well reports for these wells are attached. Also attached please find graphs tracking alkalinity, chloride, and conductivity trends for each well.

Cameco has installed the excursion remediation pumping wells in MU-D that were outlined in the Wellfield Restoration Modeling Report included in the March monthly update. The well completion inspection to verify the annular seal on these wells was done by LQD on June 14, 2012. Approval to operate was received via email on June 18, 2012 with the formal written Letter of Concurrence dated June 19, 2012. Cameco is currently installing piping from these wells to the header houses and extending the electricity. Startup for two (2) of the three (3) wells was planned for July, and has been rescheduled for August while line locates are being completed.

Please contact me at 307-358-6541, ext. 476 or Kenneth_Garoutte@cameco.com if you have questions.

Respectfully,

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

KG/vg

Attachments: Cameco Resources Excursion Report
Monitor Well Report and Trend Graphs for DM-003
Monitor Well Report and Trend Graphs for DM-010

cc: File HUP 4.3.3.1 File SR 4.3.3.1
Special Volume: Monthly Exeursion Reports Summary Updates, Permit 603 and 633
Mr. Doug Mandeville, NRC - CERTIFIED MAIL # 7011 0470 0000 7716 3592
Document Control Desk, NRC - CERTIFIED MAIL # 7011 0470 0000 7716 ~~3592~~ 3608

cc: Cameco-Cheyenne

Cameco Resources Excursion Report
Permit Nos. 603 & 633
(July 2012)

Well Identification	Initial Sample Date	Confirmation Sample Date	Excursion Status (on/off)	Parameters Exceeded	Verbal Notification Date	Written Notification Date	Excursion Resolution Date	LQD Concurrence Notification Date
DM-003	11/19/2009	11/20/2009	ON	Chloride Alkalinity	11/23/2009	11/25/2009		
DM-010	6/3/2011	6/6/2011	ON	Chloride Alkalinity	6/7/2011	6/10/2011		

Cameco

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July 31, 2012

Mr. Lowell Spackman, District 1 Supervisor
Land Quality Division
Wyoming Department of Environmental Quality
Herschler Building
122 West 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL # 7011 3500 0000 5274 3994 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.

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02/8/2012	241	2663	07/24/2012	293	2937
02/15/2012	203	2407			
02/29/2012	173	2256			
03/12/2012	184	2213			
04/05/2012	196	2287			
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04/17/2012	215	2316			

Monthly Sample Results

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04/10/2012	184	2313	618	134	-
04/17/2012	215	2316	462	96	-
05/23/2012	310	3046	446	102	1160
05/30/2012	343	3662	466	112	-
06/06/2012	339	3703	448	125	1390
06/21/2012	346	3510	448	102	-
06/29/2012	335	3278	436	155	-
07/24/2012	293	2937	490	105	-

As reported in previous monthly updates, sulfate analysis is being done at an external lab.

Cameco submitted responses to LQD's review of the January 2012 monthly update, together with an Investigation Work Plan under a cover letter dated May 25, 2012. A plan for relining of the impoundment network was outlined in the May monthly update. Both are pending LQD review. 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 if you have questions.

Sincerely,

Ken Garoutte
Safety, Health, Environment, 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 3500 0000 5274 0832
Document Control Desk, NRC Certified Mail # 7011 3500 0000 5274 0849 ✓

ec: Cameco-Cheyenne

Garrett, Betty

From: Kenneth Garoutte [Kenneth_Garoutte@Cameco.com]
Sent: Wednesday, August 01, 2012 6:49 PM
To: Mandeville, Douglas
Cc: Josh Leftwich; Brent Berg; Scott Bakken; Victoria Gitthens; Michael Bryson; Karen Siebken
Subject: Well FM-009 on excursion, Permit 603

Doug,

Confirmation notice: As per voice mail left with you today, Monitor Well FM-009 in Wellfield F (Permit 603) was confirmed today that it was on excursion. UCLs for chloride and alkalinity have been exceeded; Cl @ 19 (UCL=18) and Alk @ 255 (UCL=180). A bleed for the header house pattern area (HH F-11) will be provided to address fluid migration toward the monitor well, FM-009. Pursuant to Permit 603, Chapter 8, Section 8.4, a written notice will provided within seven days. Well FM-009 will be sampled every seven days for Chloride, Alkalinity, Conductivity, and Uranium until the excursion is mitigated. The WDEQ/LQD has been verbally contacted.

Ken Garoutte
Safety Health Environmental Quality (SHEQ) Manager
Cameco Resources
Smith Ranch-Highland
P.O. Box 1210
Glenrock, Wy 82637

(307) 358-6541 ext. 476
Kenneth_Garoutte@cameco.com

SAFETY BY CHOICE, NOT BY CHANCE!

Cameco

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August 6, 2012

Mr. Lowell Spackman, District I Supervisor
Land Quality Division
Wyoming Department of Environmental Quality
122 W. 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL # 7011 3500 0000 5274 0856 RETURN RECEIPT REQUESTED

RE: Excursion at Monitor Well FM-009, Cameco Resources, Permit No. 603

Dear Mr. Spackman:

Pursuant to Wyoming Department of Environmental Quality (WDEQ) – Land Quality Division (LQD) Chapter 11 regulations, Section 8.4 of the Operations Plan for Permit 603 and Nuclear Regulatory Commission (NRC) License SUA-1548 Condition No. 11.5 for the Highland Uranium Project, Power Resources, Inc. d/b/a/ Cameco Resources (Cameco) is providing written notification that Monitor Well FM-009 went on excursion status July 30, 2012. A confirmation sample was taken on July 31, 2012 with results received on August 1, 2012. Ms. Pam Rothwell with WDEQ/LQD and Mr. Doug Mandeville with the NRC were verbally notified by telephone, followed by an email notification, on August 1, 2012.

Analytical results of July 31, 2012 for the routine sample taken on July 30, 2012 indicated a potential exceedance in chloride and alkalinity. Cameco collected a confirmation sample from the well and analyzed it with a quality assurance duplicate on July 31, 2012. Results of the laboratory analyses confirmed the exceedance of two of the three Upper Control Limit (UCL) parameters as shown below.

Sample Date	Chloride (mg/L)	Alkalinity (mg/L $CaCO_3$)	Conductivity (µMhos/cm)
	UCL 18	**UCL 230**	**UCL 769**
7-30-2012	19	251	674
7-31-2012	19	255	670

Monitor Well FM-009 is located in Mine Unit F, near Header House F-11 as illustrated on the attached map. As discussed with LQD, Cameco intends to increase the bleed in the area of header house F-11 with the intent of pulling the excursion fluid back toward the mining pattern. Cameco is investigating the cause of the excursion event and will share findings with LQD in the next monthly excursion update. The excursion at monitor well FM-009 will be identified on the Cameco Resources site map.

Pursuant to WDEQ/LQD Chapter 11, Section 2, a duly authorized representative certification is attached.

Please feel free to contact me at (307) 358-6541 ext. 476 or at Kenneth_Garoutte@cameco.com if you have any questions.

Sincerely,

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

KG/vg

Attachments: 1) Map
2) Duly Authorized Representative Certification

cc: File HUP 4.3.3.1
Special Volume: Excursion Status Reports
Doug Mandeville, NRC Certified Mail # 7011 3500 0000 5274 0863
Document Control Desk, NRC Certified Mail # 7011 3500 0000 5274 0870

ec: Cameco-Cheyenne

Duly Authorized Representative Certification

I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.

Brent Berg by Dave Moody 08-06-2012

Duly Authorized Representative: Brent Berg Date:

DM-24

DM-23

DM-22

D EXTENSION
MONITOR WELL RING

EX-402

FM-6

FM-7

FM-8

FM-09

FM

EM-12

EM-11

FM-10

FM-12

FM-11

F-11

FMO-21

FMU-21

FMP-21

LEGEND

= MONITOR WELL ON EXCURSION

Scale in Feet

0 100 200 400

N

REVISIONS

NO.	DATE	BY

CAMECO

Cameco Resources
SMITH RANCH - HIGHLAND
OPERATION
P.O. Box 1210
Glenrock, WY 82637 Telephone (307) 358-6541

FM-09 EXCURSION

FSCM NO: | DWG NO: | CURRENT REV

PAPER SIZE: ANSI EXPAND B (11.00 X 17.00 INCHES)

J:\ENGINEERING\NICK'S\BASEMAP.DWG

Garrett, Betty

From: Kenneth Garoutte [Kenneth_Garoutte@Cameco.com]
Sent: Wednesday, August 08, 2012 2:00 PM
To: Mandeville, Douglas
Cc: Josh Leftwich; Scott Bakken; Brent Berg; Victoria Gitthens; Michael Bryson; Larry Wilbanks
Subject: Well JM-007 on excursion effective 8-8-12

Doug,

Confirmation notice: As per earlier discussion with you today, Monitor Well JM-007 in Wellfield J (Permit 603) was confirmed today that it was on excursion. UCLs for alkalinity and conductivity have been exceeded; Alk @ 240 (UCL=230) and Cond @ 776 (UCL=769). Pursuant to Permit 603, Chapter 8, Section 8.4, a written notice will be provided within seven days. Well JM-007 will be sampled every seven days for Chloride, Alkalinity, Conductivity, and Uranium until the excursion is mitigated. A voice mail has been left with Pam Rothwell of the WDEQ/LQD.

Ken Garoutte
Safety Health Environmental Quality (SHEQ) Manager
Cameco Resources
Smith Ranch-Highland
P.O. Box 1210
Glenrock, Wy 82637

(307) 358-6541 ext. 476
Kenneth_Garoutte@cameco.com

SAFETY BY CHOICE, NOT BY CHANCE!

Cameco

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www.cameco.com

August 14, 2012

Mr. Lowell Spackman, District 1 Supervisor
Land Quality Division
Wyoming Department of Environmental Quality
122 W. 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL # 7011 0470 0001 0202 2252 RETURN RECEIPT REQUESTED

RE: Excursion at Monitor Well JM-007, Cameco Resources, Permit No. 603

Dear Mr. Spackman:

Pursuant to WDEQ/LQD Chapter 11 regulations, Section 8.4 of the Operations Plan for Permit 603 and NRC License SUA-1548 Condition No. 11.5 for the Highland Uranium Project, Power Resources, Inc. d/b/a Cameco Resources (Cameco) is providing written notification that Monitor Well JM-007 went on excursion status August 8, 2012. Confirmation monitoring results were received on August 8, 2012. Verbal notification by voice mail was provided to Ms. Pam Rothwell with WDEQ/LQD and Mr. Doug Mandeville was notified with the NRC on August 8, 2012.

Analytical results of a sample taken August 3, 2012 indicated exceedence with chloride, alkalinity and conductivity upper control limits (UCLs). Cameco collected a verification sample from the well on August 6, 2012 that showed the well was not on excursion. Analytical results reviewed on August 8, 2012 of a third sample taken on August 7, 2012 confirmed the well is on excursion for exceeding UCLs on alkalinity and conductivity. Results of the laboratory analyses are shown below.

Sample Date	Chloride (mg/L)	Alkalinity (mg/L $CaCO_3$)	Conductivity (µMhos/cm)
	UCL 18	**UCL 230**	**UCL 769**
8/3/2012	20	251	775
8/6/2012	18	244	763
8/7/2012	17	240	776

Monitor Well JM-007 is located in Mine Unit J as illustrated on the attached map. Cameco is investigating the cause of the excursion event and will provide an update on the status of corrective actions in the next monthly excursion update to LQD. The excursion at monitor well JM-007 has been identified on the Cameco Resources site map.

Pursuant to WDEQ/LQD Chapter 11, Section 2, a duly authorized representative certification is attached.

Please feel free to contact me at (307) 358-6541 ext. 476 or at Kenneth_Garoutte@cameco.com if you have any questions.

Sincerely,

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

KG/vg

Attachment: 1) Map
2) Duly Authorized Representative Certification

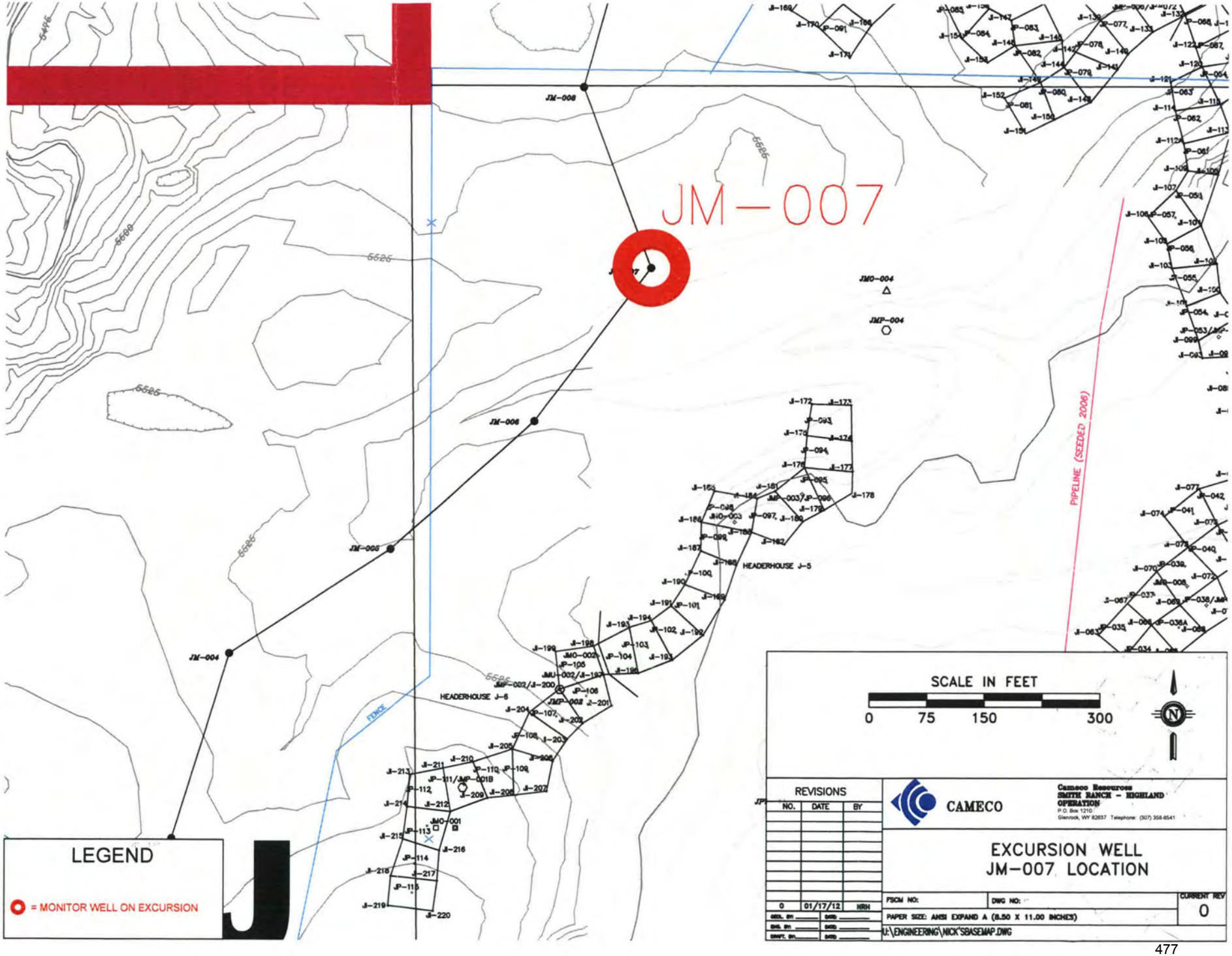
cc: File HUP 4.3.3.1
Special Volume: Excursion Status Reports
Doug Mandeville, NRC Certified Mail # 7011 0470 0001 0202 2269
Document Control Desk, NRC Certified Mail # 7011 0470 0001 0202 2276

cc: CR-Cheyenne

Duly Authorized Representative Certification

I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.

