

## 4 History (Item 8)

*Section 4 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 in 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.*

### 4.1 Ownership

Alternating sections of land for a distance of 20mi on either side of the railroad in Weld County in northeastern Colorado were granted to the Union Pacific Railroad by the U.S. Land Grant Bill in 1862. This grant included both surface and mineral rights. The majority of the surface has subsequently been sold and is now in private ownership. Uranium was discovered in Weld County in 1969, where RME controlled the mineral rights to over 115,000 acres of the Union Pacific Land Grant.

In 1974, RME began initial investigation of the area by radiometric survey and water well sampling. RME acquired the surface rights to about 5,000 acres overlying their mineral rights in the Centennial area and began an exploration-drilling program. RME held these leases until sometime after the market collapse in 1984 and then allowed the surface leases to expire. Mineral ownership remained within the Union Pacific Railroad until sold to Anadarko Petroleum in 2000. Powertech purchased these mineral rights from Anadarko in October 2006 and is currently acquiring other mineral and surface rights.

### 4.2 Past Exploration and Development

Following the original uranium discovery in Weld County in 1969, RME began exploring the Cheyenne Basin by conducting a reconnaissance program consisting of outcrop examinations, water sampling, and radon soil survey. Results were favorable and in December 1971, 11 holes were drilled to the north of the Centennial Project area. In 1973, a second radon survey was done and in 1974, 104 widely spaced stratigraphic test holes were drilled that discovered the presence of uranium in the Fox Hills Sandstone. Exploration drilling, between 1977 and 1979, delineated uranium ore bodies at depths of 250-600ft in the northern portion of the project and at depths of 85-125ft to the south.

RME focused on the southern shallow deposits, with a plan to develop a surface mining operation. This portion of the project was turned over to RME's Engineering Department in 1980, while its Exploration Department continued exploration activities in the northern area through 1982.

During this period, other uranium exploration companies acquired mineral rights to non-Land Grant sections in the general region and adjacent to the RME land position for their own exploration programs. These companies included Getty Oil, Wyoming Mineral Corp. (the uranium production company of Westinghouse Electric Corp.), Powerco and Mobil Oil Corp. All these companies dropped their land holdings with the collapse of the uranium market in the 1980's. However, much of the data from these exploration programs was acquired by RME through data trades. The majority of these data remained within the Centennial database that Powertech acquired from Anadarko. The acquisition of adjacent properties with historical resources was based on these data.

RME's database, including 3,500 drillholes, was included in the files acquired by Powertech from Anadarko. Exploration drillhole data obtained consists of the original electric down-hole probe log of each hole. Samples of the cuttings from each hole were collected at 5ft intervals and the geologic description of the cuttings was recorded on lithologic logs by the project geologist. Numerous cores were taken and chemically assayed from the mineralized zones to substantiate the radiometric values determined by the electric log. Data including drillhole logs and maps of drillhole locations from adjacent properties acquired from former competitors is of equivalent quality to the main database developed by RME.

Within the proposed surface mine area on the southern portion of the project, the RME Engineering Department logged nearly 800 holes with Princeton Gamma Tech (PGT) instrumentation that conducted spectrometric down-hole measurements of protactinium. Protactinium is an early radiometric disintegration product of uranium and historically it was determined that the presence of protactinium, due to its short half-life, could be directly related to the quantity of uranium present within the subsurface. RME drilled another 12 holes to depths of 250-400ft on the northern portion of the project that were also probed using PGT logging. These data are also included with the data received from Anadarko.

All of the drillhole data was analyzed by a computer assisted program to determine the equivalent uranium value for each half-foot interval of all drillholes. RME interpreted these drillhole data to develop maps that showed oxidation-reduction (O/R) boundaries and uranium accumulations. This information was then used to evaluate the amount of uranium "ore" present within the Centennial Project and to determine a uranium "reserve" on the project that RME considered minable via open pit, and to be shipped to their milling facility north of Douglas, Wyoming. These data were incorporated into numerous reports containing drillhole maps, ore reserve estimates and proposed activities which periodically described the project. These reports and their maps were a part of the Anadarko files acquired by Powertech.

