Cameco

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September 14, 2011

Pam Rothwell
District I Assistant Supervisor
Land Quality Division
Wyoming Department of Environmental Quality

Re: Notification of continuing investigation Casing Leak Investigation, Highland Uranium Project, Permit No. 603

Dear Pam,

As per our commitment established during the meeting of August 23, 2011, Power Resources, Inc, dba Cameco Resources, Inc. is notifying the Land Quality Division (LQD) of the continuing investigative activities of the Casing Leak Investigation in the C, E, and F Wellfields at Highland Uranium Project. As part of our ongoing efforts to resolve the Administrative Order on Consent (AOC) Docket No. 3211-00, Cameco will continue investigations by drilling and installing monitor wells to gather hydrogeologic information and test the analytical calculations used to estimate the extent of potential impacts in each of the identified hydrostratigrapic units (HSUs) of interest in the C, E, and F Wellfields.

Overview

Cameco will begin a drilling program the week of September 18, 2011. The purpose of the drilling program is to obtain lithologic information, complete monitoring wells in water-bearing strata, and obtain aquifer characteristics and water quality data within the aquifers to determine if these aquifers have been impacted by process fluids and the possible extent of that impact. This stage of the investigative activities is planned to gather data in support of a comprehensive characterization of the potential impacts to the C, E, and F Wellfields. The areas targeted for the drilling program are identified based on the findings of the Status Update Casing Leak Investigation C, E, and F Wellfields (May 20, 2011) as well as site conditions and access. Landowner approval has been received for the drilling locations identified on Figure 1. The locations identified for this stage of drilling activities are outside the quarter mile buffer around sage grouse leks as shown in Figure 2.

The drilling program will consist of installing a single well cluster in the southern part of the C wellfield, a single well cluster in the E wellfield, and four clusters within the F wellfield. Each cluster will consist of six monitoring wells, monitoring the six uppermost saturated sand units. In addition, twelve wells will be installed to establish baseline conditions (two wells in each of the six targeted HSUs), and a single monitoring well will be installed in the vicinity of the North Morton underground mine. The total estimated drilling footage per cluster is 1,000 feet, with the likely total footage to complete all of the wells within this program of 9,300 feet.

A pilot hole will be drilled for each well cluster to a depth greater than the estimated depth of the deepest sand unit to be monitored. The pilot hole will remain open until geophysical logging can be conducted by Cameco personnel. Upon completion of geophysical logging, the hole will be abandoned in accordance with State Engineers Office regulations.

Information obtained from the pilot holes at each well cluster will be used to identify the specific target depths of well completion for the specific sand units in each well cluster. Cameco and its contractor will consult with LQD to discuss the results of the geophysical logging and to identify the well locations and target completion intervals for the monitoring wells with LQD before well installation.

The following sections describe the proposed drilling program. The program consists of drilling pilot holes, constructing monitoring wells, and developing the newly installed wells. In addition, specific information regarding drilling methods and completion materials are discussed in detail.

Pilot Holes

The investigative drilling will begin with drilling of pilot holes within each well cluster. Lithologic information from each pilot hole will facilitate determination of the completion depth of monitoring wells within sand units. Each pilot hole will be drilled using mud-rotary methods, equipped with a nominal 5-inch bit, using a blade, tri-cone, or down-hole hammer. Upon reaching the total depth, the drill string will be removed and the hole will remain open. Geophysical logging will be performed within the open hole. The boring will then be abandoned and completion intervals for the monitoring wells determined. Preliminary total depth estimates for these pilot holes range between 300 and 400 feet.

Monitoring Well Completion

The sand intervals identified during the drilling of the pilot holes will be used to establish the targeted drilling depths for monitoring well completions. The preferred drilling method is air-rotary drilling using reverse circulation with either a tri-cone bit or down-hole hammer. In order to achieve the objectives of the investigation, the use of drilling fluids is discouraged and should be avoided to the extent possible. Should conditions necessitate fluid addition, site personnel shall approve the fluid prior to use. The preferred use of drilling fluids is in the following order: air, potable water, foam, and then mud. The use of mud and stabilizing products is discouraged because the chemistry of these fluids is too similar to the water chemistry to be identified during this investigation.

Monitoring wells will be constructed of 4.5-inch OD thermoplastic casing. The minimum bit diameter used during drilling will be 8.5 inches to ensure a minimum 2-inch annular space between the casing and borehole hole. Conductor casing will be installed from the ground surface into competent bedrock. The depth of the conductor casing will vary. For wells completed in the top sand unit, the conductor casing will be omitted.

