10 Sampling Method and Approach (Item 14)

Section 10 is extracted in-part from Powertech's Technical Report titled "Updated Technical Report on the Centennial Uranium Project, Weld County, Colorado", dated February 25, 2010. Changes to standardizations, sub-titles, and organization have been made to suit the format of this Technical Report. SRK comments and opinions, where present, contain "SRK" in the pertinent sentences and paragraphs.

10.1 Sample Methods

10.1.1 Electric Logs

The majority of historical electric logs at the Centennial Project were run by nationally recognized contracting companies, such as Century Geophysical Corporation and Geoscience Associates. These logging companies were equipped with on-board processors that allowed for down-hole ore grade calculation of uranium mineralization. This type of log calculation was extremely accurate and eliminated the possibility of human error. The contracting companies routinely calibrated gamma ray logging equipment at one of several AEC/DOE test pits located across the western United States.

Powertech owns a geophysical logging truck, manufactured by Geoinstruments Logging, Inc. This unit produces down-hole electric logs, consisting of resistivity, "spontaneous" or "self"-potential and gamma ray curves. This suite of logs is the industry standard for defining lithologic units in the subsurface. The resistivity and self-potential curves provide qualitative measurements of water conductivities and permeability respectively, which are used to identify sandstones, clays and other lithologic units in the subsurface. These geophysical techniques enable geologists to interpret and correlate geologic units and perform detailed subsurface geologic mapping. These electric logs were run on all Powertech drillholes completed within the Centennial Project site. The geophysical logging tools currently employed are practically identical to the geophysical instruments used historically throughout the uranium industry in the U.S. and are readily correlated to RME's historical drillhole logs for the project.

The gamma ray curves are extremely important as they provide an indirect measurement of uranium in the subsurface. Uranium in nature primarily consists of the isotope U_{238}, which is not a major gamma emitter. However, many of uranium's daughter products are gamma emitters and when the uranium is in equilibrium with its daughter products, gamma logging is a reliable technique for calculating in-place uranium resources.

10.1.2 Drill Cuttings

Mud rotary drilling relies upon drilling fluids to prevent the drilling bit from overheating and to evacuate drill cuttings from the hole. These drill cuttings (samples) are collected at 5ft intervals by the drill rig hands at the time of drilling. The samples are collected in order to determine the lithology of the material being drilled at its respective depth. After the hole is completed, a geologist will record the cuttings into a geologist's lithology log of the hole. This log will describe the entire hole, but detailed attention will be directed toward prospective sands and alteration (oxidation or reduction) associated with these sands. Chemical assaying of drillhole cuttings is not practical since dilution is so great by the mud column in the drillhole and sample selection is not completely accurate to depth.

10.1.3 Core Samples

Core samples were collected in order to perform accurate chemical analyses and metallurgical testing, as well as to obtain physical parameters of mineralized sands and confining units. The mud rotary drill rig had the capability to selectively core portions of a drillhole, using a 10ft barrel.

A portable core table was set up at the drilling site. Core was taken directly from the inner core barrel and laid out on the table. The core was measured to determine the percentage of core recovery, then washed, photographed and logged by the site geologist. The core was then wrapped in plastic, in order to maintain moisture content and prevent oxidation and cut to fit into core boxes for later sample preparation. Overall core recovery was greater than 92%.

10.2 Conclusion

Gamma logs historically were the standard "sampling" tool by which to determine in situ uranium grades. Current uranium exploration methods use a combination of gamma logging and core samples, as Powertech has, to determine in-situ uranium grades, and the nature and extent of uranium equilibrium/disequilibrium. The use of Prompt Fission Neutron (PFN) logging techniques, as described in Section 9.2, were historically used as well for direct determinations of U_3O_8, thus avoiding disequilibrium issues in reading uranium daughter products in deposits above the water table. The methods employed by Powertech are appropriate for the mineralization at Centennial and are standard industry methods for uranium determination.