Duly Authorized Representative: Brent Berg Date: 8/14/12


JM-007
JM-008
JM-006
JM-005
JM-004
JMO-004
JMP-004
PIPELINE (SEEDED 2006)
FENCE
HEADERHOUSE J-5
HEADERHOUSE J-6
LEGEND
= MONITOR WELL ON EXCURSION
SCALE IN FEET
0 75 150 300
N
REVISIONS
NO. DATE BY
0 01/17/12 NRH
CAMECO
Cameco Resources
SMITH RANCH - HIGHLAND
OPERATION
P.O. Box 1210
Glenrock, WY 82637 Telephone: (307) 358-6541
EXCURSION WELL
JM-007 LOCATION
FSCM NO:
DWG NO:
CURRENT REV
0
PAPER SIZE: ANSI EXPAND A (8.50 X 11.00 INCHES)
U:\ENGINEERING\NICK'S\BASEMAP.DWG

WY 0089 64

Cameco

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www.cameco.com

August 15, 2012

Mr. Lowell Spackman, District 1 Supervisor
Land Quality Division
Wyoming Department of Environmental Quality
Herschler Building
122 West 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL # 7011 0470 0001 0202 2283 RETURN RECEIPT REQUESTED

RE: Release of Solutions Report, Header House F-38, Mine Unit F, Cameco Resources, Smith Ranch Highland Uranium Project, Permit 603

Dear Mr. Spackman:

In accordance with WDEQ regulation and the NRC License SUA 1548, Power Resources, Inc. d/b/a Cameco Resources (Cameco) verbally notified via telephone Ms. Pam Rothwell of Wyoming Department of Environmental Quality, Land Quality Division (LQD) and Mr. Doug Mandeville, Nuclear Regulatory Commission (NRC), on August 10, 2012, that a release occurred at Smith Ranch-Highland Uranium Project in Converse County, Wyoming on March 9, 2012. The release was also recorded in the WQD Report a Spill or Release online database, Incident Id: 120810-075357.

Approximately 1202 gallons was released at injection wells FI-1055 and FI-1056 when equipment failure of the wellheads occurred. When the release was discovered, the header house was shutdown stopping all injections wells. A vacuum truck was dispatched and recovered approximately 400 gallons of the pooled fluid. Cameco is inspecting wellheads to all other operating injector wells in Mine Unit F in response to the incident. All operating injector well wellheads in Mine Unit F were modified to eliminate the flanged connection on the wellhead in 2011 prior to the wells being placed back into production.

The release was located in the NE ¼ of SW ¼, Section 21, T36N, R73W, of Converse County, Wyoming. A field map is attached. The release will be updated into the site base map for inclusion in the Annual Report.

Soil samples will be taken at 0-2" and 0-6". Cameco will provide a follow-up letter to LQD with the soil sample analyses.

FSME20

Please contact me at 307-358-6541, ext. 476 or Kenneth_Garoutte@cameco.com if you have questions.

Respectfully,

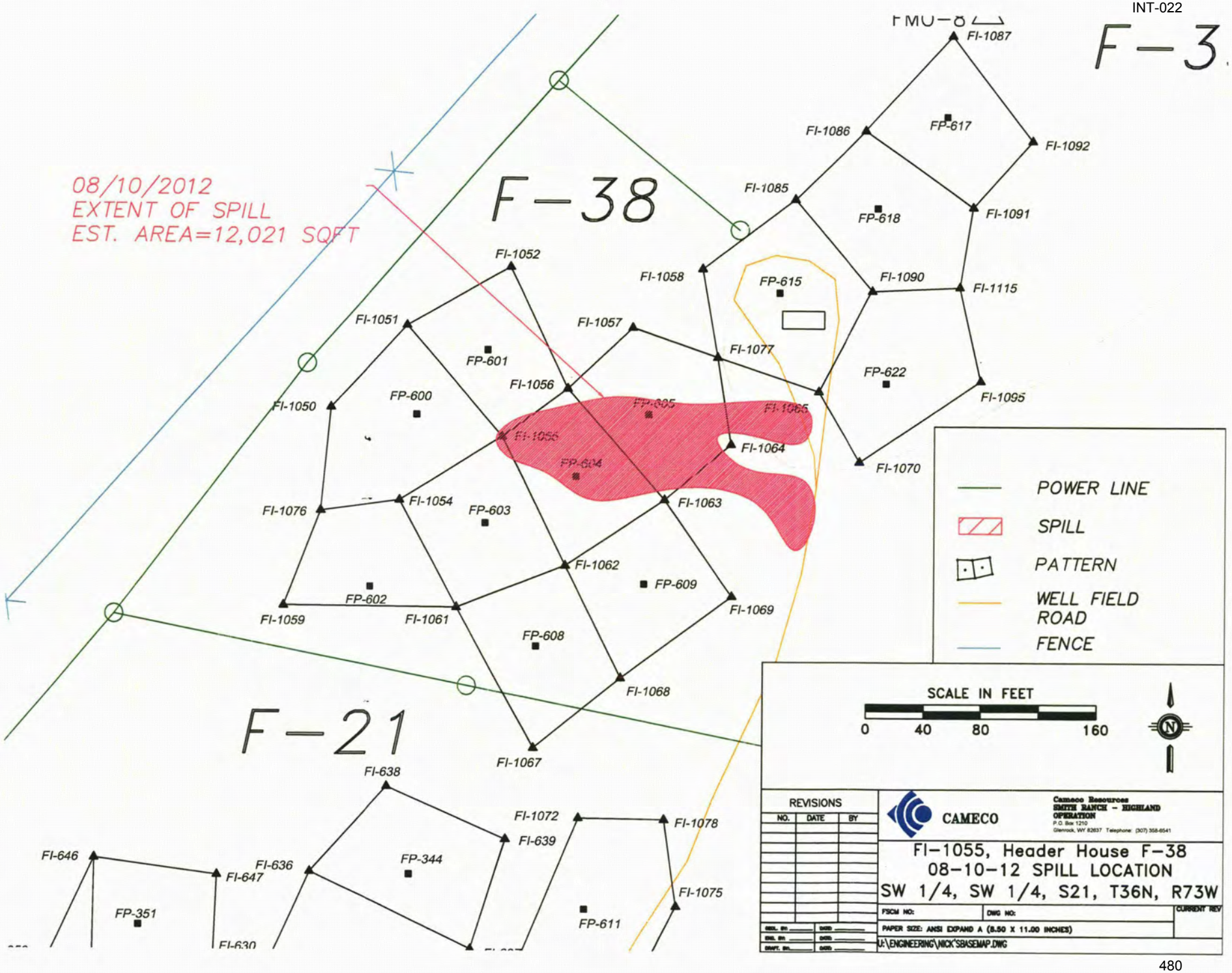
Ken Garoutte
Safety, Health, Environment and Quality (SHEQ) Manager

KG/vg

Attachments: Map

cc: File HUP 4.3.3.1
Special Volume: Wellfield Release, Spill Reports
Mr. Doug Mandeville, NRC Certified Mail # 7011 0470 0001 0202 2290
Document Control Desk, NRC Certified Mail # 7011 0470 0001 0202 2306
Mr. Joe Hunter – Water Quality Division Certified Mail #7011 0470 0001 0202 2313

cc: Cameco Resources-Cheyenne


F-3
F-38
F-21
08/10/2012
EXTENT OF SPILL
EST. AREA=12,021 SQFT
FI-1087
FI-1086
FP-617
FI-1092
FI-1085
FP-618
FI-1091
FI-1052
FI-1058
FP-615
FI-1090
FI-1115
FI-1051
FI-1057
FI-1077
FP-601
FP-622
FI-1056
FI-1050
FP-600
FI-1095
FI-1064
FI-1070
FI-1076
FI-1054
FP-603
FI-1063
FI-1062
FP-609
FP-602
FI-1059
FI-1061
FI-1069
FP-608
FI-1068
FI-1067
FI-638
FI-1072
FI-1078
FI-639
FI-646
FI-636
FP-344
FI-647
FI-1075
FP-351
FP-611
FI-630
POWER LINE
SPILL
PATTERN
WELL FIELD ROAD
FENCE
SCALE IN FEET
0
40
80
160
N
REVISIONS
NO.
DATE
BY
CAMECO
Cameco Resources
SMITH RANCH - HIGHLAND OPERATION
P.O. Box 1210
Glenrock, WY 82637 Telephone: (307) 358-6541
FI-1055, Header House F-38
08-10-12 SPILL LOCATION
SW 1/4, SW 1/4, S21, T36N, R73W
FSCM NO:
DWG NO:
CURRENT REV
PAPER SIZE: ANSI EXPAND A (8.50 X 11.00 INCHES)
U:\ENGINEERING\NICK'S\BASEMAP.DWG

Garrett, Betty

From: Kenneth Garoutte [Kenneth_Garoutte@Cameco.com]
Sent: Tuesday, August 21, 2012 11:20 AM
To: Mandeville, Douglas
Cc: Karen Siebken; Brent Berg; Victoria Gitthens; Seth Barnes; Josh Leftwich; Scott Bakken
Subject: Well KM-031 on excursion, 8-20-12

Doug,

Confirmation notice: As per contact by telephone earlier today, Monitor Well KM-031 in Wellfield K (Permit 633) was confirmed late Monday, 8-20-12 that it was on excursion. UCLs for alkalinity and conductivity have been exceeded; Alk @ 158 (UCL=149) and Cond @ 777 (UCL=769). Pursuant to Permit 633, Chapter 5, Section 5.2.2, a written notice will be provided within seven days. Well KM-031 will be sampled every seven days for Chloride, Alkalinity, Conductivity, and Uranium until the excursion is mitigated. Pam Rothwell of the WDEQ has been informed.

Respectfully,

Ken Garoutte
Safety Health Environmental Quality (SHEQ) Manager
Cameco Resources
Smith Ranch-Highland
P.O. Box 1210
Glenrock, Wy 82637

(307) 358-6541 ext. 476
Kenneth_Garoutte@cameco.com

SAFETY BY CHOICE, NOT BY CHANCE!

Cameco

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August 24, 2012

Mr. Lowell Spackman, District 1 Supervisor
Land Quality Division
Wyoming Department of Environmental Quality
Herschler Building, 3rd FL-West
122 W. 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL # 7011 0470 0001 0202 2368 RETURN RECEIPT REQUESTED

RE: Excursion at Monitor Well KM-031, Cameco Resources, Permit No. 633

Dear Mr. Spackman:

In accordance with Wyoming Department of Environmental Quality (WDEQ) – Land Quality Division (LQD) Chapter 11 regulations, Section 12(c)(ii), Section 5.5.4 of the Operations Plan for Permit 633, and NRC License Condition No. 12.1, Power Resources, Inc. d/b/a/ Cameco Resources (Cameco) is providing written notification that Monitor Well KM-031 went on excursion status August 17, 2012. Confirmation monitoring results were received on August 20, 2012. Ms. Pam Rothwell from WDEQ-LQD and Mr. Doug Mandeville from the NRC were notified by telephone and email on August 21, 2012.

Analytical results on August 20, 2012 for the routine sample taken on August 17, 2012 indicated a potential exceedance in two of the three parameters (alkalinity and conductivity). Cameco collected a confirmation sample from the monitor well and analyzed it with a quality assurance duplicate on August 20, 2012. Results of this laboratory analyses confirmed the exceedance of Upper Control Limit (UCL) parameters. Shown below are results of samples taken.

Sample Date	Chloride (mg/L)	Alkalinity (mg/L $CaCO_3$)	Conductivity (µMhos/cm)
	UCL 16	**UCL 149**	**UCL769**
August 17, 2012	7	**152**	**785**
August 20, 2012	7	**158**	**777**

Monitor Well KM-031 is located in Mine Unit K as illustrated on the attached map. Cameco will investigate potential influence of underground workings near the well, review initial baseline water quality and UCL determinations, and additional sampling inside Mine Unit K to examine how fluid migration from the mine unit may or may not be impacting Well KM-031.

Weekly samples will be collected to monitor the UCL constituents and uranium until the excursion is resolved. The excursion at Monitor Well KM-031 has been added to the monthly Excursion Report Summary and will be identified on the Cameco Resources site map.

Pursuant to WDEQ/LQD Chapter 11, Section 2 a duly authorized representative certification is attached.

Please contact me at (307) 358-6541 ext. 476 or email to Kenneth_Garoutte@cameco.com if you have any questions.

