



Department of Environmental Quality

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



Dave Freudenthal, Governor

John Corra, Director

June 29, 2010

Mr. Angelo Kallas
Cameco Resources, Inc.
PO Box 1210
Glenrock, WY 82637

Subject: April 2010 Inspection Report, Cameco Resources, Permits 603 and 633

Dear Mr. Kallas:

Please find enclosed the above referenced report. The April inspection was conducted with assistance from your staff on April 27, 2010. Please review the report at your convenience. If you have any corrections, please respond in writing so that it may become part of the record.

Please note that LQD has granted the request for an extension for the submittal of the HUP Facilities Proposal for Reclamation. Your letter received May 26, 2010 requested a due date of September 30, 2010 and a meeting with LQD to discuss the proposal. Please contact me to schedule a meeting to discuss the proposal. In addition, your letter states a schedule for the reclamation of the radium ponds will be submitted to LQD by July 30. In addition, your letter states a schedule for the reclamation of the radium ponds will be submitted to LQD by July 30, 2010. Please note the requirements for the radium pond reclamation pond in the enclosed review Compliance section.

If you have any questions, please do not hesitate to contact me at prothw@wyo.gov or 307-777-7048.

Sincerely,

Pam Rothwell
District 1 Assistant Supervisor
Land Quality Division

cc: Joe Brister, Cameco Resources, Lakewood, CO
Douglas Mandeville, NRC



**APRIL 2010 INSPECTION REPORT
DISTRICT 1/LAND QUALITY DIVISION**

COMPANY: Cameco Resources (CR), Highland Ranch, Permit #603
& Smith Ranch, Permit 633

LOCATION: North of Glenrock, off Ross Road

DATE OF INPECTION: April 27, 2010

DATE OF REPORT : June 9, 2010

INSPECTORS: Pam Rothwell, LQD Permit Coordinator

CONDITIONS: Mild temperatures, calm, partly cloudy

COMPANY REPRENTATIVES: Dawn Kolkman, SHEQ Coordinator
Miriam Whatley, SHEQ Coordinator
Arlene Faunce, Assistant Radiation Safety Officer

INTRODUCTION

The focus of the unannounced inspection was to inspect mining and reclamation activities on the Highland Permit area including radium ponds, the abandoned Exxon underground mine status, Irrigators 1 and 2, PSR 1 and 2, selenium plant and also to spot- check wellfield activities as time allows.

WELLFIELD ACTIVITIES UPDATE

Update of Wellfield Activities – provided by Tom Cannon, Mine Manager

- **Producing Wellfields:** H, I, J, K, 15, 15A, 9, 2 and 3
 - MU 9* – HH9-2 through 9-10 are in production, HH9-1 not installed, 9-11 near complete
 - MU 2* – LQD reviewing request to complete in a second mining zone (TFN 5 2/141)
 - MU 3* – CR working on proposal for re-completion package (approx. 130 wells); also expanding the monitor well ring for HH 3-9 (7 more monitor wells needed)
- **Restoration activities in wellfields:**
 - MU C* – planning to begin reductant addition soon, planning to use sodium sulfide, currently have disposal limitation due to selenium plant requiring maintenance;

MU D – continue circulating from D1; approximately 100 gal/min; a drill in the wellfield is completing the restoration wells; began pipeline replacement and wiring; have repaired header houses and bellholes.

MU Dext. – next wellfield to bring into restoration

MU E – have four drill rigs ready to begin new restoration wells; waiting on LQD concurrence of TFN.

MU 1 – reverse osmosis continuing; evaluating west end restoration, there are a couple hot spots CR is working on

MU 4 – header house repairs in progress; RO @ 500 gpm; working on infrastructure development plans for restoration

MU 4A – standby/minimal pumping, plan to work across MU4 through MU 4A for restoration

MU F – pumping from one or two wells to maintain cone of depression; when they have the disposal capacity (i.e., Morton or Vollman completed with infrastructure) will work in groups (5 wells) and move across the wellfield.