### 4.3 Historical Mineral Resource Estimates

RME prepared numerous reports on exploration of the Centennial Project beginning in 1974. Significant shallow uranium mineralization became apparent in the southern portion of the project by 1978 and a concerted effort was made to evaluate this deposit. Only limited exploration was directed toward deeper uranium resources in the northern part of the project. An RME report dated October 1979 estimates shallow uranium resources in the inferred category as 4.9Mlb  $U_3O_8$  with an additional probable category of 1.2 to 2.2Mlb  $U_3O_8$  for a total resource of 5.1 to 7.1Mlb. The depth to the top of the mineralization is stated at 82.3ft below the surface. This same report suggests that a possible economic resource of 7.9Myd<sup>3</sup> of gravel overlies the uranium resource.

***SRK notes that the resource numbers stated here in Section 4.3 are historical estimates and not current CIM compliant resource estimates, they have not been reviewed by a Qualified Person for CIM classifications, and they should not be relied upon as current or CIM compliant resources. These resources are not being reported by Powertech as current resources for the Centennial Project.***

Current CIM-compliant resource for the Centennial Uranium Project are reported in Section 15 of this report

A later report in the Anadarko files written by RME in March 1982, using PGT and core hole data, estimates a uranium resource in the southern portion of the project of 6.3Mlb U<sub>3</sub>O<sub>8</sub>. Use of PGT and core assays eliminates the possible conflict with radiometric disequilibrium. Powertech has carefully evaluated these reports, completed internal calculations of resources and agrees with the interpretation presented therein.

These numerous reports demonstrate that the total resources and average grades of the resources vary with respect to the grade and GT cut-offs used in the calculations. For example, the following average grades and resource totals were calculated from 1979-1982 for the shallow resources in the southern portion of the Centennial Project using different GT and grade cut-offs:

**Table 4.1: Historical Uranium Resources for Southern Portion of the Centennial Project**

GT Cut-off	Grade Cut-off %eU <sub>3</sub> O <sub>8</sub>	Ave. Grade % eU <sub>3</sub> O <sub>8</sub>	Average Thickness (ft)	Pounds U <sub>3</sub> O <sub>8</sub>
0.04	0.02	0.115	9.41	6,533,246
0.1	0.02	0.122	8.63	6,297,421
0.4	0.05	0.143	-----	4,332,840

Source: Powertech, 2009

Other reports available from the files during the same time period estimated a uranium resource in the northern portion of the project at 3.3Mlb, with an average thickness of 9.0ft, an average grade of 0.08% eU<sub>3</sub>O<sub>8</sub> and using a 0.20 grade/thickness (GT) cut-off. Based on RME reports and using a GT cut-off of 0.20, the entire Centennial Project was estimated to contain resources of over 9.6Mlb, with an average grade of 0.10% eU<sub>3</sub>O<sub>8</sub>.

Recent resource estimates by Powertech estimated resources by plotting all of the 2,235 drillholes from a spreadsheet compilation. Radiometric intercepts that met or exceeded 0.02% eU<sub>3</sub>O<sub>8</sub> and were of sufficient thickness to yield a GT of 0.2 were included in the calculations. The authors calculated resources by multiplying the area in square feet enclosed by the 0.2 GT contour multiplied by the average GT times 20 and divided by the tonnage factor of 17ft<sup>3</sup>/t (Avg. GT x Area in ft<sup>2</sup> x 20)/17ft<sup>3</sup>/ton = lbs uranium oxide.