Respectfully,

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

KG/kg

Attachment: 1) Duly Authorized Representative Certification
2) Map

cc: File SR 4.3.3.1
Doug Mandeville, NRC (2 copies) Certified Mail # 7011 0470 0001 0202 2382
Document Control Desk, NRC Certified Mail # 7011 0470 0001 0202 2375

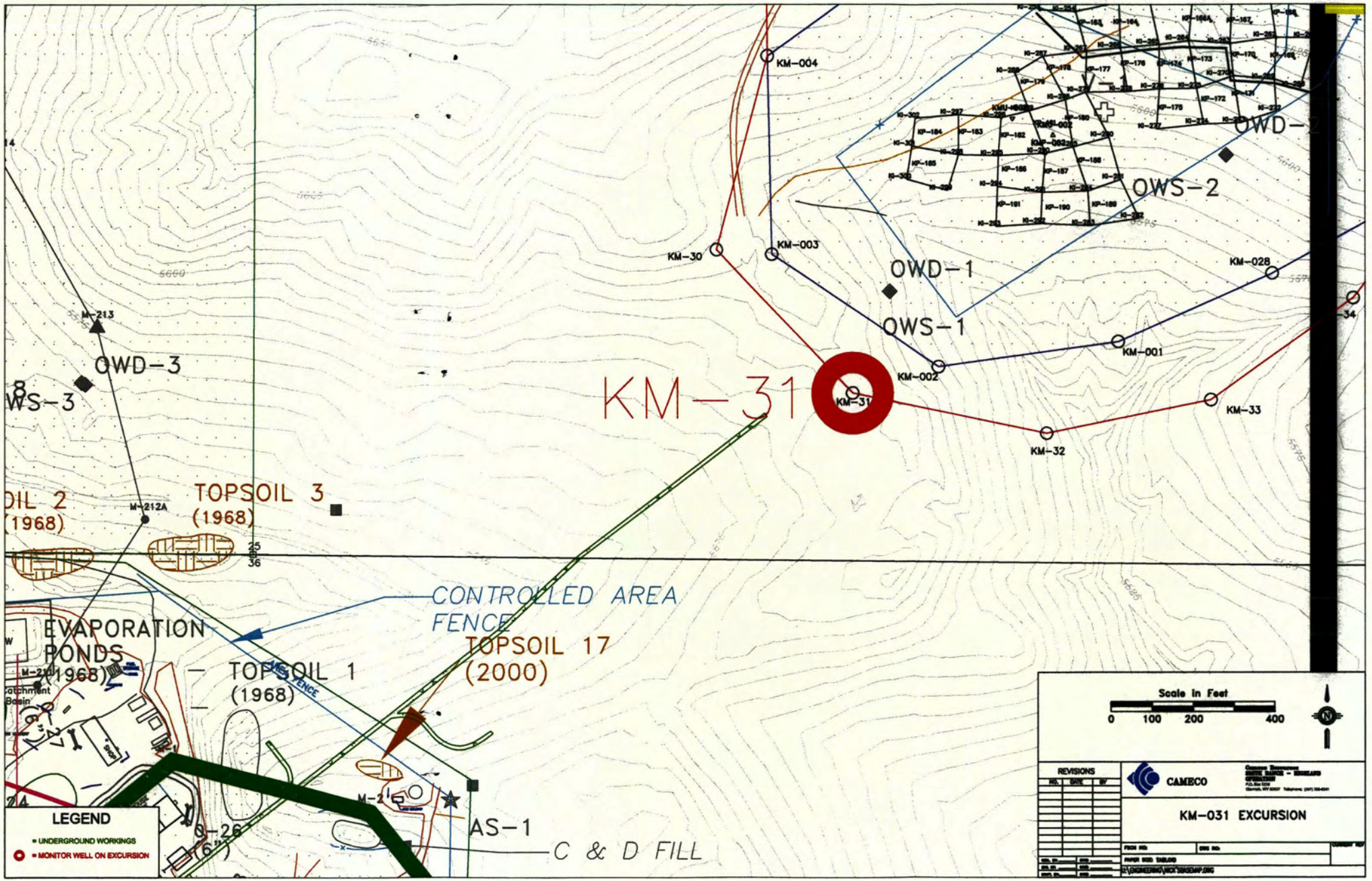
ec: Cameco-Cheyenne

Duly Authorized Representative Certification

I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.

Brent Berg by Dave Moody 8-24-2012

Duly Authorized Representative: Brent Berg Date: 08-24-12


KM-004
KM-30
KM-003
OWD-2
OWS-2
OWD-1
OWS-1
KM-028
KM-001
KM-002
KM-31
KM-33
KM-32
KM-34
KM-213
OWD-3
WS-3
M-212A
TOPSOIL 3
(1968)
OIL 2
(1968)
CONTROLLED AREA
FENCE
TOPSOIL 17
(2000)
EVAPORATION
PONDS
TOPSOIL 1
(1968)
AS-1
C & D FILL
LEGEND
= UNDERGROUND WORKINGS
= MONITOR WELL ON EXCURSION
Scale in Feet
0 100 200 400
REVISIONS
CAMECO
KM-031 EXCURSION

40-8964

Cameco

August 29, 2012

CAMECO RESOURCES
Smith Ranch-Highland Operation
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Glenrock, WY
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Fax: (307) 358-4533
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Mr. Lowell Spackman, District 1 Supervisor
Land Quality Division
Wyoming Department of Environmental Quality
Herschler Building
122 West 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL # 7011 3500 0000 5274 0887 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. As reported in previous monthly updates, sulfate analysis is being done at an external lab.

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	06/06/2012	339	3703
01/10/2012	247	2607	06/21/2012	346	3510
01/19/2012	295	3336	06/29/2012	335	3278
02/8/2012	241	2663	07/24/2012	293	2937
02/15/2012	203	2407	08/02/2012	305	3033
02/29/2012	173	2256	08/16/2012	294	2987
03/12/2012	184	2213			
04/05/2012	196	2287			
04/10/2012	184	2313			
04/17/2012	215	2316			

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	1160
05/30/2012	343	3662	466	112	-
06/06/2012	339	3703	448	125	1390
06/21/2012	346	3510	448	102	-
06/29/2012	335	3278	436	155	-
07/24/2012	293	2937	490	105	1120
08/02/2012	305	3033	490	108	-
08/07/2012	-	-	-	-	1130
08/16/2012	294	2987	517	121	-

Cameco submitted responses to LQD's review of the January 2012 monthly update, together with an Investigation Work Plan under a cover letter dated May 25, 2012. A plan for relining of the impoundment network was outlined in the May monthly update. Both are pending LQD review. Routine monitoring will continue to be conducted and reported in the monthly update to LQD.

Please contact me at (307) 358-6541 ext. 476 or Kenneth_Garoutte@cameco.com if you have questions.

Sincerely,

Ken Garoutte
Safety, Health, Environment, 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 3500 0000 5274 0894
Document Control Desk, NRC Certified Mail # 7011 3500 0000 5274 0900

ec: Cameco-Cheyenne

40-8964

Cameco

CAMECO RESOURCES
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82637 USA

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August 30, 2012

Mr. Lowell Spackman
District 1 Supervisor
Land Quality Division
Wyoming Department of Environmental Quality
122 W. 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL #7011 0470 0000 7716 3615 RETURN RECEIPT REQUESTED

RE: Excursion Report Summary Update, Cameco Resources, Smith Ranch-Highland Uranium Project, Permit 603 and 633

Dear Mr. Spackman:

Power Resources, Inc. d/b/a/ Cameco Resources (Cameco) is submitting the monthly Excursion Report Summary for the Smith Ranch-Highland Uranium Project. During the month of August three (3) new excursions were reported. The Cameco Excursion Report table is attached. Monitor Wells DM-003 and DM-010 remained on excursion from the previous month and Monitor Wells FM-009 and KM-031 were confirmed on excursion during August. Monitor Well JM-007 was confirmed on excursion early in August and off excursion by the end of the month.

Monitor Wells DM-003 and DM-010 showed little change through the month of August. Construction for the remaining two (2) excursion remediation pumping wells for MU-D that were outlined in the Wellfield Restoration Modeling Report included in the March monthly update have been completed, with start-up of the wells expected the first week of September 2012.

Monitor Well FM-009 was confirmed on excursion on July 31, 2012 with verbal notification made on August 1, 2012. Cameco increased the bleed near header house F-11 with the intent to control the excursion. Analytical results show that chloride, alkalinity and conductivity levels remain above the UCLs. Cameco continues to evaluate the effect of the increase bleed in the area. Guideline 8 samples per Chapter 11 Rules and Permit 603, for an excursion lasting 30 days, were collected on August 30, 2012.

FSME 2D

Monitor Well JM-007 was confirmed on excursion on August 6, 2012 with verbal notification made on August 8, 2012. The well was then confirmed off excursion on August 28, 2012 after three (3) consecutive samples were below UCL parameters. Cameco is closely monitoring the behavior of this well in regard to the cyclic changes that have occurred.

Monitor Well KM-031 was confirmed on excursion on August 20, 2012 with verbal notification made on August 21, 2012. Cameco is investigating potential influence of underground working near the well, as well as, reviewing initial baseline water quality and UCL data, together with, conducting additional sampling inside Mine Unit K. The intent is to determine how fluid migration within the mine unit may or may not be impacting the well.

Copies of the monitor well reports for these wells are attached. Also attached please find graphs tracking alkalinity, chloride, and conductivity trends for each well.

Please contact me at 307-358-6541, ext. 476 or Kenneth_Garoutte@cameco.com if you have questions.

Respectfully,

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

KG/vg

Attachments: Cameco Resources Excursion Report
Monitor Well Report and Trend Graphs for DM-003
Monitor Well Report and Trend Graphs for DM-010
Monitor Well Report and Trend Graphs for JM-007
Monitor Well Report and Trend Graphs for FM-009
Monitor Well Report and Trend Graphs for KM-031

cc: File HUP 4.3.3.1 File SR 4.3.3.1
Special Volume: Monthly Excursion Reports Summary Updates, Permit 603 and 633
Mr. Doug Mandeville, NRC - CERTIFIED MAIL # 7011 0470 0000 7716 3622
Document Control Desk, NRC - CERTIFIED MAIL # 7011 0470 0000 7716 3639

ec: Cameco-Cheyenne

Cameco Resources Excursion Report
Permit Nos. 603 & 633
(August 2012)

Well Identification	Initial Sample Date	Confirmation Sample Date	Excursion Status (on/off)	Parameters Exceeded	Verbal Notification Date	Written Notification Date	Excursion Resolution Date	LQD Concurrence Notification Date
DM-003	11/19/2009	11/20/2009	ON	Chloride Alkalinity	11/23/2009	11/25/2009		
DM-010	6/3/2011	6/6/2011	ON	Chloride Alkalinity	6/7/2011	6/10/2011		
JM-007	8/3/2012	8/6/2012	OFF	Chloride Alkalinity	8/8/2012	8/14/2012	8/28/2012 after 3 consecutive weeks below UCL's	
FM-009	7/30/2012	7/31/2012	ON	Chloride Alkalinity	8/1/2012	8/6/2012		
KM-031	8/17/2012	8/20/2012	ON	Alkalinity Conductivity	8/21/2012	8/24/2012		

40-8964

Cameco

September 27, 2012

CAMECO RESOURCES
Smith Ranch-Highland Operation
Mail:
P.O. Box 1210
Glenrock, WY
82637 USA

Tel: (307) 358-6541
Fax: (307) 358-4533
www.cameco.com

Mr. Lowell Spackman, District 1 Supervisor
Land Quality Division
Wyoming Department of Environmental Quality
Herschler Building
122 West 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL #7011 0470 0000 7716 3653 RETURN RECEIPT REQUESTED

RE: Soil Sample Results for Release of Solutions Report, Bell Hole #1 near SR2, Cameco Resources, Smith Ranch Highland Uranium Project, Permit 633

Dear Mr. Spackman,

In a letter dated May 26, 2011, Power Resources, Inc. d/b/a Cameco Resources (Cameco) provided written notification to the Wyoming Department of Environmental Quality-Land Quality Division (LQD) regarding a wellfield release from Bell Hole #1 located near Satellite SR2 that occurred on May 19, 2011. Cameco received a letter dated August 3, 2012 for LQD requesting soil sample results. Camecos responses to LQD comments are included with this submittal as an attachment.

Cameco established an internal guidance to evaluate and cleanup releases based on the NRC's cleanup standards in 10 CFR 40, Appendix A, Criterion 6(6) (i.e. radium benchmark dose approach). Only releases occurring post July 2011 would be evaluated for cleanup. Because this release occurred prior to July 2011 it is not being evaluated for cleanup at this time. The release has been updated into the site base map and was included in the 2011-2012 Annual Report. The area will be assessed per NRC requirements at the time of decommissioning.

The following provide an update of the Bell Hole #1 release:

A gamma survey of the area using a MicroR meter was performed at the time of the release. A solution sample was also collected and analyzed with resulting analysis indicating 17 ppm U-nat. Likewise, soil samples were collected (0-6 inches) and sent to an external lab for analysis. The Analytical Summary Report from the lab is attached. A map of the spill site was attached to the written notification dated May 26, 2011. The same map is attached and includes the points at which the soil samples and background sample were taken.

FSME20

Four (4) soil samples were collected along the release area, along with four (4) background samples. Background samples were collected adjacent to the release samples. A map of the collection sample sites was attached to the written notification dated May 9, 2011. The analytes tested for include arsenic, selenium, uranium, and radium-226.

At this time no further action is required on the referenced release, Bell Hole #1.

Please contact me at 307-358-6541 ext. 476 or Kenneth_Garoutte@cameco.com if you have any questions.

Respectfully,

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

KG/vg

Attachments: Response to LQD Bell Hole #1 Request for Soil Samples
Analytical Report – Bell Hole #1
Map – Bell Hole #1 Release

cc: File SR 4.3.3.1
Special Volume: Wellfield Release Reports, Evaporation Ponds, Spill Reports
Mr. Doug Mandeville, NRC Certified Mail #7011 0470 0000 7716 3660
Document Control Desk, NRC Certified Mail #7011 0470 0000 7716 3677

ec: Cameco Resources – Cheyenne

RESPONSE TO MINE UNIT 9, BELL HOLE #1 WELLFIELD RELEASE, REQUEST FOR SOIL SAMPLES CAMECO RESOURCES PERMIT 633

INTRODUCTION

On May 26, 2011, Power Resources, Inc. d/b/a Cameco Resources (Cameco) provided written notification to the Wyoming Department of Environmental Quality-Land Quality Division (LQD) regarding a wellfield release from Bell Hole #1 located near Satellite SR2 the occurred on May 19, 2011. Cameco received LQD comments requesting additional information in a letter dated August 3, 2012. The following provides LQD's comments along with Camecos responses.