- **Development activities in wellfields:**

MU-9 - working on underreams for 9-12 and 9-13

MU 15A – drilling completed, working on underreaming and installing surface pipeline

MU 27- no update

K-North – installing monitor wells

MU -3 drilling to extend monitor well ring

MU-7 90% complete with delineation drilling; additional drilling to define aquitard; developing patterns for submittal to SEO

MU-10 – ready for monitor well installation, delineation of lower aquitard

- **Deep Disposal Wells**

DDW-6 @ achieved good flow rate

DDW-10 located west of SR-1, achieved good flow rate

DDW-9 @ Satellite 3, drilled and completed

Morton 1-20 – reworked pressure, MIT passed, rebuilding injection tanks and other equipment being rebuilt

Vollman 33-37 refurbish complete, needs piped in and across the county road/power lines

DDW-7 & DDW-8 not scheduled at this time

- **Facilities**

Selenium Plant – shut down for maintenance of sand medium in one of IX columns, planned to be back online in few days; storing additional capacity in PSR-2;

HUP Plant and Offices- working on a 10 year plan; may be needed for added production in the future – will submit proposal to LQD in June 2010.

INSPECTION

The inspector was accompanied by three CR staff according to the expertise needed to address the intended inspection sites.

HUP Processing Plant and Offices - The facilities are abandoned, however, the office building is currently being used to house historic records for the mine. The processing plant was historically used for the open pit mine and at a later date for insitu mining. It was confirmed by CR that it has not been decontaminated. Used tanks and other old equipment are being stored on the east side of the plant including tanks that were used for ammonia, nitrogen, raffinate (product recovery solution), and reverse osmosis (**Figure 1**). The area is fenced with a locked gate at the entrance leading to the gravel parking area and facilities. It is apparent the facilities have been neglected for a long period of time and would require substantial structural inspection and most likely considerable renovation if they are to be used again. **Of greater concern is the need to decontaminate the tanks and processing plant. CR must submit a proposal to reclaim the processing plant and offices.**

Radium Ponds – The ponds were observed and it was noted that one pond had a small pool of water in the bottom collected during recent precipitation; the other was dry (**Figure 2**); both ponds were well vegetated. No reclamation work has begun. CR is in the process of training new staff to operate the new spot scanner so that on-site sampling can be completed as excavation occurs. **CR must develop and submit a proposal to reclaim the ponds for LQD review prior to beginning reclamation.**

PSR-1 and Irrigator 1 – The pond was dry with limited vegetation. No erosion was observed on the side slopes of the pond. A French drain was installed to mitigate a leak at some time during the use of the pond. The geotextile is still secured to the slope (**Figure 3**). It was installed to help control the leak. Several shallow wells are located down gradient of the leak (**Figure 4**). The irrigator was observed from a distance on the irrigation site and was not in use.

Exxon Underground Mine Workings – Cameco field staff did not know the status of the underground workings or how they could be accessed for observation. Subsequent discussion with Bob Embry in the office revealed that the headers have been removed and there is no access to the underground workings. Cameco did not know the status of the groundwater restoration of the Exxon underground mining which is included in the Permit 603 boundary. **CR will need to investigate records to determine any remaining liability for the underground workings included in the permit boundary.**

Mine Units A & B – The reclamation of the repaired road identified during inspection in 2008 was observed. The re-vegetation has been successful and has stabilized the slope. No erosion was found along the reclaimed road. Straw waddles remain along the slope to aid stabilization until the vegetation is well established (**Figure 5**).

PSR-2 and Irrigator 2 – The irrigator was noted to be located on the south end of the irrigation circle and was not in use at the time of the inspection. CR intends to begin using the irrigator within the next few weeks. CR was required by the NRC to install additional monitoring wells to evaluate the potential leak of the pond. CR did not propose the wells to the LQD for review prior to installation. The locations were inspected and verified (**Figure 6**). **CR must ensure these wells are included in the next annual report with a detailed discussion explaining their purpose and include in a revised surety if not already included.**

Mine Unit I – Observed Header Houses I-2 and I-3. No flows were observed on the flow meters and a tag on a meter indicated a shut in since November 2009. Further consultation with the Satellite 2 operator revealed a power surge had temporarily caused a shut down in the wellfields. **The tag on the flow meter was not a current tag and should be removed.**

Mine Unit C – The Satellite 2 operator explained the status of MUC. C-19 and 25 are currently shut in due to line problems. The selenium plant is down for cleaning of the iron from the sand.

Mine Unit D – The Satellite 2 operator explained the status of MUD. Header House D-1 is shut in; currently working on start up of RO at D2 and D3 which will be followed by RO at D4 and D5.

Mine Unit E – Will begin ground water sweep at E-16 and E-18 when the Irrigator 2 can be turned on.