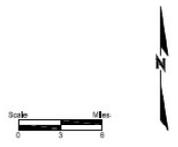
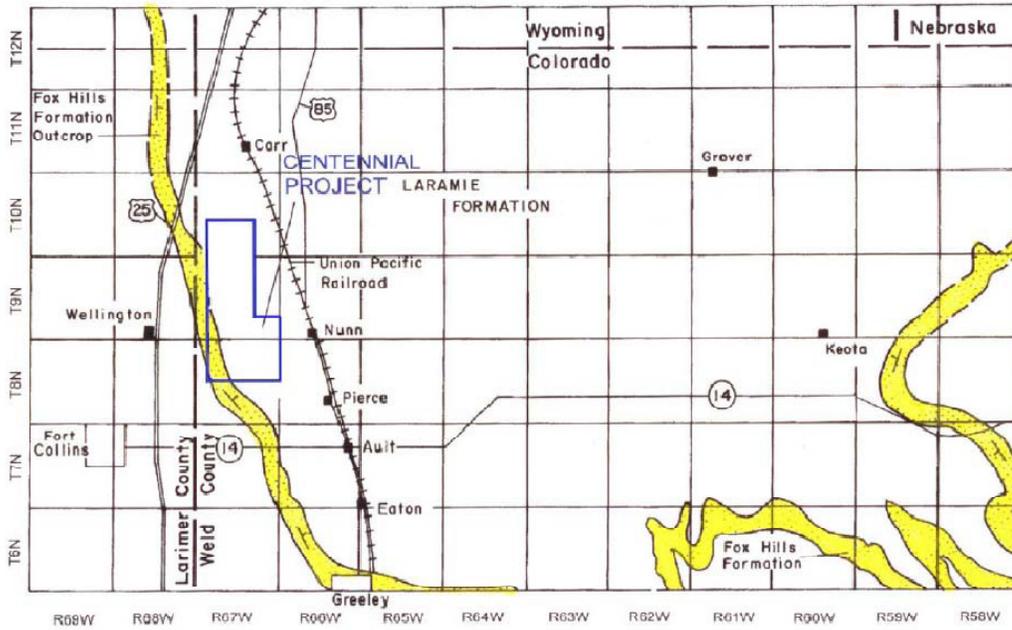
In the northern portion of the Centennial Project, calculations on four individual resource areas yielded a total of 3,843,092lbs U<sub>3</sub>O<sub>8</sub>. These pounds had an average thickness of 9.0ft and an average grade of 0.085% eU<sub>3</sub>O<sub>8</sub> (GT=0.77). Two resource areas in the southern portion of the project had a total of 5,887,398lbs U<sub>3</sub>O<sub>8</sub>, averaging 8.6ft of 0.10% eU<sub>3</sub>O<sub>8</sub> (GT=0.86). Total inferred uranium resources for the entire Centennial Project totaled 9,730,490lbs U<sub>3</sub>O<sub>8</sub>, contained in 5,175,800tons and averaging 8.8ft of 0.094% eU<sub>3</sub>O<sub>8</sub> (GT=0.82). SRK notes that these are not the current resources for the Centennial Project. Current and CIM compliant resource estimates for Centennial are presented in Section 15 of this report.

#### 4.4 Historical Production

There has been no uranium production from the Centennial Project.

In the early 1980's, Wyoming Mineral Corp. constructed an ISR pilot plant facility within the Cheyenne Basin. As shown in Figure 4-1, this plant was located on its Grover Project located approximately 35mi east of Centennial, to evaluate uranium in the Laramie Formation. The Grover test facility operated for only a short period of time and there is no record available of how much uranium was produced. The site was successfully restored to State of Colorado standards.

A second pilot plant was planned at Keota, located 42mi east of the Centennial Project to evaluate uranium resources within the Fox Hills Sandstone. The Keota plant was never developed.



**Figure 4**

Map of the Cheyenne Basin Centennial Project

Colorado  
NAD 27 - UTM 13

DRAWN BY RC

DATE 22-Feb-2010

FILENAME: Centennial Figure 4.dwg



POWERTECH (USA) INC.



SRK Job No.: 194300.020

File Name: Figure\_4-1.docx

Centennial Project,  
Weld County, Colorado

Source: Powertech (USA), Inc.

Regional Location of Centennial Project

Date: 20100503

Approved: AM

Figure: 4-1