REVIEW COMMENTS

1. *Cameco must provide the soil sample results, the gamma survey results, and a sample location map to LQD for this spill when the results are available.* ***(SI)***

Cameco Response: Included in this submittal are soil sample results and a map showing the location of the samples and the gamma survey completed.

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ANALYTICAL SUMMARY REPORT

File 4.6.4.4

Arlene

RECEIVED
JUN 30 2011
SMITH RANCH - HIGHLAND

June 27, 2011

Power Resources dba Cameco Resources
762 Ross Rd (Douglas, WY 82633)
Glenrock, WY 82637

MU-9 Bellhole
release 5/19/11

Workorder No.: C11050853

Project Name: MU 9

Energy Laboratories, Inc. Casper WY received the following 8 samples for Power Resources dba Cameco Resources on 5/25/2011 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C11050853-001	Soil #1	05/25/11 10:00	05/25/11	Solid	Metals by ICP/ICPMS, Total ABDPTA extractable metals Percent Moisture Digestion, Total Metals Digestion For RadioChemistry ABDTPA Soil Extraction Radium 226
C11050853-002	Bkgnd Soil #105/25/11 10:00		05/25/11	Solid	Same As Above
C11050853-003	Soil #4	05/25/11 10:00	05/25/11	Solid	Same As Above
C11050853-004	Bkgnd #4	05/25/11 10:00	05/25/11	Solid	Same As Above
C11050853-005	Soil #7	05/25/11 10:00	05/25/11	Solid	Same As Above
C11050853-006	Bkgnd #7	05/25/11 10:00	05/25/11	Solid	Same As Above
C11050853-007	Soil #10	05/25/11 10:00	05/25/11	Solid	Same As Above
C11050853-008	Bkgnd #10	05/25/11 10:00	05/25/11	Solid	Same As Above

This report was prepared by Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By: Stephanie D Waldrop

Stephanie D. Waldrop
Reporting Supervisor

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Gillette, WY 866-686-7175 Rapid City, SD 888-672-1225 Corpus Christi, TX 888-690-2218

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client:	Power Resources dba Cameco Resources	**Report Date:**	06/27/11
Project:	MU 9	**Collection Date:**	05/25/11 10:00
Lab ID:	C11050853-001	**DateReceived:**	05/25/11
Client Sample ID:	Soil #1	**Matrix:**	Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	11.7	%		0.1		D2974	05/26/11 12:03 / lbb
ABDTPA EXTRACTABLE METALS							
Selenium	0.19	mg/kg-dry	D	0.01		SW6020	06/06/11 19:52 / sml
METALS - TOTAL							
Arsenic	2.7	mg/kg-dry		0.5		SW6020	06/07/11 13:17 / sml
Uranium	20.6	mg/kg-dry		0.5		SW6020	06/07/11 13:17 / sml
RADIONUCLIDES - TOTAL							
Radium 226	14.2	pCi/g-dry				E903.0	06/13/11 21:48 / trs
Radium 226 precision (±)	0.3	pCi/g-dry				E903.0	06/13/11 21:48 / trs
Radium 226 MDC	0.02	pCi/g-dry				E903.0	06/13/11 21:48 / trs

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: MU 9
Lab ID: C11050853-002
Client Sample ID: Bkgnd Soil #1

Report Date: 06/27/11
Collection Date: 05/25/11 10:00
DateReceived: 05/25/11
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	12.3	%		0.1		D2974	05/26/11 12:03 / lbb
ABDTPA EXTRACTABLE METALS							
Selenium	0.02	mg/kg-dry	D	0.01		SW6020	06/06/11 19:57 / sml
METALS - TOTAL							
Arsenic	2.0	mg/kg-dry		0.5		SW6020	06/07/11 13:22 / sml
Uranium	0.9	mg/kg-dry		0.5		SW6020	06/07/11 13:22 / sml
RADIONUCLIDES - TOTAL							
Radium 226	0.5	pCi/g-dry				E903.0	06/13/11 21:48 / trs
Radium 226 precision (±)	0.05	pCi/g-dry				E903.0	06/13/11 21:48 / trs
Radium 226 MDC	0.02	pCi/g-dry				E903.0	06/13/11 21:48 / trs

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: MU 9
Lab ID: C11050853-003
Client Sample ID: Soil #4

Report Date: 06/27/11
Collection Date: 05/25/11 10:00
DateReceived: 05/25/11
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	10.5	%		0.1		D2974	05/26/11 12:03 / lbb
ABDTPA EXTRACTABLE METALS							
Selenium	0.14	mg/kg-dry	D	0.01		SW6020	06/06/11 20:00 / sml
METALS - TOTAL							
Arsenic	1.7	mg/kg-dry		0.5		SW6020	06/06/11 20:53 / sml
Uranium	2.3	mg/kg-dry		0.5		SW6020	06/06/11 20:53 / sml
RADIONUCLIDES - TOTAL							
Radium 226	9 0	pCi/g-dry				E903.0	06/13/11 21:48 / trs
Radium 226 precision (±)	0.2	pCi/g-dry				E903.0	06/13/11 21:48 / trs
Radium 226 MDC	0 02	pCi/g-dry				E903.0	06/13/11 21:48 / trs

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: MU 9
Lab ID: C11050853-004
Client Sample ID: Bkgnd #4

Report Date: 06/27/11
Collection Date: 05/25/11 10:00
DateReceived: 05/25/11
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	11.9	%		0.1		D2974	05/26/11 12:04 / lbb
ABDTPA EXTRACTABLE METALS							
Selenium	0.03	mg/kg-dry	D	0.01		SW6020	06/08/11 20:02 / sml
METALS - TOTAL							
Arsenic	2.4	mg/kg-dry		0.5		SW6020	06/07/11 13:25 / sml
Uranium	1.1	mg/kg-dry		0.5		SW6020	06/07/11 13:25 / sml
RADIONUCLIDES - TOTAL							
Radium 226	0.8	pCi/g-dry				E903.0	06/13/11 21:48 / trs
Radium 226 precision (±)	0.06	pCi/g-dry				E903.0	06/13/11 21:48 / trs
Radium 226 MDC	0.02	pCi/g-dry				E903.0	06/13/11 21:48 / trs

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: MU 9
Lab ID: C11050853-005
Client Sample ID: Soil #7

Report Date: 06/27/11
Collection Date: 05/25/11 10:00
DateReceived: 05/25/11
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	5.7	%		0.1		D2974	05/26/11 12:04 / lbb
ABDTPA EXTRACTABLE METALS							
Selenium	0.05	mg/kg-dry	D	0.01		SW6020	06/06/11 20:05 / sml
METALS - TOTAL							
Arsenic	1.2	mg/kg-dry		0.5		SW6020	06/07/11 13:38 / sml
Uranium	1.5	mg/kg-dry		0.5		SW6020	06/07/11 13:38 / sml
RADIONUCLIDES - TOTAL							
Radium 226	4.5	pCi/g-dry				E903.0	06/13/11 21:48 / trs
Radium 226 precision (±)	0.1	pCi/g-dry				E903.0	06/13/11 21:48 / trs
Radium 226 MDC	0.02	pCi/g-dry				E903.0	06/13/11 21:48 / trs

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: MU 9
Lab ID: C11050853-006
Client Sample ID: Bkgnd #7

Report Date: 06/27/11
Collection Date: 05/25/11 10:00
DateReceived: 05/25/11
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	21.4	%		0.1		D2974	05/26/11 12:04 / lbb
ABDTPA EXTRACTABLE METALS							
Selenium	0.05	mg/kg-dry	D	0.01		SW6020	06/06/11 20:18 / sml
METALS - TOTAL							
Arsenic	3.5	mg/kg-dry		0.5		SW6020	06/06/11 20:59 / sml
Uranium	1.0	mg/kg-dry		0.5		SW6020	06/06/11 20:59 / sml
RADIONUCLIDES - TOTAL							
Radium 226	1.4	pCi/g-dry				E903.0	06/13/11 21:48 / trs
Radium 226 precision (±)	0.08	pCi/g-dry				E903.0	06/13/11 21:48 / trs
Radium 226 MDC	0.02	pCi/g-dry				E903.0	06/13/11 21:48 / trs

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: MU 9
Lab ID: C11050853-007
Client Sample ID: Soil #10

Report Date: 06/27/11
Collection Date: 05/25/11 10:00
DateReceived: 05/25/11
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	6.4	%		0.1		D2974	05/26/11 12:05 / lbb
ABDTPA EXTRACTABLE METALS							
Selenium	0.03	mg/kg-dry	D	0.01		SW6020	06/06/11 20:20 / sml
METALS - TOTAL							
Arsenic	1.7	mg/kg-dry		0.5		SW6020	06/07/11 13:40 / sml
Uranium	1.9	mg/kg-dry		0.5		SW6020	06/07/11 13:40 / sml
RADIONUCLIDES - TOTAL							
Radium 226	3.6	pCi/g-dry				E903.0	06/13/11 21:48 / trs
Radium 226 precision (±)	0.1	pCi/g-dry				E903.0	06/13/11 21:48 / trs
Radium 226 MDC	0.02	pCi/g-dry				E903.0	06/13/11 21:48 / trs

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level
ND - Not detected at the reporting limit
D - RL increased due to sample matrix

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: MU 9
Lab ID: C11050853-008
Client Sample ID: Bkgnd #10

Report Date: 06/27/11
Collection Date: 05/25/11 10.00
DateReceived: 05/25/11
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	15.6	%		0 1		D2974	05/26/11 12:05 / ibb
ABDTPA EXTRACTABLE METALS							
Selenium	0.06	mg/kg-dry	D	0.01		SW6020	06/06/11 20:23 / sml
METALS - TOTAL							
Arsenic	1.2	mg/kg-dry		0.5		SW6020	06/06/11 21:01 / sml
Uranium	0.5	mg/kg-dry		0.5		SW6020	06/06/11 21:01 / sml
RADIONUCLIDES - TOTAL							
Radium 226	0.7	pCi/g-dry				E903.0	06/13/11 21:48 / trs
Radium 226 precision (±)	0.06	pCi/g-dry				E903.0	06/13/11 21:48 / trs
Radium 226 MDC	0 02	pCi/g-dry				E903.0	06/13/11 21:48 / trs

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

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QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Report Date: 06/27/11
Project: MU 9
Work Order: C11050853

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										Batch: 30024
Sample ID: C11050853-008AMS		Sample Matrix Spike				Run: BERTHOLD 770-1_110606A				06/13/11 23:25
Radium 226		2.2	pCi/g-dry		102	70	130			
Sample ID: C11050853-008AMSD		Sample Matrix Spike Duplicate				Run: BERTHOLD 770-1_110606A				06/13/11 23:25
Radium 226		2.2	pCi/g-dry		108	70	130	1.3	22.9	
Sample ID: LCS-30024		Laboratory Control Sample				Run: BERTHOLD 770-1_110606A				06/13/11 23:25
Radium 226		1.3	pCi/g-dry		110	70	130			
Sample ID: MB-30024	3	Method Blank				Run: BERTHOLD 770-1_110606A				06/13/11 23:25
Radium 226		-0.00015	pCi/g-dry							U
Radium 226 precision (±)		0.00013	pCi/g-dry							
Radium 226 MDC		0.00031	pCi/g-dry							

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

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QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: MU 9

Report Date: 06/27/11
Work Order: C11050853

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020									Batch: 29977	
Sample ID: MB-29977	2	Method Blank				Run: ICPMS2-C_110606A			06/06/11 20:36	
Arsenic		ND	mg/kg	0.50						
Uranium		ND	mg/kg	0.50						
Sample ID: LCS3-29977	2	Laboratory Control Sample				Run: ICPMS2-C_110606A			06/06/11 20:38	
Arsenic		340	mg/kg	0.52	100	62	121			
Uranium		130	mg/kg	0.50	132	54.2	183			
Sample ID: C11050853-008AMS3	2	Sample Matrix Spike				Run: ICPMS2-C_110606A			06/06/11 21:04	
Arsenic		64	mg/kg-dry	0.50	106	75	125			
Uranium		73	mg/kg-dry	0.50	123	75	125			
Sample ID: C11050853-008AMSD	2	Sample Matrix Spike Duplicate				Run: ICPMS2-C_110606A			06/06/11 21:06	
Arsenic		65	mg/kg-dry	0.50	108	75	125	2.6	20	
Uranium		75	mg/kg-dry	0.50	126	75	125	2.5	20	S
Method: SW6020									Batch: 30032	
Sample ID: MB-30032		Method Blank				Run: ICPMS2-C_110606A			06/06/11 19:44	
Selenium		ND	mg/kg-dry	0.010						
Sample ID: LCS1-30032		Laboratory Control Sample				Run: ICPMS2-C_110606A			06/06/11 19:47	
Selenium		0.0921	mg/kg-dry	0.025	106	58	182			
Sample ID: C11050853-008ADUP		Sample Duplicate				Run: ICPMS2-C_110606A			06/06/11 20:25	
Selenium		0.0539	mg/kg-dry	0.0100				5.2	20	
Method: SW6020									Batch: 29977	
Sample ID: MB-29977	2	Method Blank				Run: ICPMS2-C_110607A			06/07/11 13:09	
Arsenic		ND	mg/kg	0.50						
Uranium		ND	mg/kg	0.50						
Sample ID: LCS3-29977	2	Laboratory Control Sample				Run: ICPMS2-C_110607A			06/07/11 13:12	
Arsenic		320	mg/kg	0.52	92	62	121			
Uranium		130	mg/kg	0.50	133	54.2	183			
Sample ID: C11050853-008AMS3	2	Sample Matrix Spike				Run: ICPMS2-C_110607A			06/07/11 13:46	
Arsenic		60	mg/kg-dry	0.50	97	75	125			
Uranium		69	mg/kg-dry	0.50	115	75	125			
Sample ID: C11050853-008AMSD	2	Sample Matrix Spike Duplicate				Run: ICPMS2-C_110607A			06/07/11 13:53	
Arsenic		64	mg/kg-dry	0.50	105	75	125	7.5	20	
Uranium		75	mg/kg-dry	0.50	125	75	125	8.4	20	

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

ENERGY LABORATORIES
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Helena, MT 877-472-0711 · Billings, MT 800-735-4489 · Casper, WY 888-235-0515
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Energy Laboratories Inc
Workorder Receipt Checklist