Mine Unit K – The surface disturbance around Header House 8 remains un-vegetated. The soil conditions in the wellfield are very sandy which is inhibiting the revegetation (**Figure 7**). The reclamation staff is continuing to work on K-Wellfield. Header Houses K-8 and K-6 were inspected and found to be operating as evidenced by the flow gauges. The inspection sign-in sheet were current with complete documentation. **It was stressed that sediment controls should be installed prior to spring/summer storm events that could lead to erosion on the sandy slopes. The culvert at the entrance to MU-K remains on a schedule to be cleaned out.**

A staging area near the K-North development was observed. The topsoil was stripped from the area as evidenced by the topsoil stockpile.

Mine Unit K-North – Drill rigs were installing monitor wells @ various stages of completion; topsoil was marked. Silt fence and waddles were installed to control runoff from the wellfield installation disturbance.

COMPLIANCE/ASSESSMENT

- 1 The LQD formally requested a plan to reclaim the HUP Processing Facilities through the 2008-2009 Annual Report Review. A deadline for the plan submittal was set for June 1, 2010. CR requested through a letter dated May 25, 2010, an extension until September 30, 2010 to submit the reclamation proposal. LQD grants this request and will expect a comprehensive proposal to address the entire facility. If CR intends to use the facility in the future a proposal for renovation will be required for LQD review and concurrence prior to re-opening the facility. CR also requests a meeting to discuss the proposal. Please contact the permit coordinator to schedule the meeting
- 2 Radium pond reclamation was also addressed in the May 25, 2010 letter to LQD. The letter states a schedule for the reclamation will be sent to LQD by July 30, 2010. NOTE: LQD requests a reclamation proposal for the selenium pond addressing the volume of contaminated material to be excavated, disposal plans for the material, proposal for re-grading the topography, replacement of contaminated soils (source and volume) and a seeding schedule. This proposal will need to be reviewed and approved prior to initiating reclamation of the ponds so that LQD can provide concurrence with a future request to remove the pond reclamation from liability in the surety.
- 3 PSR-1 Irrigator and Pond. These facilities also require a formal proposal for reclamation and should be addressed in the HUP Facilities proposal. If CR intends to use the irrigator or pond in the future a proposal for renovation will be required for LQD review. Please ensure the shallow wells are included in the surety estimate for the 2010-2011 Annual Report.
- 4 Exxon Underground Mine Workings. The extent of Cameco's liability for old mining disturbances that lie within the permit boundary is not clear. Pages 6-36 and 6-37 of Permit 633 refer to *Structures* costs including *Plug Shaft*, *Plug Venthole*, *Mine Water Treatment Ponds*, *Evaporation Ponds* and *Headframe Removal*. Permit 633 also, includes a transfer of liability for all reclamation obligations associated with Permit 304C (Sequoyah Fuels) to Permit 633. Without an update to the permit to remove costs associated with previous mining activities, it will be necessary for Cameco to either reference the LQD approvals to release the liability of these disturbances or continue to include them in the surety until the approvals have been issued. This issue will be thoroughly investigated through TFN 5 6/100, Combination/Amendment.
- 5 PSR-2 Irrigator and Pond. The irrigator was not in use during the inspection. Discharge from the selenium plant was going to the pond. There are four new wells installed around the pond that were not reviewed by the LQD. These wells must be explained in the next annual report and included in the surety estimate.

- 6 Please remove the outdated tags on the flow meters in Header Houses in Mine Unit I.
- 7 LQD continues to wait for the final report responses for the Mine Unit C Bioremediation Project which was due in mid-June. There are concerns with wellfield restoration that need addressed. LQD requests that the NaS treatment be delayed until LQD is confident with the proposed treatment.
- 8 Mine Unit K, Header House 8 area re-vegetation efforts have been unsuccessful. The soils are very sandy and will require sediment controls be installed to protect the surface from erosion until revegetation can be established.

The culvert at the entrance to MU-K is near full and will need to be cleaned out.