All downhole tooling and equipment shall be decontaminated prior to use and between borings. Decontamination shall consist of steam cleaning with a pressure washer with potable water, free of contaminants. Filter pack and annular seal well completion materials should be placed from

the bottom up using a tremie line. A weighted tag line will be used to verify depth of all materials placed within the annulus.

Completion Materials

A generalized well completion diagram is shown on Figure 3. All monitoring well installations will follow SEO and DEQ regulations.

Blank casing and screen shall be comprised of 4-inch Schedule 40 PVC. Screen should be 0.020-inch slot-size (20 slot). The screen length will be a maximum of 20-feet and minimum of 5-feet. Casing will be flushed threaded, new, and designed for environmental well construction. The collapse strength used for Schedule 40 well casing shall be a minimum of 140 psi. Schedule 80 PVC well materials are also permissible, provided that sampling requirements are considered (i.e. pump size). The major advantage in using Schedule 80 pipe is the increase in collapse strength, allowing the grout height to be lengthened during sealing operations. Centralizers should be installed at the top and bottom of the well screen and every 40 feet above the top of the screen.

A primary and secondary filter pack will be used adjacent to the screened interval, extending 25% of the screen length above the top of the screen. The primary filter pack shall consist of lean, well graded, 10/20 silica sand. The secondary filter pack will consist of 70-mesh silica sand and placed above the primary filter pack. The filter pack shall be placed using a tremie pipe from the bottom up. Swabbing the borehole prior to placing the annular seal may be necessary should the actual volume of filter pack material be significantly different than the calculated volume.

A high solids (30%) bentonite grout seal shall be placed immediately above the secondary filter pack. The seal will be placed by tremie pipe and extend ten feet above the secondary filter pack. The grout installed immediately above the secondary sand pack shall be allowed to set for a minimum of 12 hours prior to the placement of subsequent lifts. A high solids (>20% solids) bentonite grout (designed for seal purposes) shall be placed above the grout seal. The site geologist will review and approve the grout mixture prior to placement. The approved grout will be placed by tremie pipe and positively displaced from the bottom up. The density of the grout slurry will determine the allowable height of grout column, which is estimated at 140 feet maximum based on a slurry density of 9.6 pounds per gallon and empty casing. The grout height can be increased provided an approved, environmentally acceptable fluid is present inside the casing. The grout density will be measured per barrel, documented, and allowed to set-up a minimum of 12 hours prior to the placement of the next lift. Collapse strength calculations for PVC pipe for a given grout density shall be verified prior to grout placement.

The monitoring well shall extend above the ground surface a minimum of 18 inches and capped by a PVC slip cap. The stick-up shall be enshrouded by a protective casing. Locking caps are not necessary due to the security of the site. The well number will be clearly marked on the protective casing and the coordinates of the well documented including recording the top of casing measuring point to the nearest 0.01 feet.

Well Development

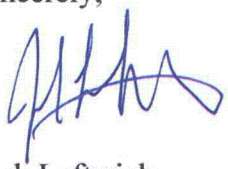
Newly installed monitoring wells will be developed as soon as possible after installation. Well development shall consist of bailing, surging, swabbing, and additional bailing to remove debris generated during the drilling process. As a final step in the process, the well will be pumped until indicator parameters stabilize (pH, conductivity, and temperature). Once indicators parameters have stabilized, a ground water sample will be collected and submitted for analytical testing. In addition, the well will be checked for plumbness and alignment in accordance with State regulations.

Communication

Cameco and/or Cameco's contractor will call Steve Ingle of the LQD each Monday morning after drilling has begun to update Mr. Ingle on the status of the investigation and to discuss any anomalies or problems encountered. After completion and geophysical logging of the drill holes, Cameco and its contractor will meet with Mr. Ingle to review the geophysical logs and discuss the completion of the monitoring wells.

Please do not hesitate to call me or April Lafferty (970-484-7704) if you have any questions or concerns.