C11050853

Power Resources dba Cameco Resources

Login completed by: Halley Ackerman

Date Received: 5/25/2011

Reviewed by: BL2000\cwagner

Received by: ha

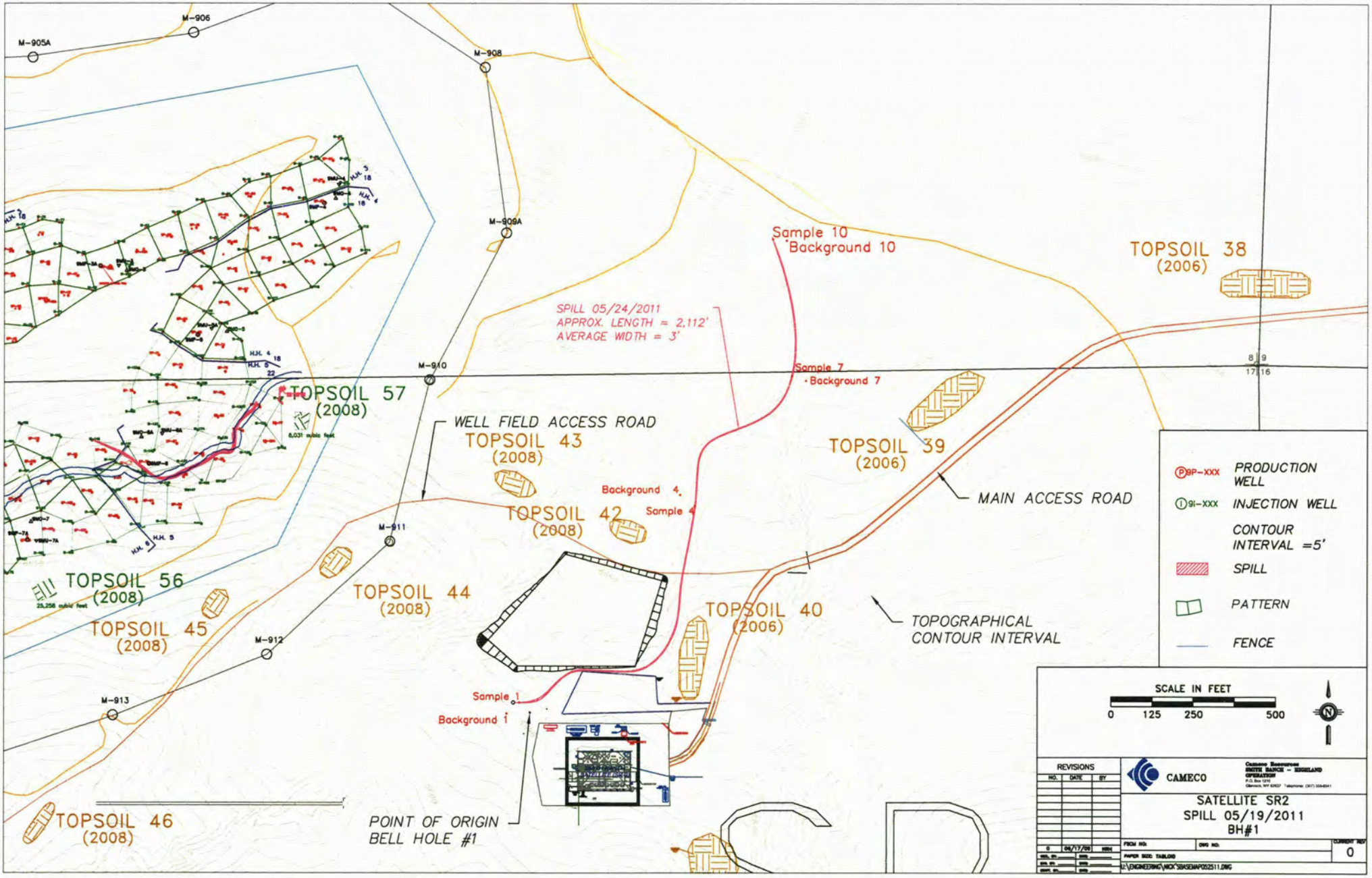
Reviewed Date: 5/26/2011

Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature:	20.2°C		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Contact and Corrective Action Comments:

None


M-905A
M-906
M-908
M-909A
M-910
M-911
M-912
M-913
SPILL 05/24/2011
APPROX. LENGTH = 2,112'
AVERAGE WIDTH = 3'
Sample 10
Background 10
Sample 7
Background 7
Background 4
Sample 4
Sample 1
Background 1
WELL FIELD ACCESS ROAD
MAIN ACCESS ROAD
TOPSOIL 38 (2006)
TOPSOIL 39 (2006)
TOPSOIL 40 (2006)
TOPSOIL 42 (2008)
TOPSOIL 43 (2008)
TOPSOIL 44 (2008)
TOPSOIL 45 (2008)
TOPSOIL 46 (2008)
TOPSOIL 56 (2008)
TOPSOIL 57 (2008)
POINT OF ORIGIN
BELL HOLE #1
TOPOGRAPHICAL
CONTOUR INTERVAL
P9P-XXX PRODUCTION WELL
I9I-XXX INJECTION WELL
CONTOUR INTERVAL =5'
SPILL
PATTERN
FENCE
SCALE IN FEET
0 125 250 500
REVISIONS
NO. DATE BY
0 04/17/09 MRH
CAMECO
SATELLITE SR2
SPILL 05/19/2011
BH#1
CURRENT REV 0

CAMECO RESOURCES
SMITH RANCH–HIGHLAND OPERATION
NON- ROUTINE SURVEY

Location of Reading	Alpha Activity (DPM/100cm^2)				Gamma/Beta
	Direct cpm	Direct dpm	Removable cpm-background	Removable dpm	
1					22µR
2					14µR
3					16µR
4					18µR
5					14µR
6					16µR
7					16µR
8					14µR
9					17µR
10					17µR
BKND 1 soil					14µR
BKND 4 soil					14µR
BKND 7 soil					14µR
BKND 10 soil					17µR

Alpha Meter

Model: _____
S/N: _____
Cal: _____
Eff: _____

Gamma

Model: 19
S/N: 44612
Cal: 10/22/10

Drawer Counter:

Model: _____
S/N: _____
Cal: _____
Eff: _____
BKG: _____

SURVEYED BY M. Griffiths DATE 5/25/11

COMMENTS: _____

Cameco

CAMECO RESOURCES
Smith Ranch-Highland Operation
Mail:
P.O. Box 1210
Glenrock, WY
82637 USA

Tel: (307) 358-6541
Fax: (307) 358-4533
www.cameco.com

September 27, 2012

Mr. Lowell Spackman, District 1 Supervisor
Wyoming Department of Environmental Quality
Land Quality Division
Herschler Building, 3 Fl-West
122 West 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL # 7011 0470 0000 7716 3653 RETURN RECEIPT REQUESTED

RE: Mine Unit 9, Header House 3 Soil Sample Results, Permit 633, Cameco Resources

Dear Mr. Spackman:

In a letter dated December 8, 2011, Power Resources, Inc. d/b/a Cameco Resources (Cameco) provided written notification to the Wyoming Department of Environmental Quality (WDEQ) - Land Quality Division (LQD) regarding a wellfield release from Header House 3 in Mine Unit 9 that occurred on December 6, 2011.

SOIL SAMPLING RESULTS

Three (3) soil samples were collected on December 15, 2011, along the release area together with one (1) background sample adjacent to the spill area. The samples were collected (0-2, 2-6 and 0-6 inches) and sent to an external lab for analysis. The Analytical Summary Report from the lab is attached. The analytes tested for include arsenic, selenium, uranium, and radium-226.

The sample results for uranium are reported in mg/Kg and require conversion to pCi/g, while the results for radium-226 are reported in pCi/g. After conversion, uranium and radium results are summed. Background is then subtracted from the sum and the result is compared to the 5 pCi/g criteria using the NRC's unity rule. Below describes the formula used for converting uranium reported in mg/Kg to pCi/g.

Conversion formula:

mg/Kg • Kg/1E6mg • 6.77E-7Ci/g • pCi/1E-12 Ci = pCi/g

The specific activity of uranium is 6.77E-7 Ci/g as per 10 CFR PART 20, appendix B.

The following table summarizes the soil results and the unity calculation for each sample. As can be seen, sample #2 was above the 5 pCi/g unity rule. Samples resulting in a negative Unity-Background are due to the background unity being higher than the sample unity.

MU9 HH3 Spill 1st Soil Sample					
Sample ID	**Uranium mg/kg**	**Radium pCi/g**	**Uranium pCi/g**	**Unity pCi/g**	**Unity-Background pCi/g**
#1 (0-2)	3.2	3.0	2.17	5.17	1.06
#2 (0-2)	3.4	10.2	2.30	12.50	8.40
#3 (0-2)	1.9	0.7	1.29	1.99	-2.12
Background (0-2)	3.7	1.6	2.50	4.10	0.00
#1 (2-6)	2.6	0.9	1.76	2.66	0.44
#2 (2-6)	3.4	3.2	2.30	5.50	3.28
#3 (2-6)	2.2	0.7	1.49	2.19	-0.03
Background (2-6)	2.1	0.8	1.42	2.22	0.00
#1 (0-6)	2.8	1.9	1.90	3.80	0.56
#2 (0-6)	3.2	6.6	2.17	8.77	5.54
#3 (0-6)	2.2	0.7	1.49	2.19	-1.04
Background (0-6)	3.0	1.2	2.03	3.23	0.00

On March 9, 2012 fourteen (14) soil samples were collected in a grid pattern around the one (1) soil sample with a unity higher than 5 pCi/g. Each sample was collected from 0-6 inches. A map of the spill site was attached to the written notification dated December 8, 2011. The same map is attached to this submittal and now includes the points at which the first soil samples, second soil samples and background samples were taken.

The second soil sample points were chosen to establish a grid containing 100 meter squared areas. This allows the four (4) samples points for each 100 meter squared area to be averaged, enabling the known contaminated area to be further condensed.

The following table summarizes the second soil results, the unity calculation for each sample and the grid averages for the samples.

MU9 HH3 Spill 2nd Soil Sample					
Sample ID	Uranium mg/kg	Radium pCi/g	Uranium pCi/g	Unity pCi/g	Unity-Background pCi/g
#1 (0-6)	3.8	0.7	2.57	3.27	0.04
#2 (0-6)	1.8	0.4	1.22	1.62	-1.61
#3 (0-6)	2.2	0.6	1.49	2.09	-1.14
#4 (0-6)	2.6	0.4	1.76	2.16	-1.07
#5 (0-6)	2.2	0.5	1.49	1.99	-1.24
#6 (0-6)	4.1	0.5	2.78	3.28	0.04
#7 (0-6)	2.1	0.5	1.42	1.92	-1.31
#8 (0-6)	3.2	0.8	2.17	2.97	-0.26
#9 (0-6)	3.2	0.7	2.17	2.87	-0.36
#10 (0-6)	6.0	0.9	4.06	4.96	1.73
#11 (0-6)	7.0	1.1	4.74	5.84	2.61
#12 (0-6)	7.3	0.6	4.94	5.54	2.31
#13 (0-6)	2.9	0.4	1.96	2.36	-0.87
#14 (0-6)	2.8	0.4	1.90	2.30	-0.94
Background (0-6)	3.0	1.2	2.03	3.23	0.00

Grid Averages	
Sample ID	Average
5,6,4,3	-0.85
6,7,3,2	-1.00
4,3,8,2*	-1.02
2,3,2*,1	0.63
8,2*,9,10	1.66
2*,1,10,11	2.48
9,10,14,13	-0.11
10,11,13,12	1.45
* Result from 1st Soil Sample	

Based on the NRC's cleanup standards in 10 CFR 40, Appendix A, Criterion 6(6) (i.e. radium benchmark dose approach), sampling results indicate that no further action is required at this time. The release has been updated into the site base map and was included in the 2011-2012 Annual Report.

Please contact me at (307) 358-6541, ext. 476 or at Kenneth_Garoutte@cameco.com if you have any questions.

Respectfully,

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

KG/vg

Attachments: Response to LQD Mine Unit 9, Header House 3, Request for Soil Samples
Analytical Report – Mine Unit 9, Header House 3, 1st and 2nd sampling rounds
Map - Mine Unit 9, Header House 3 Spill

cc: File HUP 4.3.3.1
Special Volume: Wellfield Release Reports
Mr. Doug Mandeville, NRC - CERTIFIED MAIL # 7011 0470 0000 7716 3660
Document Control Desk, NRC - CERTIFIED MAIL # 7011 0470 0000 7716 3677

ec: Cameco Resources-Cheyenne

RESPONSE TO MINE UNIT 9, HEADERHOUSE 9-3 WELLFIELD RELEASE, REQUEST FOR SOIL SAMPLES CAMECO RESOURCES PERMIT 633

INTRODUCTION

On December 6, 2011 Cameco Resources submitted verbal notification to the Land Quality Division (LQD) that a release had occurred on December 6, 2011 in Mine Unit 9, Header House 9-3. A follow-up notification was mailed to the LQD on December 8, 2011. On August 8, 2012 Cameco received LQD's comment. The following provides LQD's comment along with Cameco's response.

REVIEW COMMENTS

1. *Cameco must provide the soil sample results, the gamma survey results, and sample location maps to LQD for the spill.* ***(SI)***

Cameco Response: Included in this submittal are soil sample results, a map depicting sample locations and the gamma survey completed.

Cameco

CAMECO RESOURCES
Smith Ranch-Highland Operation
Mail:
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Glenrock, WY
82637 USA

Tel: (307) 358-6541
Fax: (307) 358-4533
www.cameco.com

September 27, 2012

Mr. Lowell Spackman, District 1 Supervisor
Wyoming Department of Environmental Quality
Land Quality Division
Herschler Building, 3 Fl-West
122 West 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL #7011 0470 0000 7716 3653 RETURN RECEIPT REQUESTED

RE: Mine Unit J, Header House 7 Soil Sample Results, Permit 603, Cameco Resources

Dear Mr. Spackman:

In a letter dated March 13, 2012, Power Resources, Inc. d/b/a Cameco Resources (Cameco) provided written notification to the Wyoming Department of Environmental Quality (WDEQ) - Land Quality Division (LQD) regarding a wellfield release from Header House 7 in Mine Unit J that occurred on March 7, 2012.

Soil samples were collected (0-2 and 0-6 inches) and sent to an external lab for analysis. The Analytical Summary Report from the lab is attached. The analytes tested for were arsenic, selenium, uranium, and radium-226.