PHOTOS



Figure 1a Storage tanks at Highland Processing Plant



Figure 1b Storage tanks at Highland Processing Plant

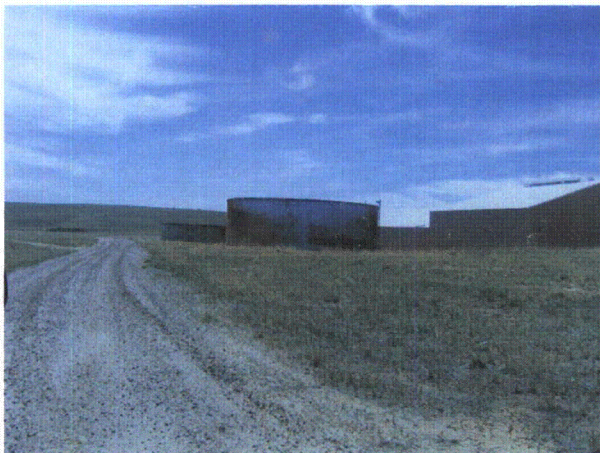


Figure 1c Storage tanks at Highland Processing Plant



Figure 2 Radium Ponds

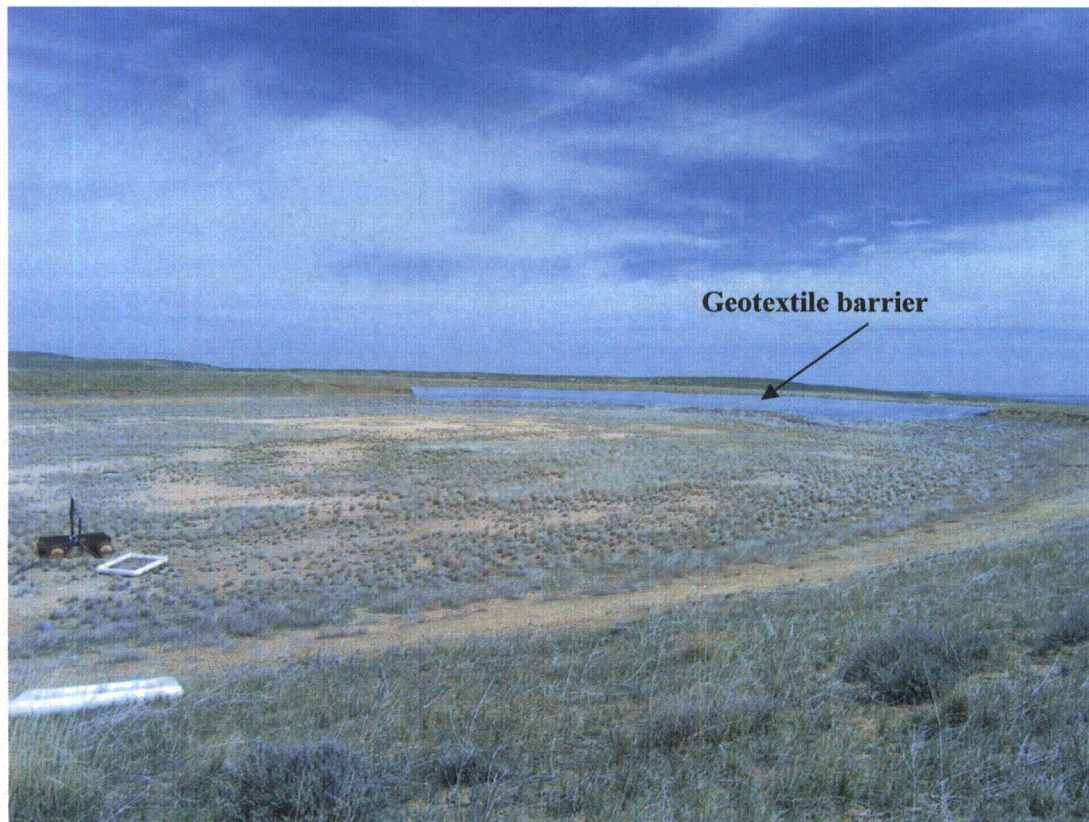


Figure 3 View of PSR-1, dry. limited vegetation