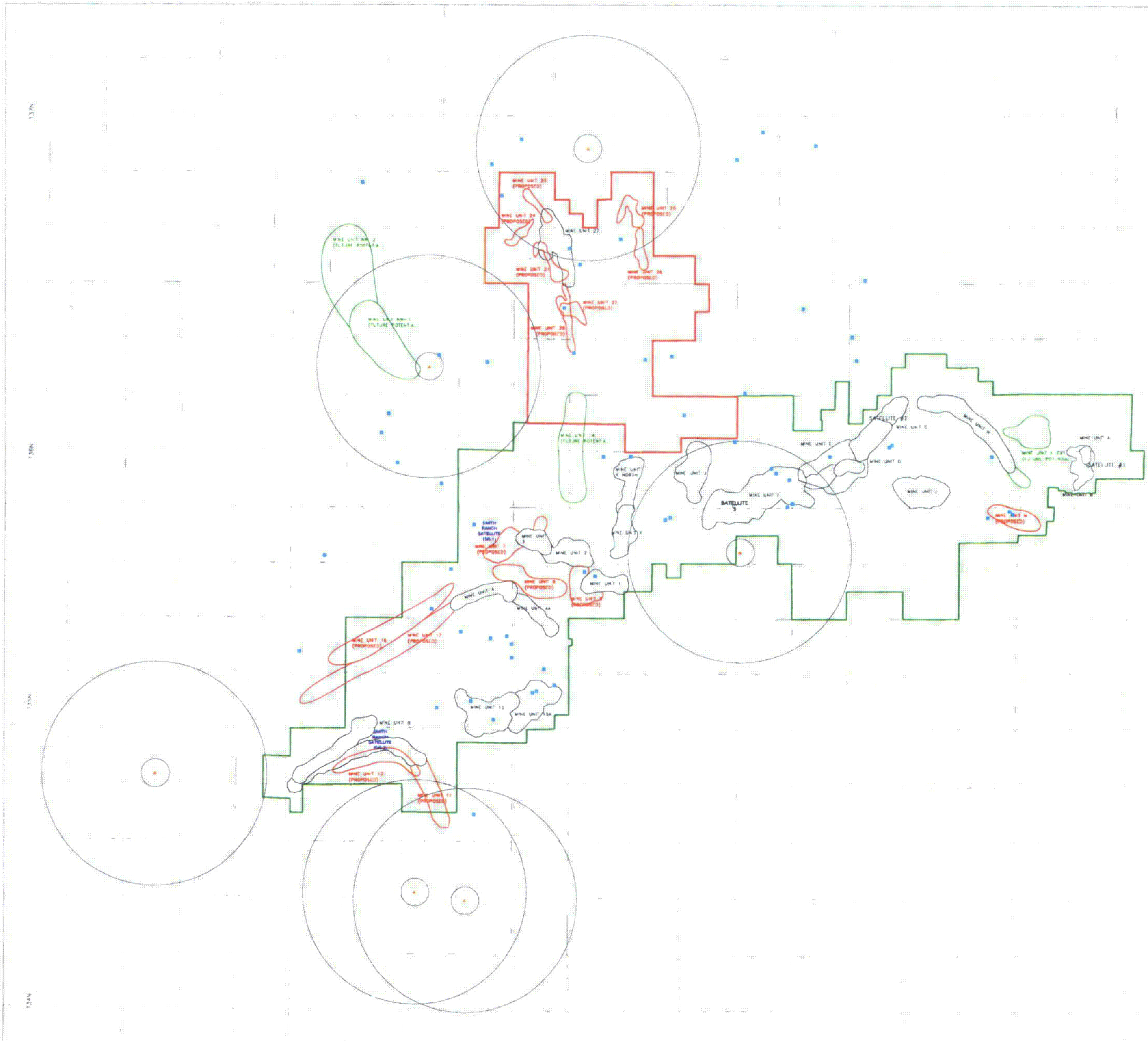
Sincerely,



Josh Leftwich
Director of Radiation Safety & Licensing
Cameco Resources, Inc.