Nine (9) soil samples were collected along the release area along with, one (1) background sample. The background sample was collected adjacent to the release samples. Each sample was collected from 0-2 inches and 0-6 inches, including the background sample. A map of the spill site was attached to the written notification dated March 13, 2012. The same map is attached and now includes the points at which the soil samples and background sample were taken.

SOIL SAMPLING RESULTS

The sample results for uranium are reported in mg/Kg and require conversion to pCi/g, while the results for radium-226 are reported in pCi/g. After conversion, uranium and radium results are summed. Background is then subtracted from the sum and the result is compared to the 5 pCi/g criteria using the NRC's unity rule. Below describes the formula used for converting uranium reported in mg/Kg to pCi/g.

Conversion formula:

mg/Kg • Kg/1E6mg • 6.77E-7Ci/g • pCi/1E-12 Ci = pCi/g

The specific activity of uranium is 6.77E-7 Ci/g as per 10 CFR PART 20, appendix B.

The following table summarizes the soil results and the unity calculation for each sample. As can be seen, no sample was above the 5 pCi/g unity rule.

Sample ID	Uranium mg/kg	Radium pCi/g	Uranium pCi/g	Unity pCi/g	Unity-Background pCi/g
#1 (0-2)	1.5	2.4	1.02	3.42	-0.18
#2 (0-2)	1.5	1.9	1.02	2.92	-0.68
#3 (0-2)	1.6	1.7	1.08	2.78	-0.81
#4 (0-2)	1.6	2.1	1.08	3.18	-0.41
#5 (0-2)	1.5	1.6	1.02	2.62	-0.98
#6 (0-2)	1.5	1.9	1.02	2.92	-0.68
#7 (0-2)	2.0	2.1	1.35	3.45	-0.14
#8 (0-2)	0.0	2.1	0.00	2.10	-1.50
#9 (0-2)	0.0	1.9	0.00	1.90	-1.70
Background (0-2)	2.8	1.7	1.90	3.60	0.00
#1 (0-6)	0.0	2.1	0.00	2.10	-0.72
#2 (0-6)	2.8	2.6	1.90	4.50	1.68
#3 (0-6)	0.0	2.0	0.00	2.00	-0.82
#4 (0-6)	2.1	2.1	1.42	3.52	0.71
#5 (0-6)	2.4	1.8	1.62	3.42	0.61
#6 (0-6)	1.5	1.8	1.02	2.82	0.00
#7 (0-6)	1.5	2.1	1.02	3.12	0.30
#8 (0-6)	1.0	1.9	0.68	2.58	-0.24
#9 (0-6)	2.0	1.9	1.35	3.25	0.44
Background (0-6)	1.5	1.8	1.02	2.82	0.00

Based on the NRC's cleanup standards in 10 CFR 40, Appendix A, Criterion 6(6) (i.e. radium benchmark dose approach), sampling results indicate that no further action is required at this time. The release has been updated into the site base map and was included in the 2011-2012 Annual Report.

Please contact me at (307) 358-6541, ext. 476 or at Kenneth_Garoutte@cameco.com if you have any questions.

Respectfully,

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

KG/vg

Attachments: Response to LQD Mine Unit J, Header House 7, Request for Soil Samples
Analytical Report – Mine Unit J, Header House 7
Map - Mine Unit J, Header House 7 Spill

cc: File HUP 4.3.3.1
Special Volume: Wellfield Release Reports
Mr. Doug Mandeville, NRC - CERTIFIED MAIL # 7011 0470 0000 7716 3660
Document Control Desk, NRC - CERTIFIED MAIL # 7011 0470 0000 7716 3677

ec: Cameco Resources-Cheyenne

RESPONSE TO MINE UNIT J, HEADER HOUSE 7 WELLFIELD RELEASE, REQUEST FOR SOIL SAMPLES CAMECO RESOURCES PERMIT 603

INTRODUCTION

On March 8, 2012 Cameco Resources submitted verbal notification to the Land Quality Division (LQD) that a release had occurred on March 7, 2012 in Mine Unit J, Header House 7. A follow-up notification was mailed to the LQD on March 13, 2012. Cameco received LQD comments requesting additional information in a letter dated August 3, 2012. The following provides LQD's comments along with Cameco's responses.

REVIEW COMMENTS

1. *Cameco must provide the soil sample results, the gamma survey results, and a sample location map to LQD for this spill when the results are available.* ***(SI)***

Cameco Response: Included in this submittal are soil sample results and a map showing the location of the samples. A gamma survey was not completed for this spill.

2. *The total volume of fluid recovered is not included in the report. This information must be supplied with the follow-up report. Please include the total volume of fluid recovered in the follow-up report.* ***(SI)***

Cameco Response: Zero (0) gallons of fluid was recovered from the spill.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: SR-HUP
Lab ID: C12040806-001
Client Sample ID: HH J-7 #6 [0"-6"]

Report Date: 05/25/12
Collection Date: 04/13/12
DateReceived: 04/13/12
Matrix: Soil

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	6.1	%		0.1		D2974	04/16/12 11:50 / rw
METALS - TOTAL							
Arsenic	4.3	mg/kg-dry		1.0		SW6020	04/20/12 17:43 / smm
Selenium	1.4	mg/kg-dry		1.0		SW6020	04/20/12 17:43 / smm
Uranium	1.5	mg/kg-dry		1.0		SW6020	04/20/12 17:43 / smm
RADIONUCLIDES							
Radium 226	1.8	pCi/g-dry				E903.0	04/30/12 15:54 / lbb
Radium 226 precision (±)	0.09	pCi/g-dry				E903.0	04/30/12 15:54 / lbb
Radium 226 MDC	0.02	pCi/g-dry				E903.0	04/30/12 15:54 / lbb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: SR-HUP
Lab ID: C12040806-002
Client Sample ID: HH J-7 #6 [0"-2"]

Report Date: 05/25/12
Collection Date: 04/13/12
DateReceived: 04/13/12
Matrix: Soil

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	5.1	%		0.1		D2974	04/16/12 11:51 / rw
METALS - TOTAL							
Arsenic	3.7	mg/kg-dry		1.0		SW6020	04/20/12 17:46 / smm
Selenium	1.2	mg/kg-dry		1.0		SW6020	04/20/12 17:46 / smm
Uranium	1.5	mg/kg-dry		1.0		SW6020	04/20/12 17:46 / smm
RADIONUCLIDES							
Radium 226	1.9	pCi/g-dry				E903.0	04/30/12 15:54 / lbb
Radium 226 precision (±)	0.09	pCi/g-dry				E903.0	04/30/12 15:54 / lbb
Radium 226 MDC	0.02	pCi/g-dry				E903.0	04/30/12 15:54 / lbb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: SR-HUP
Lab ID: C12040806-003
Client Sample ID: HH J-7 #7 [0"-6']

Report Date: 05/25/12
Collection Date: 04/13/12
DateReceived: 04/13/12
Matrix: Soil

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	9.6	%		0.1		D2974	04/16/12 11:51 / rw
METALS - TOTAL							
Arsenic	4.9	mg/kg-dry		1.0		SW6020	04/19/12 08:24 / smm
Selenium	2.0	mg/kg-dry		1.0		SW6020	04/19/12 08:24 / smm
Uranium	1.5	mg/kg-dry		1.0		SW6020	04/19/12 08:24 / smm
RADIONUCLIDES							
Radium 226	2.1	pCi/g-dry				E903.0	04/30/12 15:54 / lbb
Radium 226 precision (±)	0.1	pCi/g-dry				E903.0	04/30/12 15:54 / lbb
Radium 226 MDC	0.02	pCi/g-dry				E903.0	04/30/12 15:54 / lbb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: SR-HUP
Lab ID: C12040806-004
Client Sample ID: HH J-7 #7 [0"-2"]

Report Date: 05/25/12
Collection Date: 04/13/12
DateReceived: 04/13/12
Matrix: Soil

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	7.3	%		0.1		D2974	04/16/12 11:51 / rw
METALS - TOTAL							
Arsenic	4.8	mg/kg-dry		1.0		SW6020	04/20/12 17:49 / smm
Selenium	1.9	mg/kg-dry		1.0		SW6020	04/20/12 17:49 / smm
Uranium	2.0	mg/kg-dry		1.0		SW6020	04/20/12 17:49 / smm
RADIONUCLIDES							
Radium 226	2.1	pCi/g-dry				E903.0	04/30/12 15:54 / lbb
Radium 226 precision (±)	0.1	pCi/g-dry				E903.0	04/30/12 15:54 / lbb
Radium 226 MDC	0.02	pCi/g-dry				E903.0	04/30/12 15:54 / lbb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: SR-HUP
Lab ID: C12040806-005
Client Sample ID: HH J-7 #8 [0"-6"]

Report Date: 05/25/12
Collection Date: 04/13/12
DateReceived: 04/13/12
Matrix: Soil

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	5.0	%		0.1		D2974	04/16/12 11:51 / rw
METALS - TOTAL							
Arsenic	3.0	mg/kg-dry		1.0		SW6020	04/19/12 08:33 / smm
Selenium	1.0	mg/kg-dry		1.0		SW6020	04/19/12 08:33 / smm
Uranium	1.0	mg/kg-dry		1.0		SW6020	04/19/12 08:33 / smm
RADIONUCLIDES							
Radium 226	1.9	pCi/g-dry				E903.0	04/30/12 15:54 / lbb
Radium 226 precision (±)	0.09	pCi/g-dry				E903.0	04/30/12 15:54 / lbb
Radium 226 MDC	0.02	pCi/g-dry				E903.0	04/30/12 15:54 / lbb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: SR-HUP
Lab ID: C12040806-006
Client Sample ID: HH J-7 #8 [0"-2"]

Report Date: 05/25/12
Collection Date: 04/13/12
DateReceived: 04/13/12
Matrix: Soil

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	4.1	%		0.1		D2974	04/16/12 11:51 / rw
METALS - TOTAL							
Arsenic	ND	mg/kg-dry		1.0		SW6020	04/20/12 20:42 / smm
Selenium	ND	mg/kg-dry		1.0		SW6020	04/20/12 20:42 / smm
Uranium	ND	mg/kg-dry		1.0		SW6020	04/20/12 20:42 / smm
RADIONUCLIDES							
Radium 226	2.1	pCi/g-dry				E903.0	04/30/12 15:54 / lbb
Radium 226 precision (±)	0.1	pCi/g-dry				E903.0	04/30/12 15:54 / lbb
Radium 226 MDC	0.02	pCi/g-dry				E903.0	04/30/12 15:54 / lbb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: SR-HUP
Lab ID: C12040806-007
Client Sample ID: HH J-7 #9 [0"-6"]

Report Date: 05/25/12
Collection Date: 04/13/12
DateReceived: 04/13/12
Matrix: Soil

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	7.8	%		0.1		D2974	04/16/12 11:51 / rw
METALS - TOTAL							
Arsenic	4.8	mg/kg-dry		1.0		SW6020	04/19/12 16:41 / smm
Selenium	1.8	mg/kg-dry		1.0		SW6020	04/19/12 16:41 / smm
Uranium	2.0	mg/kg-dry		1.0		SW6020	04/19/12 16:41 / smm
RADIONUCLIDES							
Radium 226	1.9	pCi/g-dry				E903.0	04/30/12 15:54 / lbb
Radium 226 precision (±)	0.09	pCi/g-dry				E903.0	04/30/12 15:54 / lbb
Radium 226 MDC	0.02	pCi/g-dry				E903.0	04/30/12 15:54 / lbb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: SR-HUP
Lab ID: C12040806-008
Client Sample ID: HH J-7 #9 [0"-2"]

Report Date: 05/25/12
Collection Date: 04/13/12
DateReceived: 04/13/12
Matrix: Soil

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	12.9	%		0.1		D2974	04/16/12 11:51 / rw
METALS - TOTAL							
Arsenic	ND	mg/kg-dry		1.0		SW6020	04/20/12 20:47 / smm
Selenium	ND	mg/kg-dry		1.0		SW6020	04/20/12 20:47 / smm
Uranium	ND	mg/kg-dry		1.0		SW6020	04/20/12 20:47 / smm
RADIONUCLIDES							
Radium 226	1.9	pCi/g-dry				E903.0	04/30/12 17:28 / lbb
Radium 226 precision (±)	0.1	pCi/g-dry				E903.0	04/30/12 17:28 / lbb
Radium 226 MDC	0.02	pCi/g-dry				E903.0	04/30/12 17:28 / lbb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: SR-HUP
Lab ID: C12040806-009
Client Sample ID: HH J-7 Background [0"-6"]

Report Date: 05/25/12
Collection Date: 04/13/12
DateReceived: 04/13/12
Matrix: Soil

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	7.0	%		0.1		D2974	04/16/12 11:51 / rw
METALS - TOTAL							
Arsenic	4.5	mg/kg-dry		1.0		SW6020	04/19/12 16:50 / smm
Selenium	1.9	mg/kg-dry		1.0		SW6020	04/19/12 16:50 / smm
Uranium	1.5	mg/kg-dry		1.0		SW6020	04/19/12 16:50 / smm
RADIONUCLIDES							
Radium 226	1.8	pCi/g-dry				E903.0	04/30/12 17:28 / lbb
Radium 226 precision (±)	0.09	pCi/g-dry				E903.0	04/30/12 17:28 / lbb
Radium 226 MDC	0.02	pCi/g-dry				E903.0	04/30/12 17:28 / lbb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: SR-HUP
Lab ID: C12040806-010
Client Sample ID: HH J-7 Background [0"-2"]

Report Date: 05/25/12
Collection Date: 04/13/12
DateReceived: 04/13/12
Matrix: Soil

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	5.3	%		0.1		D2974	04/16/12 11:51 / rw
METALS - TOTAL							
Arsenic	ND	mg/kg-dry		1.0		SW6020	04/20/12 20:49 / smm
Selenium	ND	mg/kg-dry		1.0		SW6020	04/20/12 20:49 / smm
Uranium	2.8	mg/kg-dry		1.0		SW6020	04/23/12 13:54 / smm
RADIONUCLIDES							
Radium 226	1.7	pCi/g-dry				E903.0	04/30/12 17:28 / lbb
Radium 226 precision (±)	0.09	pCi/g-dry				E903.0	04/30/12 17:28 / lbb
Radium 226 MDC	0.02	pCi/g-dry				E903.0	04/30/12 17:28 / lbb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: SR-HUP
Lab ID: C12040806-011
Client Sample ID: HH J-7 #1 [0"-6"]