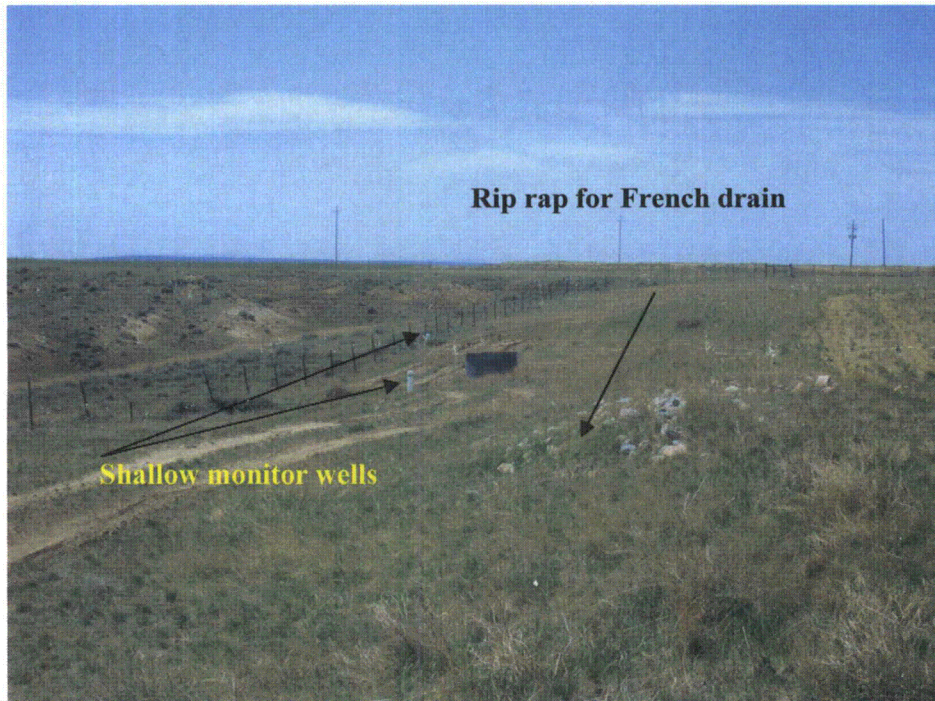


Figure 4 View of French drain rip rap and shallow wells.

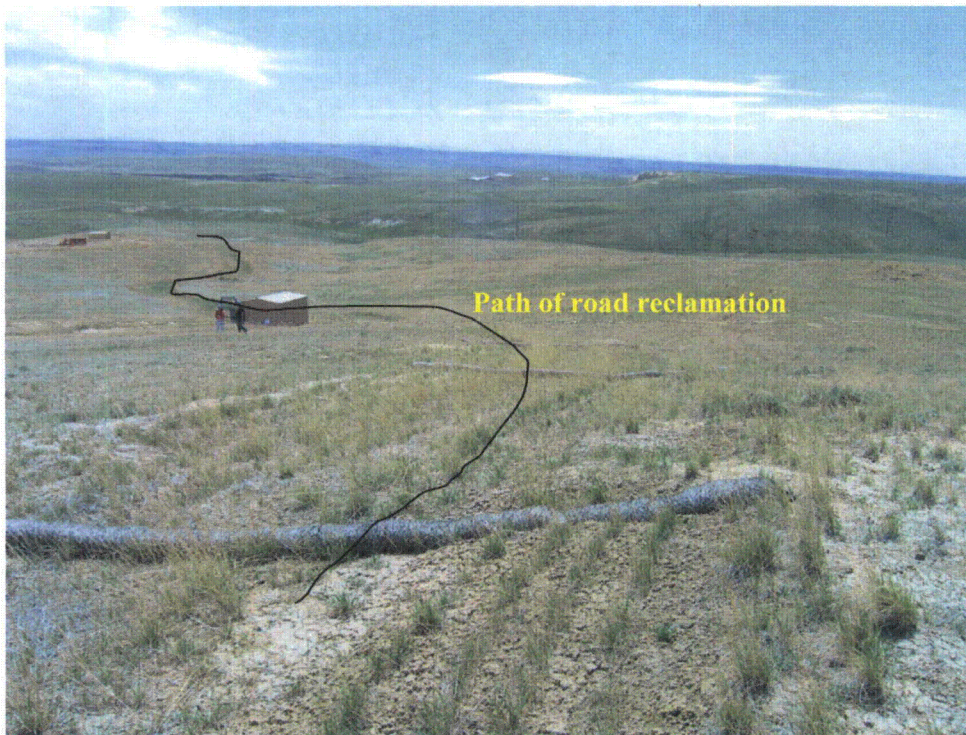


Figure 5 Revegetated road disturbance, A/B Wellfield



Figure 6 New monitor well at PSR-2



Figure 7 MU-K; poor revegetation due to sandy conditions