Enclosure

cc: Doug Mandeville- NRC
ec: Cameco Resources- Cheyenne



Legend

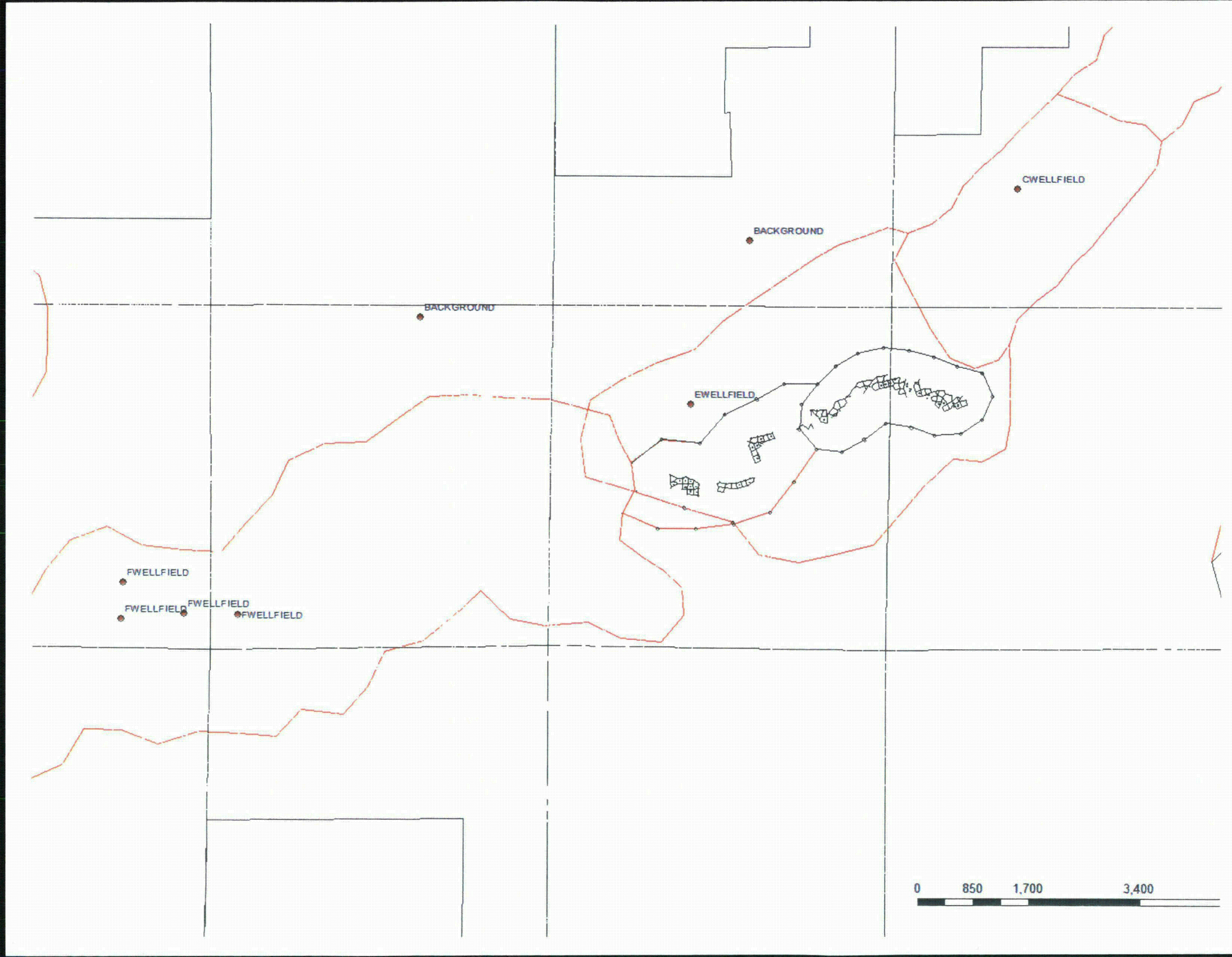
REVISIONS

Cameco

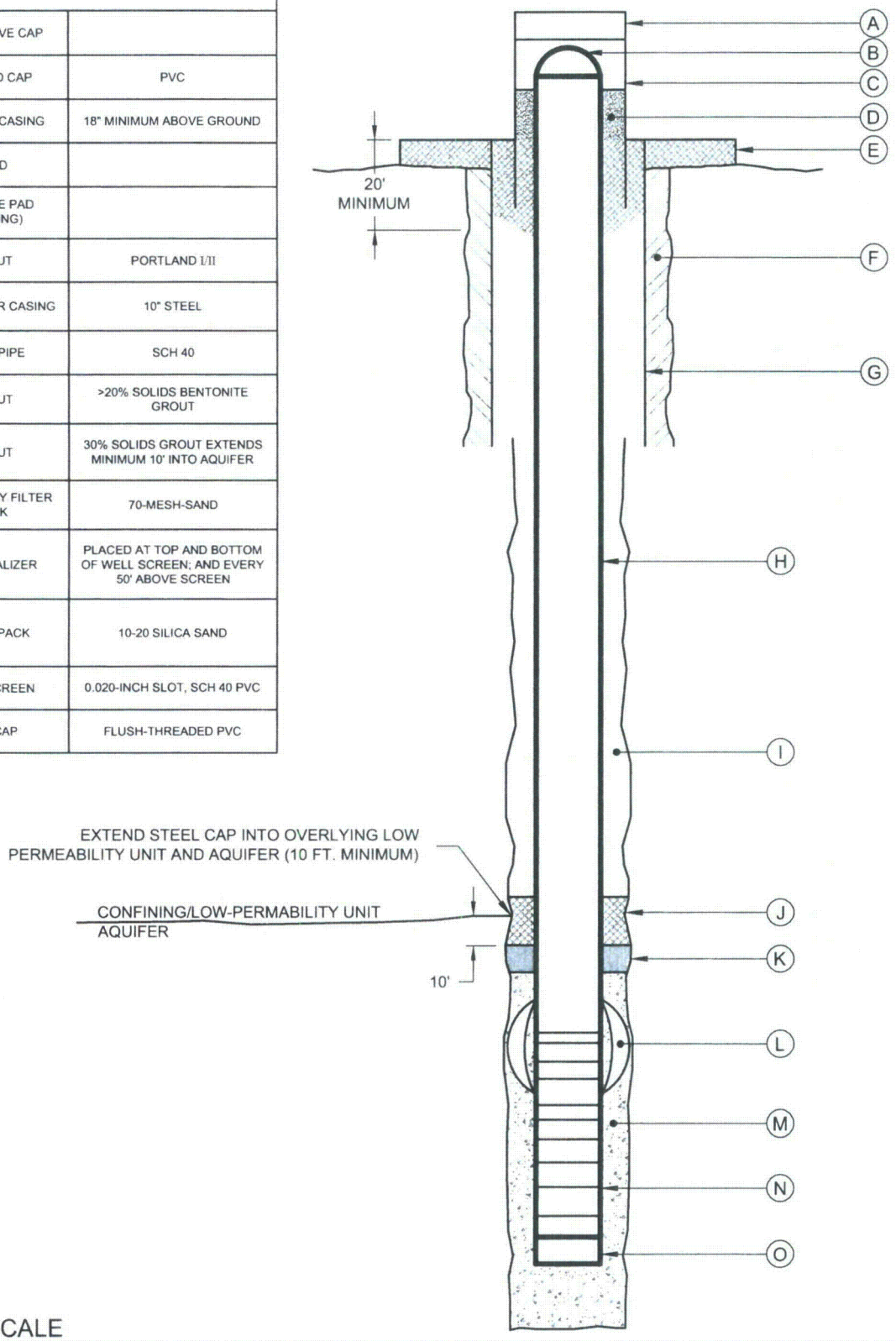
Cameco Resources
550 N Poplar St SU 100
Casper, WY 82601
Telephone: (307) 237-2128

Figure 2
Wildlife Management
SRH/Reynolds Ranch Raptors & Lek

0 | April 2011 | Land & Evaluation | WY-E NAD 27 | 0


CWELLFIELD
BACKGROUND
BACKGROUND
EWELLFIELD
FWELLFIELD
FWELLFIELD
FWELLFIELD
FWELLFIELD
0
850
1,700
3,400

WELL NAME		
A	PROTECTIVE CAP	
B	SLIP END CAP	PVC
C	SURFACE CASING	18" MINIMUM ABOVE GROUND
D	SAND	
E	SURFACE PAD (CURBING)	
F	GROUT	PORTLAND I/II
G	CONDUCTOR CASING	10" STEEL
H	RISER PIPE	SCH 40
I	GROUT	>20% SOLIDS BENTONITE GROUT
J	GROUT	30% SOLIDS GROUT EXTENDS MINIMUM 10' INTO AQUIFER
K	SECONDARY FILTER PACK	70-MESH-SAND
L	CENTERALIZER	PLACED AT TOP AND BOTTOM OF WELL SCREEN; AND EVERY 50' ABOVE SCREEN
M	FILTER PACK	10-20 SILICA SAND
N	WELL SCREEN	0.020-INCH SLOT, SCH 40 PVC
O	END CAP	FLUSH-THREADED PVC



NOT TO SCALE

9/14/2011 R:\Highland_Smith_Ranch\MTI_Investigation\Calculations\AutoCad\well-completion.dwg

PROJECT: 386200	TASK: 01
PREPARED BY: TELESTO SOLUTIONS, INCORPORATED	

FIGURE 3
WELL COMPLETION DIAGRAM

PREPARED FOR: Cameco Resources