Report Date: 05/25/12
Collection Date: 04/13/12
DateReceived: 04/13/12
Matrix: Soil

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	8.1	%		0.1		D2974	04/16/12 11:52 / rw
METALS - TOTAL							
Arsenic	ND	mg/kg-dry		1.0		SW6020	04/20/12 20:52 / smm
Selenium	ND	mg/kg-dry		1.0		SW6020	04/20/12 20:52 / smm
Uranium	ND	mg/kg-dry		1.0		SW6020	04/20/12 20:52 / smm
RADIONUCLIDES							
Radium 226	2.1	pCi/g-dry				E903.0	04/30/12 17:28 / lbb
Radium 226 precision (±)	0.1	pCi/g-dry				E903.0	04/30/12 17:28 / lbb
Radium 226 MDC	0.02	pCi/g-dry				E903.0	04/30/12 17:28 / lbb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: SR-HUP
Lab ID: C12040806-012
Client Sample ID: HH J-7 #1 [0"-2"]

Report Date: 05/25/12
Collection Date: 04/13/12
DateReceived: 04/13/12
Matrix: Soil

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	7.0	%		0.1		D2974	04/16/12 11:52 / rw
METALS - TOTAL							
Arsenic	4.3	mg/kg-dry		1.0		SW6020	04/19/12 16:55 / smm
Selenium	2.0	mg/kg-dry		1.0		SW6020	04/19/12 16:55 / smm
Uranium	1.5	mg/kg-dry		1.0		SW6020	04/19/12 16:55 / smm
RADIONUCLIDES							
Radium 226	2.4	pCi/g-dry				E903.0	04/30/12 17:28 / lbb
Radium 226 precision (±)	0.1	pCi/g-dry				E903.0	04/30/12 17:28 / lbb
Radium 226 MDC	0.02	pCi/g-dry				E903.0	04/30/12 17:28 / lbb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: SR-HUP
Lab ID: C12040806-013
Client Sample ID: HH J-7 #2 [0"-6"]

Report Date: 05/25/12
Collection Date: 04/13/12
DateReceived: 04/13/12
Matrix: Soil

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	6.9	%		0.1		D2974	04/16/12 13:17 / rw
METALS - TOTAL							
Arsenic	ND	mg/kg-dry		1.0		SW6020	04/20/12 20:54 / smm
Selenium	ND	mg/kg-dry		1.0		SW6020	04/20/12 20:54 / smm
Uranium	2.8	mg/kg-dry		1.0		SW6020	04/23/12 14:02 / smm
RADIONUCLIDES							
Radium 226	2.6	pCi/g-dry				E903.0	04/30/12 17:28 / lbb
Radium 226 precision (±)	0.1	pCi/g-dry				E903.0	04/30/12 17:28 / lbb
Radium 226 MDC	0.02	pCi/g-dry				E903.0	04/30/12 17:28 / lbb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: SR-HUP
Lab ID: C12040806-014
Client Sample ID: HH J-7 #2 [0"-2"]

Report Date: 05/25/12
Collection Date: 04/13/12
DateReceived: 04/13/12
Matrix: Soil

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	4.7	%		0.1		D2974	04/16/12 13:17 / rw
METALS - TOTAL							
Arsenic	4.4	mg/kg-dry		1.0		SW6020	04/19/12 17:00 / smm
Selenium	1.4	mg/kg-dry		1.0		SW6020	04/19/12 17:00 / smm
Uranium	1.5	mg/kg-dry		1.0		SW6020	04/19/12 17:00 / smm
RADIONUCLIDES							
Radium 226	1.9	pCi/g-dry				E903.0	04/30/12 17:28 / lbb
Radium 226 precision (±)	0.1	pCi/g-dry				E903.0	04/30/12 17:28 / lbb
Radium 226 MDC	0.02	pCi/g-dry				E903.0	04/30/12 17:28 / lbb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: SR-HUP
Lab ID: C12040806-015
Client Sample ID: HH J-7 #3 [0"-6"]

Report Date: 05/25/12
Collection Date: 04/13/12
DateReceived: 04/13/12
Matrix: Soil

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	5.0	%		0.1		D2974	04/16/12 13:17 / rw
METALS - TOTAL							
Arsenic	ND	mg/kg-dry		1.0		SW6020	04/20/12 21:07 / smm
Selenium	ND	mg/kg-dry		1.0		SW6020	04/20/12 21:07 / smm
Uranium	ND	mg/kg-dry		1.0		SW6020	04/20/12 21:07 / smm
RADIONUCLIDES							
Radium 226	2.0	pCi/g-dry				E903.0	04/30/12 17:28 / lbb
Radium 226 precision (±)	0.09	pCi/g-dry				E903.0	04/30/12 17:28 / lbb
Radium 226 MDC	0.02	pCi/g-dry				E903.0	04/30/12 17:28 / lbb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: SR-HUP
Lab ID: C12040806-016
Client Sample ID: HH J-7 #3 [0"-2"]

Report Date: 05/25/12
Collection Date: 04/13/12
DateReceived: 04/13/12
Matrix: Soil

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	4.5	%		0.1		D2974	04/16/12 13:17 / rw
METALS - TOTAL							
Arsenic	4.4	mg/kg-dry		1.0		SW6020	04/19/12 17:04 / smm
Selenium	1.8	mg/kg-dry		1.0		SW6020	04/19/12 17:04 / smm
Uranium	1.6	mg/kg-dry		1.0		SW6020	04/19/12 17:04 / smm
RADIONUCLIDES							
Radium 226	1.7	pCi/g-dry				E903.0	04/30/12 17:28 / lbb
Radium 226 precision (±)	0.09	pCi/g-dry				E903.0	04/30/12 17:28 / lbb
Radium 226 MDC	0.02	pCi/g-dry				E903.0	04/30/12 17:28 / lbb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: SR-HUP
Lab ID: C12040806-017
Client Sample ID: HH J-7 #4 [0"-6"]

Report Date: 05/25/12
Collection Date: 04/13/12
DateReceived: 04/13/12
Matrix: Soil

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	5.8	%		0.1		D2974	04/16/12 13:17 / rw
METALS - TOTAL							
Arsenic	ND	mg/kg-dry		1.0		SW6020	04/20/12 21:10 / smm
Selenium	ND	mg/kg-dry		1.0		SW6020	04/20/12 21:10 / smm
Uranium	2.1	mg/kg-dry		1.0		SW6020	04/23/12 14:04 / smm
RADIONUCLIDES							
Radium 226	2.1	pCi/g-dry				E903.0	04/30/12 22:36 / lbb
Radium 226 precision (±)	0.1	pCi/g-dry				E903.0	04/30/12 22:36 / lbb
Radium 226 MDC	0.02	pCi/g-dry				E903.0	04/30/12 22:36 / lbb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: SR-HUP
Lab ID: C12040806-018
Client Sample ID: HH J-7 #4 [0"-2"]

Report Date: 05/25/12
Collection Date: 04/13/12
DateReceived: 04/13/12
Matrix: Soil

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	4.8	%		0.1		D2974	04/16/12 13:17 / rw
METALS - TOTAL							
Arsenic	4.2	mg/kg-dry		1.0		SW6020	04/19/12 17:09 / smm
Selenium	1.1	mg/kg-dry		1.0		SW6020	04/19/12 17:09 / smm
Uranium	1.6	mg/kg-dry		1.0		SW6020	04/19/12 17:09 / smm
RADIONUCLIDES							
Radium 226	2.1	pCi/g-dry				E903.0	04/30/12 22:36 / lbb
Radium 226 precision (±)	0.1	pCi/g-dry				E903.0	04/30/12 22:36 / lbb
Radium 226 MDC	0.02	pCi/g-dry				E903.0	04/30/12 22:36 / lbb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: SR-HUP
Lab ID: C12040806-019
Client Sample ID: HH J-7 #5 [0"-6"]

Report Date: 05/25/12
Collection Date: 04/13/12
DateReceived: 04/13/12
Matrix: Soil

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	7.5	%		0.1		D2974	04/16/12 13:17 / rw
METALS - TOTAL							
Arsenic	ND	mg/kg-dry		1.0		SW6020	04/20/12 21:12 / smm
Selenium	ND	mg/kg-dry		1.0		SW6020	04/20/12 21:12 / smm
Uranium	2.4	mg/kg-dry		1.0		SW6020	04/23/12 14:06 / smm
RADIONUCLIDES							
Radium 226	1.8	pCi/g-dry				E903.0	04/30/12 22:36 / lbb
Radium 226 precision (±)	0.09	pCi/g-dry				E903.0	04/30/12 22:36 / lbb
Radium 226 MDC	0.02	pCi/g-dry				E903.0	04/30/12 22:36 / lbb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

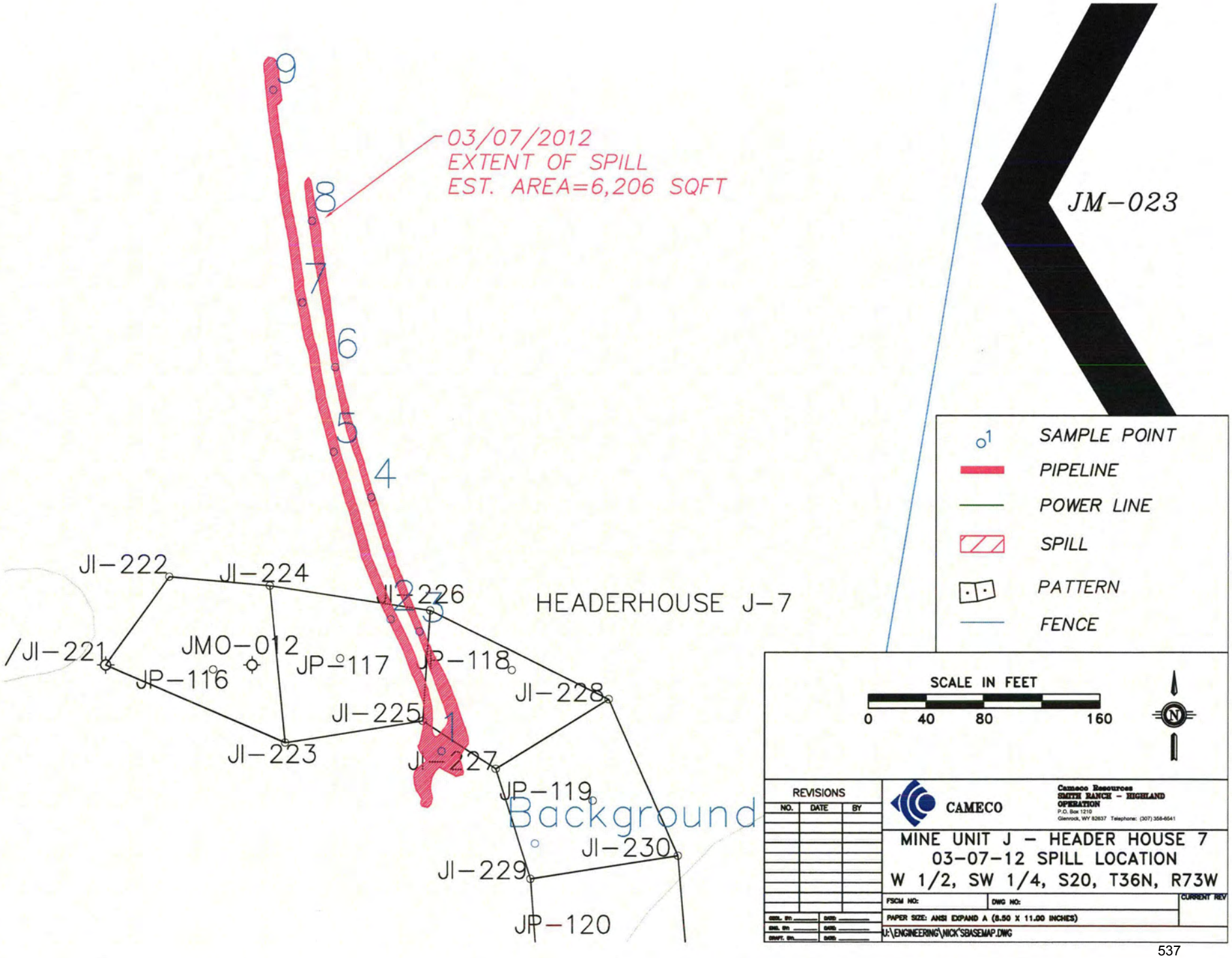
Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: SR-HUP
Lab ID: C12040806-020
Client Sample ID: HH J-7 #5 [0"-2"]

Report Date: 05/25/12
Collection Date: 04/13/12
DateReceived: 04/13/12
Matrix: Soil

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	4.5	%		0.1		D2974	04/16/12 13:18 / rw
METALS - TOTAL							
Arsenic	3.9	mg/kg-dry		1.0		SW6020	04/19/12 17:32 / smm
Selenium	ND	mg/kg-dry		1.0		SW6020	04/19/12 17:32 / smm
Uranium	1.5	mg/kg-dry		1.0		SW6020	04/19/12 17:32 / smm
RADIONUCLIDES							
Radium 226	1.6	pCi/g-dry				E903.0	04/30/12 22:36 / lbb
Radium 226 precision (±)	0.08	pCi/g-dry				E903.0	04/30/12 22:36 / lbb
Radium 226 MDC	0.02	pCi/g-dry				E903.0	04/30/12 22:36 / lbb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.


9
8
7
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3
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1
03/07/2012
EXTENT OF SPILL
EST. AREA=6,206 SQFT
JM-023
SAMPLE POINT
PIPELINE
POWER LINE
SPILL
PATTERN
FENCE
JI-222
JI-224
JI-226
HEADERHOUSE J-7
/JI-221
JMO-012
JP-116
JP-117
JP-118
JI-228
JI-225
JI-223
JI-227
JP-119
Background
JI-230
JI-229
JP-120
SCALE IN FEET
0
40
80
160
N
REVISIONS
NO.
DATE
BY
CAMECO
Cameco Resources
SMITH RANCH - HIGHLAND
OPERATION
P.O. Box 1210
Glenrock, WY 82637 Telephone: (307) 358-6541
MINE UNIT J - HEADER HOUSE 7
03-07-12 SPILL LOCATION
W 1/2, SW 1/4, S20, T36N, R73W
FSCM NO:
DWG NO:
CURRENT REV
PAPER SIZE: ANSI EXPAND A (8.50 X 11.00 INCHES)
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Cameco

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82637 USA

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Fax: (307) 358-4533
www.cameco.com

September 27, 2012

Mr. Lowell Spackman, District 1 Supervisor
Wyoming Department of Environmental Quality
Land Quality Division
Herschler Building, 3 Fl-West
122 West 25th Street
Cheyenne, WY 82002

CERTIFIED MAIL # 7011 0470 0000 7716 3653 RETURN RECEIPT REQUESTED

RE: Mine Unit H, Bellhole No. 41-H Soil Sample Results, Permit 603, Cameco Resources

Dear Mr. Spackman:

In a letter dated March 13, 2012, Power Resources, Inc. d/b/a Cameco Resources (Cameco) provided written notification to the Wyoming Department of Environmental Quality (WDEQ) - Land Quality Division (LQD) regarding a wellfield release in Mine Unit H from Bellhole No. 41-H that occurred on March 10, 2012.

Soil samples were collected (0-2 and 0-6 inches) and sent to an external lab for analysis. The Analytical Summary Report from the lab is attached. The analytes tested for include arsenic, selenium, uranium, and radium-226.

Six (6) soil samples were collected along the release area along with, one (1) background samples. Each sample was collected from 0-2 inches and 0-6 inches. The background sample was also collected from 0-2 and 0-6 inches, adjacent to the release samples. A map of the spill site was attached to the written notification date March 13, 2012. The same map is attached, and now includes the points at which the soil samples and background sample were taken.

SOIL SAMPLING RESULTS

The sample results for uranium are reported in mg/Kg and require conversion to pCi/g, while the results for radium-226 are reported in pCi/g. After conversion, uranium and radium results are summed. Background is then subtracted from the sum and the result is compared to the 5 pCi/g criteria using the NRC's unity rule. Below describes the formula used for converting uranium reported in mg/Kg to pCi/g.

Conversion formula:

mg/Kg • Kg/1E6mg • 6.77E-7Ci/g • pCi/1E-12 Ci = pCi/g

The specific activity of uranium is 6.77E-7 Ci/g as per 10 CFR PART 20, appendix B.

Sample ID	Uranium mg/kg	Radium pCi/g	Uranium pCi/g	Unity pCi/g	Unity-Background pCi/g
#1 (0-2)	19.5	4.5	13.20	17.70	16.36
#2 (0-2)	6.4	11.1	4.33	15.43	14.09
#3 (0-2)	2.2	1.4	1.49	2.89	1.54
#4 (0-2)	7.4	14.7	5.01	19.71	18.37
#5 (0-2)	4.2	1.4	2.84	4.24	2.90
#6 (0-2)	17.2	6.7	11.64	18.34	17.00
Background (0-2)	1.1	0.6	0.74	1.34	0.00
#1 (0-6)	17.0	2.3	11.51	13.81	12.16
#2 (0-6)	5.9	10.3	3.99	14.29	12.65
#3 (0-6)	2.8	1.6	1.90	3.50	1.85
#4 (0-6)	3.7	22.5	2.50	25.00	23.36
#5 (0-6)	2.2	2.2	1.49	3.69	2.04
#6 (0-6)	3.8	1.9	2.57	4.47	2.82
Background (0-6)	1.4	0.7	0.95	1.65	0.00

Four (4) of the soil samples were above the 5 pCi/g unity rule. Another round of soil sampling has been performed. These samples will be taken in a grid pattern around the four (4) sample points that were above 5 pCi/g. The grid will better characterize the impact to the soil in the spill area. Results from the sampling will be shared with LQD when they are received. The release has been updated into the site base map and was included in the 2011-2012 Annual Report submitted July 31, 2012.

Please contact me at (307) 358-6541, ext. 476 or at Kenneth_Garoutte@cameco.com if you have any questions.

Respectfully,

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

KG/vg

Attachments: Response to LQD Mine Unit H, Bellhole No. 41-H, Request for Soil Samples
Analytical Report – Mine Unit H Spill
Map - Mine Unit H, Bellhole No. 41-H Spill

cc: File HUP 4.3.3.1
Special Volume: Wellfield Release Reports
Mr. Doug Mandeville, NRC - CERTIFIED MAIL # 7011 0470 0000 7716 3660
Document Control Desk, NRC - CERTIFIED MAIL # 7011 0470 0000 7716 3677

ec: Cameco Resources-Cheyenne

RESPONSE TO MINE UNIT H, BELLHOLE NO. 41-H WELLFIELD RELEASE, REQUEST FOR SOIL SAMPLES CAMECO RESOURCES PERMIT 603

INTRODUCTION

On March 11, 2012 Cameco Resources submitted verbal notification to the Land Quality Division (LQD) that a release had occurred on March 10, 2012 in Mine Unit H, Bellhole No. 41-H. A follow-up notification was mailed to the LQD on March 13, 2012. Cameco received LQD comments requesting additional information in a letter dated August 3, 2012. The following provides LQD's comments along with Cameco's responses.

REVIEW COMMENTS

1. *Cameco must provide the soil sample results, the gamma survey results, and a sample location map to LQD for this spill when the results are available.* ***(SI)***

Cameco Response: Included in this submittal are soil sample results, a map showing locations soil samples were taken. A gamma survey was not completed for this spill.

2. *The total volume of fluid recovered is not included in the report. This information must be supplied with the follow-up report. Please include the total volume of fluid recovered in the follow-up report.* ***(SI)***

Cameco Response: The spill was 6,944 gallons of fluid, 6,600 gallons of the fluid was recovered making the reportable amount 344 gallons.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: SR-HUP
Lab ID: C12040806-021
Client Sample ID: HH H-12 #1 [0"-6"]

Report Date: 05/25/12
Collection Date: 04/13/12
DateReceived: 04/13/12
Matrix: Soil

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	10.8	%		0.1		D2974	04/16/12 13:18 / rw
METALS - TOTAL							
Arsenic	2.6	mg/kg-dry		1.0		SW6020	04/20/12 20:39 / smm
Selenium	1.0	mg/kg-dry		1.0		SW6020	04/20/12 20:39 / smm
Uranium	17.0	mg/kg-dry		1.0		SW6020	04/20/12 20:39 / smm
RADIONUCLIDES							
Radium 226	2.3	pCi/g-dry				E903.0	05/01/12 07:19 / lbb
Radium 226 precision (±)	0.1	pCi/g-dry				E903.0	05/01/12 07:19 / lbb
Radium 226 MDC	0.02	pCi/g-dry				E903.0	05/01/12 07:19 / lbb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: SR-HUP
Lab ID: C12040806-022
Client Sample ID: HH H-12 #2 [0"-6"]

Report Date: 05/25/12
Collection Date: 04/13/12
DateReceived: 04/13/12
Matrix: Soil

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	16.3	%		0.1		D2974	04/16/12 13:18 / rw
METALS - TOTAL							
Arsenic	2.5	mg/kg-dry		1.0		SW6020	04/20/12 21:43 / smm
Selenium	1.1	mg/kg-dry		1.0		SW6020	04/20/12 21:43 / smm
Uranium	5.9	mg/kg-dry		1.0		SW6020	04/20/12 21:43 / smm
RADIONUCLIDES							
Radium 226	10.3	pCi/g-dry				E903.0	05/01/12 07:19 / lbb
Radium 226 precision (±)	0.2	pCi/g-dry				E903.0	05/01/12 07:19 / lbb
Radium 226 MDC	0.02	pCi/g-dry				E903.0	05/01/12 07:19 / lbb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: SR-HUP
Lab ID: C12040806-023
Client Sample ID: HH H-12 #3 [0"-6"]

Report Date: 05/25/12
Collection Date: 04/13/12
DateReceived: 04/13/12
Matrix: Soil

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	13.6	%		0.1		D2974	04/16/12 13:18 / rw
METALS - TOTAL							
Arsenic	2.9	mg/kg-dry		1.0		SW6020	04/20/12 21:48 / smm
Selenium	ND	mg/kg-dry		1.0		SW6020	04/20/12 21:48 / smm
Uranium	2.8	mg/kg-dry		1.0		SW6020	04/20/12 21:48 / smm
RADIONUCLIDES							
Radium 226	1.6	pCi/g-dry				E903.0	05/01/12 07:19 / lbb
Radium 226 precision (±)	0.09	pCi/g-dry				E903.0	05/01/12 07:19 / lbb
Radium 226 MDC	0.02	pCi/g-dry				E903.0	05/01/12 07:19 / lbb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: SR-HUP
Lab ID: C12040806-024
Client Sample ID: HH H-12 #4 [0"-6"]

Report Date: 05/25/12
Collection Date: 04/13/12
DateReceived: 04/13/12
Matrix: Soil

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	7.4	%		0.1		D2974	04/16/12 13:18 / rw
METALS - TOTAL							
Arsenic	2.9	mg/kg-dry		1.0		SW6020	04/20/12 21:50 / smm
Selenium	1.9	mg/kg-dry		1.0		SW6020	04/20/12 21:50 / smm
Uranium	3.7	mg/kg-dry		1.0		SW6020	04/20/12 21:50 / smm
RADIONUCLIDES							
Radium 226	22.5	pCi/g-dry				E903.0	05/01/12 07:19 / lbb
Radium 226 precision (±)	0.3	pCi/g-dry				E903.0	05/01/12 07:19 / lbb
Radium 226 MDC	0.02	pCi/g-dry				E903.0	05/01/12 07:19 / lbb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: SR-HUP
Lab ID: C12040806-025
Client Sample ID: HH H-12 #5 [0"-6"]

Report Date: 05/25/12
Collection Date: 04/13/12
DateReceived: 04/13/12
Matrix: Soil

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	11.9	%		0.1		D2974	04/16/12 13:34 / rw
METALS - TOTAL							
Arsenic	3.3	mg/kg-dry		1.0		SW6020	04/20/12 21:53 / smm
Selenium	ND	mg/kg-dry		1.0		SW6020	04/20/12 21:53 / smm
Uranium	2.2	mg/kg-dry		1.0		SW6020	04/20/12 21:53 / smm
RADIONUCLIDES							
Radium 226	2.2	pCi/g-dry				E903.0	05/01/12 07:19 / lbb
Radium 226 precision (±)	0.1	pCi/g-dry				E903.0	05/01/12 07:19 / lbb
Radium 226 MDC	0.02	pCi/g-dry				E903.0	05/01/12 07:19 / lbb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: SR-HUP
Lab ID: C12040806-026
Client Sample ID: HH H-12 #6 [0"-6"]

Report Date: 05/25/12
Collection Date: 04/13/12
DateReceived: 04/13/12
Matrix: Soil

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	9.1	%		0.1		D2974	04/16/12 13:34 / rw
METALS - TOTAL							
Arsenic	4.1	mg/kg-dry		1.0		SW6020	04/20/12 21:56 / smm
Selenium	ND	mg/kg-dry		1.0		SW6020	04/20/12 21:56 / smm
Uranium	3.8	mg/kg-dry		1.0		SW6020	04/23/12 14:11 / smm
RADIONUCLIDES							
Radium 226	1.9	pCi/g-dry				E903.0	05/01/12 07:19 / lbb
Radium 226 precision (±)	0.09	pCi/g-dry				E903.0	05/01/12 07:19 / lbb
Radium 226 MDC	0.02	pCi/g-dry				E903.0	05/01/12 07:19 / lbb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: SR-HUP
Lab ID: C12040806-027
Client Sample ID: HH H-12 #1 [0"-2"]

Report Date: 05/25/12
Collection Date: 04/13/12
DateReceived: 04/13/12
Matrix: Soil

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	7.6	%		0.1		D2974	04/16/12 13:34 / rw
METALS - TOTAL							
Arsenic	3.3	mg/kg-dry		1.0		SW6020	04/20/12 21:58 / smm
Selenium	1.3	mg/kg-dry		1.0		SW6020	04/20/12 21:58 / smm
Uranium	19.5	mg/kg-dry		1.0		SW6020	04/23/12 14:12 / smm
RADIONUCLIDES							
Radium 226	4.5	pCi/g-dry				E903.0	05/01/12 07:19 / lbb
Radium 226 precision (±)	0.1	pCi/g-dry				E903.0	05/01/12 07:19 / lbb
Radium 226 MDC	0.02	pCi/g-dry				E903.0	05/01/12 07:19 / lbb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: SR-HUP
Lab ID: C12040806-028
Client Sample ID: HH H-12 #2 [0"-2"]

Report Date: 05/25/12
Collection Date: 04/13/12
DateReceived: 04/13/12
Matrix: Soil

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	14.2	%		0.1		D2974	04/16/12 13:34 / rw
METALS - TOTAL							
Arsenic	2.5	mg/kg-dry		1.0		SW6020	04/20/12 22:01 / smm
Selenium	1.1	mg/kg-dry		1.0		SW6020	04/20/12 22:01 / smm
Uranium	6.4	mg/kg-dry		1.0		SW6020	04/20/12 22:01 / smm
RADIONUCLIDES							
Radium 226	11.1	pCi/g-dry				E903.0	05/01/12 07:19 / lbb
Radium 226 precision (±)	0.2	pCi/g-dry				E903.0	05/01/12 07:19 / lbb
Radium 226 MDC	0.02	pCi/g-dry				E903.0	05/01/12 07:19 / lbb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Power Resources dba Cameco Resources
Project: SR-HUP
Lab ID: C12040806-029
Client Sample ID: HH H-12 #3 [0"-2"]

Report Date: 05/25/12
Collection Date: 04/13/12
DateReceived: 04/13/12
Matrix: Soil

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture	7.0	%		0.1		D2974	04/16/12 13:34 / rw
METALS - TOTAL							
Arsenic	2.2	mg/kg-dry		1.0		SW6020	04/20/12 22:14 / smm
Selenium	ND	mg/kg-dry		1.0		SW6020	04/20/12 22:14 / smm
Uranium	2.2	mg/kg-dry		1.0		SW6020	04/20/12 22:14 / smm
RADIONUCLIDES							
Radium 226	1.4	pCi/g-dry				E903.0	05/01/12 09:07 / lbb
Radium 226 precision (±)	0.09	pCi/g-dry				E903.0	05/01/12 09:07 / lbb
Radium 226 MDC	0.02	pCi/g-dry				E903.0	05/01/12 09:07 / lbb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.